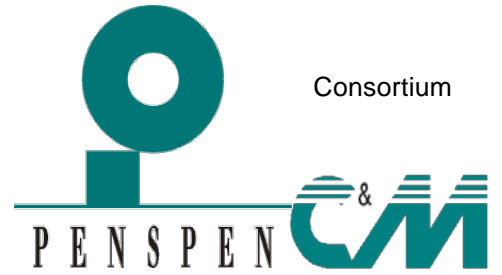


**“ICGB” AD**

***FEED & EIA for Natural  
Gas Interconnector  
Greece – Bulgaria (IGB)  
Project***

***List of Applicable Norms and  
Legislations***



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**REVISION AND AUTHORISATION RECORD**

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A	19-08-2011	Issued for SDC	AH	PAT	JGD
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**1. Introduction**

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**1.1 Project Description**

ICGB AD is a company set up and existing under Bulgarian law and hereafter known as the CONTRACTING ENTITY. The CONTRACTING ENTITY awarded the consortium of Penspen Ltd and C&M Engineering SA, known hereafter as the CONTRACTOR with the Front End Engineering Design (FEED) and Environmental Impact Assessment (EIA) for a proposed 32” diameter high pressure gas pipeline, called the “Gas Interconnector, Greece – Bulgaria” (IGB).

The IGB buried pipeline will transport natural gas over the border between Greece and Bulgaria, connecting the existing Komotini Facility in Greece with an existing gas pipeline near the Bulgarian town of Stara Zagora. The proposed pipeline will measure a total distance of approximately 181.3km, (30.5km in Greece and 150.8km in Bulgaria).

The design of this bi-directional pipeline system shall be in accordance with the internationally recognised codes of practice: EN1594 and ASME B31.8, and also in conjunction with Bulgarian Ordinances, for the safe transportation of 3bcm/yr of gas initially, with the provision for the future expansion up to a maximum technical capacity of 5bcm/yr. The project also includes the construction of the associated Above Ground Installations (AGIs).

**1.2 Purpose of this Document**

The purpose of this document is to provide a preliminary list of laws, regulations, design codes and standards applicable to the project throughout its lifetime.

This list is not exhaustive. All applicable National and European regulatory requirements shall be respected.

**1.3**

**Abbreviations**

ACS	Assemblies for Construction Sites
AGI	Above Ground Installation
ALCA	Agricultural Land Conservation Act of the Republic of Bulgaria
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
BS	British Standards
CRC	Cyclic Redundancy Check
DIN	German Institute for Standardization
DSP-PP	Detailed Spatial Plan – Parcelling Plan
EIA	Environmental Impact Assessment
EIC	Energy Industry Council
EMC	Electromagnetic Compatibility
ELOT	Hellenic Organization for Standardisation
EN	European Norms
FA	Forestry Act of the Republic of Bulgaria
FEED	Front End Engineering Design
GPSSA	Gas Processors Suppliers Association
HVAC	Heating, Ventilation, and Air-Conditioning
IGB	Interconnector Greece Bulgaria
ISO	International Standards Organisation
LPC	Lightning Protection Components
MEW	Ministry of Environment and Water
NDT	Non-Destructive Testing
O&M	Operation and Maintenance
PCM	Pulse Code Modulation
PMD	Performance Measuring and Monitoring Devices

PPC	Public Power Corporation
RAALCA	Regulation on Application of ALCA of the Republic of Bulgaria
RAFA	Regulation on the Application of the FA of the Republic of Bulgaria
SCADA	Supervisory Control and Data Acquisition
SDH	Synchronous Digital Hierarchy
UPS	Uninterruptible Power Systems
ΟΣΜΕΟ	Greek Guidelines for the Design of Roadworks
ΠΕΤΕΠ	Greek Temporary National Technical Specifications
ΦΕΚ	Greek Government Gazette

**1.4**

**Precedence**

The following precedence of laws, regulations, codes and standards shall apply:

- Local Acts and Regulations
- European Directives and Regulations
- European Codes and Standards
- International Codes and Standards

International codes and standards shall only be used where certain aspects of the project are not covered by European codes and standards.

## 2. Applicable Acts and Guidance – EIA

### 2.1 Project Section in Bulgaria

Reference	Description
State Gazette 91/25.09.2002, last amended SG 61/2010	Environmental Protection Act
State Gazette 25/18.03.2003, last amended SG 3/2011	Ordinance on the Terms and Procedures for Conduct of Environmental Impact Assessment
State Gazette 73/2007	Ordinance on conditions and order of conduct of assessment on the compatibility of plans, programmers and investment proposals with the subject and objectives of safeguarding protected areas.
N/A	Instructions on Elaboration of Environmental Impact Assessment of Investment Proposals of the Ministry of Environment and Water, 2002
N/A	Methods of carrying out Environmental Impact Assessment of Investment issued by the Ministry of Environment and Water, 2002
N/A	Guidance on Environmental Impact Assessment Scoping, June 2001
N/A	The Biodiversity Act
N/A	The Protected Areas Acts
N/A	The Roads Act
N/A	Guidance on Environmental Impact Assessment – EIS Review, June 2001
<b>European Regulations - Directives</b>	
85/337/EEC	Council Directive of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment
96/61/EC	Council Directive of 24 September 1996 concerning integrated pollution prevention and control
97/11/EC	Council Directive of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment
2003/35/EC	Directive of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC
<b>International Conventions</b>	
AARHUS (1998)	Aarhus Convention (1998) Convention on Access to Information Public Participation in Decision-making and Access to Justice in Environmental Matters Ratified by Bulgaria on TBC

LIST OF APPLICABLE NORMS AND LEGISLATIONS

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Reference	Description
ESPOO (1991)	Espoo Convention (1991): Convention on Environmental Impact Assessment in a Transboundary Context Ratified by Bulgaria on TBC



2.2 Project Section in Greece

Reference	Greek Title	Refers To
Law 1650/86 (ΦΕΚ 160/A/16.10.1986)	Για την προστασία του περιβάλλοντος	Base Law “For the Protection of the Environment”
Joint Min. Dec. 69269 (ΦΕΚ678/B/25.10.1990)	Κατάταξη έργων και δραστηριοτήτων σε κατηγορίες, περιεχόμενο Μελέτης Περιβαλλοντικών Επιπτώσεων (ΜΠΕ), καθορισμός περιεχομένου ειδικών περιβαλλοντικών μελετών (ΕΠΜ) και λοιπές συναφείς διατάξεις, σύμφωνα με το 1650/1986.	Categorization of public and private projects – Definition of EIA Studies Content acc. to LAW 1650/86.
Min. Dec. 1661/1994	Τροποποίηση και συμπλήρωση των διατάξεων της υπ’ αριθμ. 69269/5387 Κοινής Απόφασης Υπουργών Περιβάλλοντος, Χωροταξίας και Δημοσίων Έργων και Τουρισμού.	Amendment of the Joint Min. Dec. 69269 (ΦΕΚ678/B/25.10.1990)
Min. Dec. οικ.84229/1996 (ΦΕΚ 906/B/24.9.1996)	Ανάθεση έγκρισης περιβαλλοντικών έργων για ορισμένα έργα ή δραστηριότητες της πρώτης (Α’) κατηγορίας του άρθρου 3 του LAW 1650/1986 στους Γενικούς Γραμματείς των Περιφερειών της χώρας, εξαιρουμένης της Περιφέρειας Αττικής.	Environmental Permits issuance by Regional Authorities acc. to LAW 1650/86.
Law 3010/2002 (ΦΕΚ 91/A/25.4.2002}	Εναρμόνιση του Ν. 1650/1986 με τις Οδηγίες 97/11 Ε.Ε και 96/61 Ε.Ε., διαδικασία οριοθέτησης και ρυθμίσεις θεμάτων για τα υδατορέματα και άλλες διατάξεις.	Harmonization of Law 1650/1986 to Directives 97/11/EU and 96/61/EU, delimitation of streams and other provisions
Joint Min. Dec. Η.Π. 15393/2332/2002 (ΦΕΚ 1022/B/5.8.2002)	Κατάταξη δημόσιων και ιδιωτικών έργων και δραστηριοτήτων σε κατηγορίες σύμφωνα με το άρθρο 3 του Ν. 1650/1986 όπως αντικαταστάθηκε με το άρθρο 1 του Ν. 3010/2002.	Categorization of public and private projects acc. to LAW 1650/86, as amended by LAW 3010/2002 .
Min Dec. No25535/3281 (ΦΕΚ 1463/B/20.11.2002)	Έγκριση περιβαλλοντικών όρων από το Γενικό Γραμματέα της Περιφέρειας των έργων και δραστηριοτήτων που κατατάσσονται στην υποκατηγορία 2 της Α’ κατηγορίας σύμφωνα με την υπ’ αρ. ΗΠ 15393/2332/2002 ΚΥΑ.	Environmental Permits issuance by Regional Authorities.
No Η.Π. 11014/703/Φ104 (ΦΕΚ332/B/20.3.2003)	Διαδικασία Προκαταρκτικής Περιβαλλοντικής Εκτίμησης και Αξιολόγησης (Π.Π.Ε.Α.) και Έγκρισης Περιβαλλοντικών Όρων (Ε.Π.Ο.) σύμφωνα με το άρθρο 4 του Ν. 1650/1986 όπως αντικαταστάθηκε με το άρθρο 2 του Ν.3010/2002.	Preliminary EIA & EIA Procedure acc. to LAW 1650/86, as amended by LAW 3010/2002 .
Min Dec. No. 1726 (ΦΕΚ552//B/8.5.2003)	Διαδικασία προκαταρκτικής περιβαλλοντικής εκτίμησης και αξιολόγησης, έγκρισης περιβαλλοντικών όρων, καθώς και έγκρισης επέμβασης ή παραχώρησης δάσους ή δασικής έκτασης στα πλαίσια της έκδοσης άδειας εγκατάστασης σταθμών ηλεκτροπαραγωγής από Ανανεώσιμες Πηγές Ενέργειας.	Preliminary EIA & EIA Procedure. – Special case for renewable energy resources.



LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Greek Title	Refers To
Min Dec. No 13727/724 (ΦΕΚ 1087/Β75.8.2003)	Αντιστοίχιση των βιομηχανιών και βιοτεχνικών δραστηριοτήτων με τους βαθμούς όχλησης που αναφέρονται στα πολεοδομικά διατάγματα.	Categorization of public and private projects & levels of nuisance.
Min. Dec. Η.Π. 37111/2021/2003 (ΦΕΚ 1391/Β/29.9.2003)	Καθορισμός τρόπου ενημέρωσης και συμμετοχής του κοινού κατά την διάρκεια έγκρισης περιβαλλοντικών όρων των έργων και δραστηριοτήτων σύμφωνα με την παράγραφο 2 του άρθρου 5 του Ν. 1650/1986 όπως αντικαταστάθηκε με τις παραγράφους 2 και 3 του άρθρου 3 του Ν. 3010/2002.	On the procedure of public information and participation in the framework of the environmental permitting system acc. to LAW 1650/86, as amended by LAW 3010/2002
Min Dec. No. ΕΥΠΕ οικ. 129079 (ΦΕΚ 1409/Β713.9.2004}	Συμπλήρωση της ΚΥΑ Η.Π. με αριθμ. 15393/2332/2002 (ΦΕΚ 1022/Β/5.8.2002), κατάταξη δημόσιων και ιδιωτικών έργων και δραστηριοτήτων σε κατηγορίες, σύμφωνα με το άρθρο 3 του Ν. 1650/1986 όπως αντικαταστάθηκε με το άρθρο 1 του Ν. 3010/2002.	Categorization of public and private projects.- Amendment.
Min Dec. No Οικ. 145799 ΦΕΚ 1002/Β/18.7.2005	Συμπλήρωση της υπ' αριθμ. Η.Π. 15393/2332/2002 ΚΥΑ, κατάταξη δημόσιων και ιδιωτικών έργων και δραστηριοτήτων σε κατηγορίες, σύμφωνα με το άρθρο 3 του Ν. 1650/1986 όπως αντικαταστάθηκε με το άρθρο 1 του Ν. 3010/2002.	Categorization of public and private projects.- Amendment.
No Η.Π. 11764/653 (ΦΕΚ327/Β/17.3.2006)	Πρόσβαση του κοινού στις δημόσιες αρχές για παροχή πληροφοριών σχετικά με το περιβάλλον, σε συμμόρφωση με τις διατάξεις της οδηγίας 2003/4/ΕΚ «για την πρόσβαση του κοινού σε περιβαλλοντικές πληροφορίες και για την κατάργηση της οδηγίας 90/313/ΕΟΚ» του Συμβουλίου . Αντικατάσταση της υπ' αριθμ. 77921/1440/1995 κοινής υπουργικής απόφασης (Β' 795).	Public access to environmental data acc. to 2003/4/EC
No Οικ. 104247/ΕΥΠΕ/ΥΠΕΧΩΔΕ (ΦΕΚ663/Β726.5.2006)	Διαδικασία Προκαταρκτικής Περιβαλλοντικής Εκτίμησης και Αξιολόγησης (Π.Π.Ε.Α.) και Έγκρισης Περιβαλλοντικών Όρων (Ε.Π.Ο.) έργων Ανανεώσιμων Πηγών Ενέργειας (Α.Π.Ε.), σύμφωνα με το άρθρο 4 του ν. 1650/1986, όπως αντικαταστάθηκε με το άρθρο 2 του ν. 3010/2002.	Preliminary EIA & EIA Procedure. – Special case for renewable energy resources acc. to LAW 1650/86, as amended by LAW 3010/2002.
Min Dec. No ΥΠΕΧΩΔΕ/ΕΥΠΕ/ΟΙΚ. 107017/2006 (ΦΕΚ1225/Β75.9 2006»	Εκτίμηση των περιβαλλοντικών επιπτώσεων ορισμένων σχεδίων και προγραμμάτων, σε συμμόρφωση με τις διατάξεις της οδηγίας 2001/42/ΕΚ «σχετικά με την εκτίμηση των περιβαλλοντικών επιπτώσεων ορισμένων σχεδίων και προγραμμάτων» του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 27/6/2001.	Strategic EIA for Large Scale Projects & Plans acc. to 2001/42/EC.

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Greek Title	Refers To
Joint Min Dec. No. 9269/470 (ΦΕΚ 286/Β/2.3.2007)	Μέσα ένδικης προστασίας του κοινού κατά πράξεων ή παραλείψεων της Διοίκησης σχετικά με θέματα ενημέρωσης και συμμετοχής του κατά τη διαδικασία έγκρισης περιβαλλοντικών όρων σύμφωνα με τα άρθρα 4 και 5 του ν. 1650/1986, όπως αντικαταστάθηκαν με τα άρθρα 2 και 3 του ν. 3010/2002 και σε συμμόρφωση με τις διατάξεις των άρθρων 3 (παρ. 7) και 4 (παρ. 4) της οδηγίας 2003/35/ΕΚ « σχετικά με την συμμετοχή του κοινού στην κατάρτιση ορισμένων σχεδίων και προγραμμάτων που αφορούν το περιβάλλον» και με την τροποποίηση όσον αφορά τη συμμετοχή του κοινού και την πρόσβαση στη δικαιοσύνη , των οδηγιών 85/337/ΕΟΚ και 96/61/ΕΟΚ του Συμβουλίου.	Legal tools for public participation during the EIA permitting procedure acc. to LAW 1650/86, as amended by LAW 3010/2002. and acc. to 2003/35/EC.
Min Dec. No ΥΠΕΧΩΔΕ/ΕΥΠΕ/ οικ. 126880/2007 (ΦΕΚ 435/Β729.3.2007)	Συμπλήρωση της υπ' αριθμ. Η.Π.15393/2332/2002 (ΦΕΚ 1022/Β/5.8.2002) κοινής υπουργικής απόφασης, κατάταξη δημόσιων και ιδιωτικών έργων και δραστηριοτήτων σε κατηγορίες, σύμφωνα με το άρθρο 3 του Ν. 1650/1986 ( Α 160) όπως αντικαταστάθηκε με το άρθρο 1 του Ν. 3010/2002, « Εναρμόνιση του ν. 1650/1986 με τις οδηγίες 97/11/ΕΕ και 96/61/ΕΕ κ.α.	Categorization of public and private projects.- Amendment acc. to LAW 1650/86, as amended by LAW 3010/2002.
P.D. 148 (ΦΕΚ 190/Α/29.9.2009)	Περιβαλλοντική ευθύνη για την πρόληψη και την αποκατάσταση των ζημιών στο περιβάλλον - Εναρμόνιση με την οδηγία 2004/35/ΕΚ του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 21ης Απριλίου 2004, όπως ισχύει	Environmental Liability acc. To 2004/35/EC
Min Dec. No 366599/16-12-96 (ΦΕΚ 1188/Β/31.12.96)	Μέτρα διαχείρισης της άγριας πτηνοπανίδας, σε συμμόρφωση προς την οδηγία 91/244/ΕΟΚ της Επιτροπής «για την τροποποίηση της οδηγίας 79/409/ΕΟΚ του Συμβουλίου περί διατηρήσεως των άγριων πουλιών».	NATURA 2000 AREAS – Wild Birds Protection acc. to 91/244/EC
Joint Min Dec. No 294283/23-12-97	Μέτρα διαχείρισης της άγριας πτηνοπανίδας, σε συμμόρφωση με τις οδηγίες 94/24/ΕΚ του Συμβουλίου και 91/244/ΕΟΚ, 97/49/ΕΚ της Επιτροπής.	NATURA 2000 AREAS – Wild Birds Protection
(ΦΕΚ68/Β/4.2.98)	Καθορισμός μέτρων και διαδικασιών για τη διατήρηση των φυσικών οικοτόπων (ενδιαιτημάτων) καθώς και της άγριας πανίδας και χλωρίδας.	NATURA 2000 AREAS – Habitats Preservation.
Joint Min Dec. No 33318/3028/11-12-9 (ΦΕΚ 1289/Β/28.12.98)	Συγκρότηση επιτροπής «Φύση 2000» σύμφωνα με τις διατάξεις του άρθρου 5 της ΚΥΑ 33318/3028/1998.	NATURA 2000 AREAS – NATURA 200 Committee

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Greek Title	Refers To
Min Dec. No 135286/5447/2002 (ΦΕΚ1589/Β/2002)	Τροποποίηση των υπ' αριθμ. 33318/3028/1998 κοινών υπουργικών αποφάσεων (Β'1289) και υπ' αριθμ. 29459/1510/2005 κοινών υπουργικών αποφάσεων (Β'992), σε συμμόρφωση με διατάξεις της οδηγίας 2006/105 του Συμβουλίου της 20 <sup>ης</sup> Νοεμβρίου 2006 της Ευρωπαϊκής Ένωσης.	Amendment of the above NATURA related legislation.
Dec. No Φ.0546/20/ΑΣ 342/Μ.4785/1998 (ΦΕΚ 121/Α/5.6.1998)	Διασυνοριακή ρύπανση της ατμόσφαιρας.	Air Pollution – Transboundary effects
No 8407/395/2003 (ΦΕΚ 1368/Β/24.10.2002)	Συμμόρφωση προς τις διατάξεις της οδηγίας 2001/100/ΕΚ του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 7 <sup>ης</sup> Δεκεμβρίου 2001 για την τροποποίηση της οδηγίας 70/220/ ΕΟΚ του Συμβουλίου σχετικά με τα μέτρα που πρέπει να ληφθούν κατά της ρύπανσης του αέρα από τις εκπομπές των μηχανοκίνητων οχημάτων».	Air Pollution – Emissions from motor vehicles acc. to 2001/100/EC
No Α.Η.11641/1942/2002 (ΦΕΚ 832/Β/2.7.2002)	Μετρά και όροι για τον περιορισμό εκπομπών πτητικών οργανικών ενώσεων.	Air Pollution – VOC emissions reduction measures.
Min Dec. No 10689/523/2002 (ΦΕΚ 408/Β/4.4.2002)	Μέτρα για την εκπομπή ρύπων από μηχανοκίνητα οχήματα.	Air Pollution – Motor vehicles emissions reduction measures.
Dec. ΥΣ 34/30.5.2002 (ΦΕΚ 125/Β/5.6.2002)	Οριακές και κατευθυντήριες τιμές ποιότητας της ατμόσφαιρας σε διοξείδιο του θείου, διοξείδιο του αζώτου και οξειδίων του αζώτου, σωματιδίων και μολύβδου.	Air Pollution – Target levels for SO <sub>2</sub> , NO <sub>2</sub> , NO <sub>x</sub> , TSP and Pb.
Dec. No Α.Η.Π.92 38/3 32/2004 (ΦΕΚ 405 /Β/ 27.2.2004)	Οριακές τιμές βενζολίου και μονοξειδίου του άνθρακα στην ατμόσφαιρα	Air Pollution – Target levels for benzene and CO.
Min Dec. No Η.Π. 54409/2632/2004 (ΦΕΚ 1931/Β/27.12.04)	Σχετικά με τη θέσπιση συστήματος εμπορίας δικαιωμάτων εκπομπής αερίων του θερμοκηπίου.	Air Pollution – CO <sub>2</sub> emissions trading.
Dec. No 437/2005 (ΦΕΚ 1641/Β/8.11.2006)	Εναρμόνιση της Ελληνικής Νομοθεσίας προς την Οδηγία 2004/42/ΕΚ του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 21 <sup>ης</sup> Απριλίου 2004 όσον αφορά στον περιορισμό των εκπομπών πτητικών οργανικών ενώσεων που οφείλονται στη χρήση οργανικών διαλυτών σε χρώματα διακόσμησης και βερνίκια και σε προϊόντα επαναβαφής (επισκευαστικής βαφής) αυτοκινήτων και για την τροποποίηση της οδηγίας 1999/13/ΕΚ.	Air Pollution – VOC emissions reduction measures acc. to 2004/42/EC.
Min Dec. No Η.Π. 38638/2016/2005 (ΦΕΚ1334/Β/21.9.2005)	Σχετικά με το όζον στον ατμοσφαιρικό αέρα.	Air Pollution – Target levels for O <sub>3</sub>

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Greek Title	Refers To
Min Dec. No. Δ13/0/121/2007 (ΦΕΚ 53/Β/24.1.2007)	Μέτρα κατά της εκπομπής αερίων και σωματιδιακών ρύπων προερχόμενων από κινητήρες εσωτερικής καύσης που τοποθετούνται σε μη οδικά κινητά μηχανήματα σε συμμόρφωση με τις διατάξεις της οδηγίας 97/68/ΕΚ όπως τροποποιήθηκε από τις οδηγίες 2001/63/ΕΚ, 2002/88/ΕΚ και 2004/26/ΕΚ του Συμβουλίου της 17 <sup>ης</sup> * Αυγούστου 2001, της 9 <sup>ης</sup> Δεκεμβρίου 2002 και της 21 <sup>ης</sup> Απριλίου 2004 αντίστοιχα.	Air Pollution – Non Road machinery emissions reduction measures acc. to 97/68/EC, as amended by 2001/63/EC, 2002/88/EC, 2004/26/EC.
Min Dec. No. Η.Π. 29459/1510/2005 (ΦΕΚ 992/Β/14.7.2008)	Καθορισμός εθνικών ανωτάτων ορίων εκπομπών για ορισμένους ατμοσφαιρικούς ρύπους.	Air Pollution – National emissions limits
Joint Min Dec. No 18186/271 (ΦΕΚ126/Β/3.3.1988)	Μέτρα και περιορισμοί για την προστασία του υδάτινου περιβάλλοντος και ειδικότερα καθορισμός οριακών τιμών των επικίνδυνων ουσιών στα υγρά απόβλητα.	Water pollution – Emission limit values in liquid waste.
Πράξη 73 της 23 <sup>ης</sup> Ιουνίου 1990 (ΦΕΚ 90/Α/11.7.1990)	Καθορισμός των κατευθυντήριων και οριακών τιμών ποιότητας των νερών από απορρίψεις ορισμένων επικίνδυνων ουσιών, που υπάγονται στον κατάλογο Ι του Παραρτήματος Α του άρθρου 6 της αριθ. 144/2.11.1987 Πράξης του Υπουργικού Συμβουλίου.	Water pollution – Target levels for hazardous substances.
Law 2425/1996 (ΦΕΚ 148/Α/4.7.1996)	Κύρωση της Σύμβασης του ΟΗΕ για την προστασία και τη χρήση των διασυνοριακών υδάτων και των διεθνών λιμνών.	Water pollution – Transboundary river & lake water protection & use.
Law 2402/1996 (ΦΕΚ 98/Α/4.6.1996)	Κύρωση Συμφωνίας μεταξύ της Κυβέρνησης της Ελληνικής Δημοκρατίας και της Κυβέρνησης της Δημοκρατίας της Βουλγαρίας για τα ύδατα του ποταμού Νέστου.	Water pollution – Agreement between Greece & Bulgaria for Nestos river water protection.
Min Dec. No. Οικ. 4859/726 (ΦΕΚ 253/Β/9.3.2001)	Μέτρα και περιορισμοί για την προστασία του υδατικού περιβάλλοντος από απορρίψεις και ειδικότερα καθορισμός οριακών τιμών ορισμένων επικίνδυνων ουσιών που υπάγονται στον Κατάλογο ΙΙ της οδηγίας 76/464/ΕΟΚ του Συμβουλίου της 4 <sup>ης</sup> Μαΐου 1976.	Water pollution – protection from hazardous substances emissions.
Law 3199/2003 (ΦΕΚ 280/Α/9.12.2003)	Προστασία και διαχείριση των υδάτων - Εναρμόνιση με την Οδηγία 2000/60/ΕΚ του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 23 <sup>ης</sup> Οκτωβρίου 2000.	Water pollution – Integrated water bodies management & protection acc. to 2000/60/EC.
P.D. 51/2007 (ΦΕΚ 54/Α/8.3.2007)	Καθορισμός μέτρων και διαδικασιών για την ολοκληρωμένη προστασία και διαχείριση των υδάτων σε συμμόρφωση με τις διατάξεις της Οδηγίας 2000/60/ΕΚ «για τη θέσπιση πλαισίου κοινοτικής δράσης στον τομέα της πολιτικής των υδάτων» του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 23 <sup>ης</sup> Οκτωβρίου 2000.	Water pollution – Integrated water bodies management & protection acc. to 2000/60/EC.

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Reference	Greek Title	Refers To
P.D. 109/2004 (ΦΕΚ75/Α/5.4.2004)	Μέτρα και όροι για την εναλλακτική διαχείριση των μεταχειρισμένων ελαστικών των οχημάτων. Πρόγραμμα για την εναλλακτική διαχείριση τους.	Solid waste – Used tires
Min Dec. No Η.Π. 50910/2727/2003 (ΦΕΚ 1909/Β/22.12.2003)	Μέτρα και όροι για τη διαχείριση στερεών αποβλήτων. Εθνικός και περιφερειακός σχεδιασμός διαχείρισης.	Solid waste – National & Regional Management Planning.
Min Dec. No 26469/1501/Ε103/2003 (ΦΕΚ 864/Β/1.7.2003)	Τροποποίηση της ΚΥΑ 14312/1302/00 με θέμα «συμπλήρωση και εξειδίκευση της ΚΥΑ 113944/97 «Εθνικός σχεδιασμός διαχείρισης στερεών αποβλήτων (Γενικές κατευθύνσεις της πολιτικής διαχείρισης των στερεών αποβλήτων)» (723/Β).	Solid waste – National & Regional Management Planning.
Min Dec. No Η.Π. 29407/3508/2002 (ΦΕΚ 1572/Β/16.12.2002)	Μέτρα και όροι για την υγειονομική ταφή αποβλήτων.	Solid waste – Sanitary Landfilling
Αριθμ. Η.Π. 24944/1159 (ΦΕΚ791/Β/30.6.2006)	Έγκριση Γενικών Τεχνικών Προδιαγραφών για την διαχείριση επικινδύνων αποβλήτων σύμφωνα με το άρθρο 5 (παρ. Β) της υπ' αριθμ. 13588/725 κοινή υπουργική απόφαση «Μέτρα όροι και περιορισμοί για την διαχείριση επικινδύνων αποβλήτων κ.λπ.»(Β'383) και σε συμμόρφωση με τις διατάξεις του άρθρου 7 (παρ.1) της οδηγίας 91/156/ΕΚ του Συμβουλίου της 18 <sup>ης</sup> Μαρτίου 1991.	Hazardous waste management acc. to 91/156/EC.
Min Dec. No 8668 (ΦΕΚ 287/Β/2.3.2007)	Έγκριση Εθνικού Σχεδιασμού Διαχείρισης Επικινδύνων Αποβλήτων (ΕΣΔΕΑ), σύμφωνα με το άρθρο 5 (παρ. Α) της υπ' αριθμ. 13588/725 κοινή υπουργική απόφαση «Μέτρα, όροι και περιορισμοί για τη διαχείριση επικινδύνων αποβλήτων κ.λπ.» (Β' 383) και σε συμμόρφωση με τις διατάξεις του άρθρου 7 (παρ. 1) της υπ' αριθμ. 91/156/ΕΚ οδηγίας του Συμβουλίου της 18 <sup>ης</sup> Μαρτίου 1991. Τροποποίηση της υπ' αριθμ. 13588/725/2006 κοινή υπουργική απόφαση «Μέτρα όροι και περιορισμοί για την διαχείριση επικινδύνων αποβλήτων...κ.λπ.» (Β' 383) και της υπ' αριθμ. 24944/1159/206 κοινή υπουργικής απόφασης «Έγκριση Γενικών Τεχνικών Προδιαγραφών για την διαχείριση επικινδύνων αποβλήτων... κ.λπ.» (Β' 791).	Hazardous waste – National Management Plan.
Min Dec. No οικ. 56206/1613/1986 (ΦΕΚ570/Β/9.9.1986)	Προσδιορισμός της ηχητικής εκπομπής των μηχανημάτων και συσκευών εργοταξίου σε συμμόρφωση προς τις οδηγίες 79/113/ΕΟΚ, 81/1051/ΕΟΚ και 85/405/ΕΟΚ του Συμβουλίου της 19 <sup>ης</sup> Δεκεμβρίου 1978, της 7 <sup>ης</sup> Δεκεμβρίου 1981 και της 11 <sup>ης</sup> Ιουλίου 1985.	Noise emissions – Machinery Noise.
Min Dec. No οικ. 17252/1992 (ΦΕΚ395/Β719-6.1992)	Καθορισμός δεικτών και ανωτάτων επιτρεπομένων ορίων θορύβου που προέρχεται από την κυκλοφορία σε οδικά και συγκοινωνιακά έργα.	Noise emissions – Acceptable Traffic noise levels



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Reference	Greek Title	Refers To
Min Dec. No 3263/131/2000 (ΦΕΚ935/Β/27.7.2000)	Συμμόρφωση προς τις διατάξεις της Οδηγίας 1999/101/ΕΚ της Επιτροπής της 15 <sup>ης</sup> Δεκεμβρίου 1999 για την προσαρμογή στην τεχνική πρόοδο της Οδηγίας 70/157/ΕΟΚ του Συμβουλίου περί προσεγγίσεως των κρατών μελών που αναφέρονται στο αποδεκτό ηχητικό επίπεδο και στην διάταξη εξατμίσεως των οχημάτων με κινητήρα.	Noise emissions – Acceptable Traffic noise levels
Min Dec. No 37393/2028/2003 (ΦΕΚ1418/Β/1.10.2003}	Μέτρα και όροι για τις εκπομπές θορύβου στο περιβάλλον από εξοπλισμό προς χρήση σε εξωτερικούς χώρους.	Noise emissions – Outdoors emissions
Min Dec. No 13586/724/2006 (ΦΕΚΒ384/Β/28.3.2006)	Καθορισμός μέτρων, όρων και μεθόδων για την αξιολόγηση και τη διαχείριση του θορύβου στο περιβάλλον, σε συμμόρφωση με τις διατάξεις της οδηγίας 2002/49/ΕΚ «σχετικά με την αξιολόγηση και τη διαχείριση του περιβαλλοντικού θορύβου» του Συμβουλίου της 25.6.2002.	Noise emissions – Environmental Noise management.
P.D. 149/2006 (ΦΕΚ 159/Α/28.7.2006)	Ελάχιστες προδιαγραφές υγείας και ασφάλειας όσον αφορά την έκθεση των εργαζομένων σε κινδύνους προερχόμενους από φυσικούς παράγοντες (θόρυβος) σε εναρμόνιση με την οδηγία 2003/10/ΕΚ.	Noise emissions in the workplace acc. to 2003/10/EC.
Min Dec. No. Η.Π. 9272/471/2007 ΦΕΚ286/Β/2.3.2007)	Τροποποίηση του άρθρου 8 της υπ' αριθμ. 37393/2028/ 2003 κοινής υπουργικής απόφασης {Β' 1418}, σε συμμόρφωση με τις διατάξεις της οδηγίας 2005/88/ΕΚ «για την τροποποίηση της οδηγίας 2000/14/ΕΚ για την προσέγγιση των νομοθεσιών των κρατών μελών σχετικά με την εκπομπή θορύβου στο περιβάλλον από εξοπλισμό προς χρήση σε εξωτερικούς χώρους», του Συμβουλίου της 14ης Δεκεμβρίου 2005.	Noise emissions – Outdoors emissions – Amendment acc. to 2000/14/EC.
Joint Min Dec. No 1471/Β/9.10.2003	Έγκριση Περιφερειακού Πλαισίου Χωροταξικού Σχεδιασμού και Αειφόρου Ανάπτυξης Περιφέρειας Ανατολικής Μακεδονίας - Θράκης.	Approval of the Regional Plan for Spatial Design and Sustainable Development for the Region of Eastern Macedonia and Thrace.
Min Dec. No ΥΠΠΕ/Α1/Φ19/17176/69 6/19-6-1979	Κήρυξη Αρχ. Χώρου προστασίας. Βυζαντινό φρούριο ΝΔ του χωριού Νυμφαία Κομοτινής.	Byzantine protected Archaeological site declaration.
<b>EUROPEAN REGULATIONS - DIRECTIVES</b>		
85/337/EEC	Ευρωπαϊκή Οδηγία IPPC	Council Directive of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment

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Reference	Greek Title	Refers To
96/61/EC	Ευρωπαϊκή Οδηγία	Council Directive of 24 September 1996 concerning integrated pollution prevention and control
97/11/EC	Ευρωπαϊκή Οδηγία	Council Directive of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment
2003/35/EC	Ευρωπαϊκή Οδηγία	Directive of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC
<b>INTERNATIONAL CONVENTIONS</b>		
	Σύμβαση AARHUS (1998)	Aarhus Convention (1998) Convention on Access to Information Public Participation in Decision-making and Access to Justice in Environmental Matters Ratified by Greece on 27/01/2006
	Σύμβαση ESPOO (1991)	Esposo Convention (1991): Convention on Environmental Impact Assessment in a Transboundary Context Ratified by Greece on 24/02/1998



### 3. Applicable Acts and Regulations on DSP-PP - Bulgaria

The following laws and regulations shall be followed for the development of the Detailed Spatial Plan – Parcelling Plan (DSP-PP) for the Bulgarian section of the project:

- Spatial Development Act of the Republic of Bulgaria
- Spatial Development Act Ordinance No. 7, 2004, on the Rules and Norms for Spatial Development
- Spatial Development Act Ordinance No. 8, 2001, on the Scope and Content of Spatial Development Schemes and Plans
- Agricultural Land Conservation Act of the Republic of Bulgaria (ALCA)
- Regulation on Application of ALCA of the Republic of Bulgaria (RAALCA)
- Forestry Act of the Republic of Bulgaria (FA)
- Regulation on the Application of the FA of the Republic of Bulgaria (RAFA)

### 4. Surveying and Cadastral Legislation - Greece

The following laws and regulations shall be followed for the development of Surveying and Cadastral Documentation for the Greek section of the project:

- PRESIDENTIAL DECREE (P.D.) 696/1974, ΦΕΚ 301/A/8-10-1974: Engineering fees for the Design, Supervision, Delivery, etc. of Transportation, Hydraulic and Building projects, as well as Surveying, Cadastral and Cartographic works and related technical specifications
- PRESIDENTIAL DECREE (P.D.) 515/1989, ΦΕΚ 219/A/1989: Modification, supplementation and repeal of articles of the first book of P.D. 696/74
- LAW 2882/2001, ΦΕΚ 17/A/06-02-2001: Code of properties coercive expropriation
- LAW 3325/2005, ΦΕΚ 17/A/06-02-2001: Establishment and operation of industrial installations in the context of sustainable development and other provisions

**5. Legislation for Natural Gas and Industrial Installations**

The following laws and regulations shall be followed for the development of the FEED in relation to the pipeline, block valves, pigging facilities, metering and automatic gas regulating installations and associated electrical, instrumentation and communications equipment:

**5.1 Project Section in Bulgaria**

**Bulgarian Legislation**

Reference	Description
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 2/2004	Minimum Requirements for Health and Safety in Carrying Out Construction Work
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 4/2004	Scope and content of investment projects
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 6/2004	Technical Rules and Standards for Design, Construction and Use of Facilities and Transport Facilities, Storage, Distribution and Supply of Natural Gas (SG. 107 of 2004).
MINISTRY OF ECONOMY AND ENERGY, MINISTRY OF AGRICULTURE AND FORESTRY, MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 16/2004	Easements of Energy Facilities (SG. 88 of 2004).
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. TBC/2004	Structure and Safe Operation of Transmission and Distribution Pipelines and Facilities, Installations and Equipment (SG. 67 of 2004)
SG No:124/23.121997	Law on Health and Safety at work

**European Directives and Regulations**

Reference	Refers to
Regulation (EU) No 994/2010	Regulation (EU) No 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC Text with EEA relevance
Directive 2009/73/EC	Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the

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	internal market in natural gas and repealing Directive 2003/55/EC
Regulation (EC) No 715/2009	Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005
Regulation (EC) No 713/2009	Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators
EEMUA Publication 106	General Specification for Silencers and Acoustic Enclosures
EEMUA Publication 140	Noise Procedure Specification
Directive 2003/10/EC	Noise Exposure Requirements
EEMUA	Process Plant Control Desks Utilising Human-Computer Interfaces - A Guide to Design, Operational and Human Interface Issues

5.2 Project Section in Greece

Greek Legislation

Reference	Refers to
Law No. 4001, ΦΕΚ 179/A	Law for the Operation of Electricity and Gas energy markets, for the Research, Production and transmission networks of hydrocarbons and other settings.
Law No. 3734/09, (ΦΕΚ -8/A/28-1-09)	Promotion of cogeneration of two or more useful forms of energy and other provisions (Ministry of Development other issues arrangements)
Law 3325/2005" (ΦΕΚ 68/A/11-03-2005)	Establishment and operation of industrial installations in the framework of sustainable development and other provisions
Law No. 3428 (ΦΕΚ Α' 313/27.12.2005)	Liberalization of Natural Gas Market
Presidential Decrees 33 and 34 (ΦΕΚ Α' 31 / 20.02.2007)	"Hellenic Gas Transmission System Operator SA" - DESFA Establishment (Pursuant to the provisions of the aforementioned law No. 3428)
Ministerial Decision No 1227 (ΦΕΚ Β' 135 / 05.02.2007	Procedure for the conclusion and the contents of the standard transmission contract for the access and use of the Transmission System. (Pursuant to the provisions of the aforementioned law No. 3428)
Ministerial Decision 4955, (ΦΕΚ Β' 360/27.03.2006) Δ/23344(ΦΕΚ Β' 1781/7.12.2006) Δ1/5037(ΦΕΚ Β' 379/20.03.2007)	Ministerial Decision for the definition of tariffs for gas and gasification of liquefied natural gas (Pursuant to the provisions of the aforementioned law No. 3428)  Amendment of Ministerial Decision 4955
Δ1/A/11110/9860(ΦΕΚ Β' 747/31.05.2010)	Amendment of Ministerial Decision 4955  Amendment of Ministerial Decision 4955
Ministerial Decision Δ1/Γ/1588 (ΦΕΚ Β' 60/24.01.2007)	List of Hellenic Gas Transmission System planned expansions (Pursuant to the provisions of the aforementioned law No. 3428)

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Ministerial Decision Δ1/A/5346 (ΦΕΚ Β' 379/01.04.2010)	Hellenic Gas Transmission System Management Code (Pursuant to the provisions of the aforementioned law No. 3428)
Ministerial Decision Δ1/A/5816B'(ΦΕΚ.Β' 451/16.04.2010)	Regulation for Transmission System Users Registration (Pursuant to the provisions of the aforementioned law No. 3428)
Ministerial Decision Δ1/A/5815(ΦΕΚ Β' 464/19.04.2010)	Regulation for Permitting (Pursuant to the provisions of the aforementioned law No. 3428)
Δ1/A/7754 (ΦΕΚ Β' 584/6.5.2010)	Hellenic Gas Transmission System Measurements Regulation (Pursuant to the provisions of the aforementioned law No. 3428)
Regulator Authority Decision(ΦΕΚ Β' 480/20.04.2010)	Standard Contracts (Pursuant to the provisions of the aforementioned law No. 3428)
ΦΕΚ 603/Β/2012	Technical Regulation for Natural Gas Transmission Systems with Maximum Operating Pressure Above 16 Bar (Greece)
Presintedial Decree 1180/81 (ΦΕΚ 293 /6.10.1981	Greek Regulation on Industrial Installations

**European Directives and Regulations**

Reference	Refers to
Regulation (EU) No 994/2010	Regulation (EU) No 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC Text with EEA relevance
Directive 2009/73/EC	Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC
Regulation (EC) No 715/2009	Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005
Directive 2003/10/EC	Noise Exposure Requirements
Regulation (EC) No 713/2009	Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators
EEMUA Publication 106	General Specification for Silencers and Acoustic Enclosures
EEMUA Publication 140	Noise Procedure Specification
EEMUA	Process Plant Control Desks Utilising Human-Computer Interfaces - A Guide to Design, Operational and Human Interface Issues

**6. Norms and Legislations – Pipeline and Facilities FEED**

**6.1 Pipeline, Piping and Mechanical Works**

Reference	Description
67/02.08.2004 – Bulgaria	Ordinance on the Structure and Safe Operation of Gas Transmission and Gas Distribution Pipelines, Natural Gas Facilities, Installations and Appliances
107/07.12.2004 - Bulgaria	Ordinance No. 6 dated 25.11.2004 on Technical Rules related to Design, Construction and Use of Installations for Natural Gas Transmission, Storage, Distribution and Supply of Natural Gas
PED 97/23/EC	Pressure Equipment Directive
EN 287-1	Qualification on test of welders. Fusion welding. Steels
EN 288-9	Approval of welding procedures for metallic materials.
EN 473	Non-destructive testing – Qualification and certification of NDT personnel – General principles
EN 571-1	Non – Destructive Testing – Penetrant testing – General Principles
EN 593	Industrial valves. Metallic butterfly valves
EN 682	Elastomeric Seals. Material Requirement for Seals used in pipes and fittings carrying gas and hydrocarbon fluids
EN 729	Quality requirements for welding. Fusion welding of metallic materials guidelines for selection and use
EN 970	Non destructive examination of fusion welds-visual examination
EN 1289	Non-destructive examination of welds. Penetrant testing of welds – Acceptance levels
EN 1290	Non-destructive examination of welds. Magnetic particle examination of welds
EN 1291	Non-destructive examination of welds. Magnetic particle examination of welds - Acceptance levels
EN 1435	Non-Destructive Examination of welds – Radiographic examination of weld joints
EN 1514-2	Flanges and their joints. Dimensions of gaskets for PN-designated flanges. Spiral wound gaskets for use with steel flanges
EN 1515-2	Flanges and their joints. Bolting. Classification of bolt materials for steel flanges, PN designated
EN 1515-3	Flanges and their joints – Bolting – Part 3: Classification of bolt materials for steel flanges, class designated
EN 1594	Gas Supply Systems – Pipelines - Maximum operating pressure over 16 bar - Functional Requirements
EN 1712	Non destructive testing of welds – Ultrasonic testing of welded joints - Acceptance levels
EN 1714	Non destructive testing of welds – Ultrasonic testing of welded joints
EN 1759-1	Flanges and their Joints – Circular flanges for pipes, valves, fittings and accessories, Class designated – Part 1: Steel Flanges, NPS 1/2 to 24

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Reference	Description
EN 10160	Ultrasonic testing of steel flat product of thickness equal to or greater than 6 mm (reflection method)
EN 10204	Metallic Products – Types of Inspection Documents
EN 10208-1	Steel pipes for pipelines for combustible fluids – Technical delivery conditions – Part 1: Pipes for requirement class A
EN 10208-2	Steel pipes for pipelines for combustible fluids – Technical delivery conditions – Part 2: Pipes for requirement class B
EN 10253-2	Butt-welding pipe fittings. Non alloy and ferritic alloy steels with specific inspection requirements.
EN 10274	Metallic Materials-Drop Weight tear test
EN 10288	Steel tubes and fittings for onshore and offshore pipelines – External two layer extruded polyethylene based coatings
EN 10289	Steel tubes and fittings for onshore and offshore pipelines – External liquid applied epoxy and epoxy-modified coatings
EN 10290	Steel tubes and fittings for onshore and offshore pipelines – External liquid applied polyurethane and polyurethane - modified coatings
EN 10301	Steel tubes and fittings for on and offshore pipelines-Internal coating for the reduction of friction for conveyance of non corrosive gas
EN 12068	Cathodic protection – External organic coatings for the corrosion protection of buried or immersed steel pipelines used in conjunction with cathodic protection - Tapes and shrinkable materials
EN 12266	Industrial valves. Testing of valves. Pressure tests, test procedures and acceptance criteria. Mandatory requirements
EN 12327	Gas supply systems. Pressure testing, commissioning and decommissioning procedures. Functional requirements
EN 12560-2	Flanges and their joints – Gaskets for class-designated flanges – Part 2: Spiral wound gaskets for use with steel flanges.
EN 12569	Industrial valves. Valves for chemical and petrochemical process industry. Requirements and tests
EN 12627	Butt welding ends for steel valves
EN 12732	Gas Supply Systems – Welding steel pipe work – Functional requirements
EN 13445	Unfired Pressure Vessels
EN 13480	Metallic industrial piping
EN 13942	Petroleum and natural gas industries. Pipeline transportation systems. Pipeline valves
EN 14141	Valves for natural gas transportation in pipelines-Performance requirements and tests
EN 14313	Petroleum and natural gas industries - Pipeline transportation systems - Pipeline valves
EN 14870-1:2004	Petroleum and Natural Gas Industries. Induction bends, fittings and flanges for pipeline transportation systems-Part 1: Induction Bends
EN 14870-2:2004	Petroleum and Natural Gas Industries. Induction bends, fittings and flanges for pipeline transportation systems-Part 2: Fittings
EN 14870-3:2006	Petroleum and Natural Gas Industries. Induction bends, fittings and flanges for pipeline transportation systems-Part 3: Flanges

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 15614-1	Specification and qualification of welding procedures for metallic materials. Welding procedure test
EN 1714	Non-destructive testing of welds – Ultrasonic testing of welded joints
EN ISO 2808	Paints and Varnishes – Determination of Film Thickness
EN ISO 8501-1	Preparation for steel substrates before Application of Paints and related Products
EN ISO 9001	Quality Management Systems – Requirements
EN ISO 10497	Testing of valves - Fire type testing requirements
EN ISO 15609-1	Specification and Approval of Welding Procedures for metallic Materials
EN ISO 15610	Specification and qualification of welding procedures for metallic materials – Qualification based on tested welding consumables
EN ISO 15611	Specification and qualification of welding procedures for metallic materials. Qualification based on previous welding experience.
EN ISO 15612	Specification and qualification of welding procedures for metallic materials. Qualification by adoption of a standard welding procedure.
EN ISO 15613	Specification and qualification of welding procedures for metallic materials – Qualification based on pre-production welding test
EN ISO 17292	Metal ball valves for petroleum, petrochemical and allied industries
EN ISO 21809	Petroleum and natural gas industries – External coatings for buried or submerged pipelines used in pipeline transportation systems
ISO 898-1 & -2	Mechanical properties of fasteners made of carbon steel and alloy steel – Part 1: Bolts, screws and studs – Part 2: Nuts with specified proof load values; coarse thread.
ISO 13443	Natural Gas – Standard reference conditions
ISO 23251	Petroleum, petrochemical and natural gas industries – Pressure- relieving and depressuring systems
API RP 1102	Recommended Practice - Steel Pipelines Crossing Railways and Highways
API 1104	Welding of Pipelines and Related Facilities
ASME B31.3	Process Piping
ASME B31.8	Gas Transmission and Distribution Piping Systems
ASME B36.10M	Welded and Seamless Wrought Steel Pipe
ASTM E 1961	Standard Practice for Mechanised Ultrasonic Examination of Girth Welds using Zonal Discrimination with Focused Search Units
ASTM E 1964	Standard Practice for Contact Ultrasonic Testing of Weldments
MSS SP-44	Steel Pipeline Flanges
DNV – OS – F101	Submarine Pipeline Systems
ASCE Manuals & reports on Engineering Practice No 108 (ASCE 2005)	Pipeline Design for Installation by Horizontal Directional Drilling



6.2 Control and Instrumentation

Reference	Description
<b>EU LEGISLATION</b>	
ATEX 94/9/EC	Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres .
ATEX 99/92/EC	Safety of Installation. (ATEX 137)
PED 97/23/EC	Pressure Equipment Directive
Directive 89-336 CEE	Council Directive of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility
EU DIRECTIVE 2004/22/EC	MID Measuring Instrument
<b>CODES AND STANDARDS</b>	
ANSI -FCI 70-2	Control Valve Seat Leakage
API RP 520	Sizing, Selection and Installation of Pressure Relieving Devices in Refineries, Part I and II
API RP 526	Flanged steel safety relief valves
API 1149	Pipeline Variable Uncertainties and Their Effects on Leak Detectability
ASME B16.10	Face-to-face and end-to-end dimensions of valve
ASME B1.20.1	Pipe Threads, General Purpose
ASTM A 269	Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service
EIA -359	Standard Colours for Colour Identification and Coding
EIA 455	Test Procedures for Fibre Optic Fibres, Cables, Transducers, Connecting and Terminating Devices
EIA 598	Standard for Colour Coding of Fibre Optic Cables
EIA RS 232C	Interface between data terminal equipment employing serial binary data interchange
EN 837-1	Pressure Gauges-Part 1: Bourdon Tube
EN 10497	Testing of Valves - Fire type testing Requirements
EN 5026	Cable glands for electrical installations
EN 10143	Continuously hot-dip coated steel sheet and strip. Tolerances on dimensions and shape
EN 50173-1	Information technology — Generic cabling systems
EN 50267	Common test methods for cables under fire conditions.
EN 55022	Information technology equipment - Radio disturbance characteristics - Limits
EN 60079	Specification for Electrical Apparatus for Explosive Gas Atmospheres - Electrical Installations in Hazardous Areas.
EN 60228	Conductors of Insulated Cables
EN 60269	Low Voltage Fuses
EN 60332	Tests on electric and optical fibre cables under fire conditions

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 60529	Classification for degrees of protection provided by enclosures (IP rating)
EN 60534	Industrial-Process Control Valves
EN 60584-1	Thermocouples reference tables
EN 60584-2	Thermocouples - Tolerance
EN 60584-3	Thermocouples reference tables
EN 60670	Boxes and enclosures for electrical accessories for household and similar fixed electrical installations.
EN 60793-1-1	Optical fibres – Part 1-1: Measurement methods and test procedures – General and guidance
EN 60794-1-2	Optical fibre cables Part 1-2: Generic specification Basic optical cable test procedures
EN 61000	Electromagnetic Compatibility
EN 61131	Programmable Controllers – General Information
EN 61386-1	Specification for conduit systems for cable management. General requirements
EN 61508-1	Functional Safety of Electrical/Electronic/Programmable Electronic Safety-Related Systems-Part 1: General Requirements
EN 61508-2	Functional Safety of Electrical/Electronic/Programmable Electronic Safety-Related Systems-Part 2: Requirements for Electrical/Electronic/Programmable Electronic Safety-Related Systems
EN-61508-3	Functional Safety of Electrical/ Electronic/ Programmable Electronic Safety-Related Systems-Part 3: Software Requirements
EN-61508-4	Functional Safety of Electrical/ Electronic/ Programmable Electronic Safety-Related Systems-Part 4: Definitions and Abbreviations
EN-61508-5	Functional Safety of Electrical/ Electronic/ Programmable Electronic Safety-Related Systems-Part 5: Examples of Methods for the Determination of Safety Integrity Levels
EN 61515	Mineral insulated thermocouple cables and thermocouples
EN 62040	Uninterruptible power supply systems
EN 62337	Commissioning of Electrical, Instrumentation and Control Systems in the Process Industry-Specific Phase and milestones
EN ISO 3740	Determination of sound power levels of noise sources
EN ISO 3746	Acoustics - Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure – Survey Method using an Enveloping Measurement Surface over a Reflecting Plane
EN ISO 5210	Industrial Valves – Multi-turn Valve Actuator attachments
EN ISO 5211	Industrial Valves – Part-turn Valve Actuator attachments
IEC 255-5	Electrical Insulation
IEC 60050-195	Earthing and Protection Against Electric Shock
IEC 60079-0	Electrical Apparatus for explosive gas atmosphere-Part 0: General Requirements;

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
IEC 60079-1	Electrical Apparatus for explosive gas atmosphere-Part 1: Flameproof enclosures “d”;
IEC 60079-7	Electrical Apparatus for explosive gas atmosphere-Part 7: Increased Safety “e”;
IEC 60079-10-1	Electrical Apparatus for explosive gas atmosphere-Part10: Classification of hazardous areas;
IEC 60079-11	Electrical Apparatus for explosive gas atmosphere-Part11: Intrinsically Safe ‘i’;
IEC 60079-14	Electrical Apparatus for Explosive Gas Atmospheres. Electrical installations in hazardous areas.
IEC 60079-15	Electrical Apparatus for explosive gas atmosphere-Part15: Construction, Test and marking of type of protection ‘n’;
IEC 60297	Mechanical structures for electronic equipment - Dimensions of mechanical structures of the 482,6 mm (19 in) series
IEC 60331	Fire Resisting Characteristics of Electrical Cables.
IEC 60364	Low Voltage Electrical Installations
IEC 60751	Industrial platinum resistance thermometers and platinum temperature sensors
IEC 60770	Transmitters for use in Process Control Systems
IEC-60811	Common Test Methods for Insulating and Sheathing Materials of Electric Cables
IEC 60849:1998	Sound Systems for Emergency Purposes
IEC 60874	Connector for Optical Fibres and Cables.
IEC 60885	Electrical Test Methods for Electric Cables.
IEC 61000-4-3	Electromagnetic Compatibility for Industrial Process Measurement and Control Equipment
IEC 61000-6-2	Electromagnetic compatibility (EMC). Generic standards. Immunity for industrial environments
IEC 61073-1	Fibre optic interconnecting devices and passive components - Mechanical splices and fusion splice protectors for optical fibres and cables - Part 1: Generic specification
IEC 61082	Preparation of documents used in electro-technology
IEC 61511-1	Functional safety - Safety instrumented systems for the process industry sector - Framework, definitions, system, hardware and software requirements
IEC 61643	Low Voltage Surge Protective Devices
IEC 62305	Protection against Lightning
IEEE 730	Software Quality Assurance Plan
IEEE 802.3u	Compliant 100Base-TX twisted pair interfaces, with RJ-45 connector
IEEE 802.3z	Compliant 1000Base-T twisted pair interfaces, with RJ-45 connector.port-based VLAN (IEEE 802.1Q)
IEEE 802.3an-2006	Specific requirements Part 3, Amendment 1: Physical Layer and Management Parameters for 10 Gbit/s Operation

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
IEEE 802.3af-2003	Power over Ethernet Standard
IEEE 802.3at-2009	Power over Ethernet Plus Standard
IEEE 829	Software Test Documentation
IEEE 830	Software Requirement Specification
ISA-5.5-1985	Graphic Symbols for Process Displays
ISA 75.01.01	Flow Equation for the Sizing Control Valves
ISA 75.03	Face-to-Face Dimensions for Flanged Globe-Style Control Valve Bodies : ANSI Classes 125, 150, 250, 300 & 600
ISA 75.19	Hydrostatic Testing of Control Valves
ISA-TR84.00.02	Safety Instrumented Functions (SIF) - Safety Integrity Level (SIL) Evaluation Techniques
ISO 1461	Hot Dip Galvanised Coatings on Iron and Steel Articles
ISO 80000-1	SI Units and recommendation for use of their multiples and of certain other units
ISO/IEC 11801	Information technology — Generic cabling for customer premises
ISO/IEC 27002	Information Technology – Code of Practice for Information Security Management
ITU G.655	Characteristics of a non-zero dispersion-shifted single-mode optical fibre and cable
ITU G.692	Optical interfaces for multi-channel systems with optical amplifiers
ITU G.702	Digital hierarchy bit rates
ITU G.703	Physical/electrical characteristics of hierarchical digital interfaces.
ITU G.704	Synchronous Frame Structures Used at Primary and Secondary Hierarchical Levels.
ITU G.706	Frame alignment and cyclic redundancy check (CRC) procedures relating to basic frame structures defined in Recommendation G.704.
ITU G.707	Network node interface for the synchronous digital hierarchy (SDH). This Recommendation includes the withdrawn G.708, and G.709 Recommendations
ITU G.711	Pulse code modulation (PCM) of voice frequencies
ITU G.712	Transmission performance characteristics of pulse code modulation channels
ITU G.731	Primary PCM multiplex equipment for voice frequencies.
ITU G.732	Characteristics of primary PCM multiplex equipment operating at 2048 kbit/s.
ITU G.735	Characteristics of primary PCM multiplex equipment operating at 2048 kbit/s and offering synchronous digital access at 384 kbit/s and/or 64 kbit/s.
ITU G.737	Characteristics of an external access equipment operating at 2048 kbit/s offering synchronous digital access at 384 kbit/s and/or 64 kbit/s.
ITU G.781	Synchronization layer functions
ITU G.783	Characteristics of SDH

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ITU G.784	SDH Management
ITU G.811	Timing characteristics of primary reference clocks
ITU G.812	Timing requirements of slave clocks suitable for use as node clocks in synchronization networks
ITU G.821	Error performance of an international digital connection operating at a bit rate below the primary rate and forming part of an integrated services digital network.
ITU G.823	The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy.
ITU G.921	Digital sections based on the 2048 kbit/s hierarchy.
ITU G.957	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy.
TIA/EIA 455	Test Procedures for Fibre Optic Fibres, Cables, Transducers, Connecting and Terminating Devices
TIA/EIA-568-B.2-10	Addendum 1-Transmission Performance Specifications for 4-pair 100-Ω Augmented Category 6 Cabling
TIA 598	Standard for Colour Coding of Fibre Optic Cables
SAE AS 4059	Aerospace Fluid Power - Cleanliness Classification for Hydraulic Fluids

**6.3 Cathodic Protection**

Reference	Description
Council Directive 199/13/EC	On the limitations of volatile organic compounds due to the use of organic solvents in certain activities and installations
European Parliament and Council Directive 2004/42/CE	On the limitations of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC
EU DIRECTIVE 1907/2006	REACH act
EN 1594	Gas supply systems - Pipelines for maximum operating pressure over 16 bar – Functional Requirements
EN 12068:1999	Cathodic Protection, External organic coatings for the corrosion protection of buried or immersed steel pipelines used in conjunction with cathodic protection, tapes and shrinkable materials
EN 12954:2001	Cathodic Protection of buried or immersed metallic structures – General principles and application for pipelines
EN 13509:2003	Cathodic Protection Measurements Techniques
EN 15280:2006	Evaluation of a.c. corrosion likelihood of buried pipelines. Application to cathodically protected pipelines

LIST OF APPLICABLE NORMS AND LEGISLATIONS

EN 50162	Protection against Corrosion by Stray Current from direct-current systems
EN 50443	Railway applications – Fixed installations - Effects of electromagnetic interference caused by high voltage a.c. railway on pipelines – Admissible values and protection measures
EN ISO 179	Determination of Charpy Impact Properties
EN ISO 527	Plastics - Determination of tensile properties
EN ISO 306	Plastics. Thermoplastic materials. Determination of Vicat softening temperature (VST)
EN ISO 868	Plastics and Ebonite. Determination of indentation hardness by means of a Durometer (Shore Hardness)
EN ISO 1133	Plastics. Determination of the melt mass-flow (MFR) and the melt volume-flow rate (MVR) of thermoplastics
EN ISO 2808	Paints and varnishes. Determination of film thickness
EN ISO 3183	Petroleum and natural gas industries - Steel Pipe for Pipeline Transportation Systems
EN ISO 8130-2	Coating Powders Part 2: Determination of Density by Gas Comparison Pycnometer
EN ISO 8130-3	Coating Powders Part 3: Determination of Density by Liquid Displacement Pycnometer
EN ISO 8501	Preparation of Steel Substrates before Application of Paints and Related Products - Visual assessment of surface cleanliness
EN ISO 8502-2	Preparation of Steel Substrates before Application of Paints and Related Products – Test for the assessment of surface cleanliness. Laboratory determination of chlorides on cleaned surfaces
EN ISO 8502-3	Preparation of Steel Substrates before Application of Paints and Related Products - Test for the assessment of surface cleanliness. Assessment of dust on steel surfaces prepared for painting (pressure-sensitive tape method)
EN ISO 8502-9	Preparation of Steel Substrates before Application of Paints and Related Products - Test for the assessment of surface cleanliness. Field method for the conductometric determination of water soluble salts
EN ISO 8503-All parts	Preparation of Steel Substrates before Application of Paints and Related Products - Surface roughness characteristics of blast cleaned steel substrates
EN ISO 8504-2	Preparation of Steel Substrates before Application of Paints and Related Products - Surface preparation methods. Abrasive blast cleaning
EN ISO 11124-All parts	Specification for metallic blast-cleaning abrasives
EN ISO 21809-3	Petroleum and Natural Gas Industries- External Coatings for Buried or Submerged Pipelines Used in Pipeline Transportation Systems- Part 3: Field Joint Coatings
ISO 1183	Plastics- Methods of Determining the Density and Relative Density of Non-Cellular Plastics



LIST OF APPLICABLE NORMS AND LEGISLATIONS

ISO 2409	Paints and varnishes. Cross-cut test
ISO 2431	Paints and varnishes. Determination of flow time by use of flow cups
ISO 2811 – All parts	Paints and varnishes. Determination of density
ISO 2812-2	Paints and varnishes. Determination of resistance to liquids. Water immersion method
ISO 2815	Paints and varnishes. Buchholz indentation test
ISO 3233	Methods of test for paints. Tests on liquid paints (excluding chemical tests). Determination of percentage volume of non-volatile matter by measurement of the density of a dried coating
ISO 3251	Paints, varnishes and plastics. Determination of non-volatile-matter content
ISO 6743-4	Lubricants, industrial oils and related products (class L). Classification. Family H (hydraulic systems)
ISO 6860	Paints and varnishes. Bend test (Conical mandrel)
ISO 7253	Paints and varnishes. Determination of Resistance to neutral salt spray (fog)
ISO 11357-2	Plastics. Differential scanning calorimetry (DSC). Determination of glass transition temperature
ISO 15741	Paints and varnishes. Friction-reduction coatings for the interior of on- and offshore steel pipelines for non-corrosive gases
DIN 50929 Teil 3	Possibility of Corrosion of Metallic Material when subject to Corrosion from Outside
AfK-Empfehlung Nr.3, ZfGW-Verlag, November 2007	Measures for the Installation and Operation of Pipelines in the vicinity of three-phase high voltage systems and single line traction systems
AfK-Empfehlung Nr.1, ZfGW-Verlag, April 1987	Anleitung zur Berechnung der in Fernmeldeleitungen durch Starkstromleitungen induzierten Spannungen
NACE SP0286	Electrical Isolation of Cathodically Protected Pipelines
NACE SP0169	Control of External Corrosion on Underground or Submerged Metallic Piping Systems
NACE RP 0177	Mitigation of Alternating Current and Lightning Effects on Metallic Structures and Corrosion
NACE Paper/477	Updated Protective Coating Costs, Products and Service Life
SSPC-SP 10/NACE No. 2,	Near-White Blast Cleaning
SSPC – SP1	Solvent Cleaning
ASTM 4940	Standard Test method for Conductimetric Analysis of Water Soluble Contamination of Blasting Abrasives
ASTM D-1693	Standard Test Method for Environmental Stress-Cracking of Ethylene plastics
API RP 5L2	Recommended practice for Internal Coating of Line Pipe for Non-Corrosive Gas Transmission Service



**6.4 Electrical Works**

**Bulgarian Legislation**

Reference	Description
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 1/2010	Design, Construction and Maintenance of Electrical Installations for Buildings in Low Voltage
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 4/2010	Lightning Protection of Buildings, Outdoor Facilities and Open Spaces

**Greek Legislation**

Reference	Description
MINISTERIAL DECISION 50/12081/642/2006 F A – GG B / 1222/5.9.2006	Security Home Electrical Installations (E.I.E.). Introduction of a Differential Current Installation of Construction and Fundamental Grounding
MINISTERIAL DECISION Δ6/B/14826, OJ 1122, 17.06.2008	Measures to Improve Energy Efficiency in the Public Sector

**European Directives (common for both countries)**

Reference	Description
94/9/EC ATEX	Equipment Explosive Atmospheres Directive
97/23/EC PED	Pressure Equipment Directive
2006/42/EEC	Machinery
2006/95/EEC LVD	Low Voltage Directive
2004/108/EEC EMC	Electromagnetic Compatibility Directive

**International Codes and Standards (common for both countries)**

Reference	Description
EN 40	Lighting columns

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 12464-1	Light and lighting - Lighting of Work places – Part 1: Indoor Work Places
EN 12464-2	Light and lighting - Lighting of Work places – Part 2: Outdoor Work Places
EN 50086	Specification for Conduit Systems for Cable Management
EN 50162	Protection against Corrosion by Stray Current from Direct-Current Systems
EN 50164-1	Lightning Protection Components (LPC) - Part 1: Requirements for Connection Components
EN 50164-2	Lightning Protection Components (LPC) - Part 2: Requirements for Conductors & Earth Electrodes
EN 50164-3	Lightning Protection Components (LPC) - Part 3: Requirements for Isolating Spark Gaps
EN 50164-4	Lightning protection Components (LPC) ) - Part 4: Requirements for conductor fasteners
EN 50164-5	Lightning protection Components (LPC) - Part 5: Requirements for earth electrode inspection housings and earth electrode seals
EN 50164-6	Lightning protection Components (LPC) - Part 6: Requirements for lightning strike counters
EN 50164-7	Lightning protection Components (LPC) - Part 7: Requirements for earthing enhancing compounds
EN 50262	Cable Glands for Electrical Installations
EN 50267-2-1	Common Test Methods for Cables Under Fire Conditions - Tests on Gases Evolved During Combustion of Materials From Cables - Part 2-1: Procedures - Determination of the Amount of Halogen Acid Gas
EN 50267-2-2	Common Test Methods for Cables Under Fire Conditions - Tests on Gases Evolved During Combustion of Materials From Cables - Part 2-2: Procedures - Determination of Degree of Acidity of Gases for Materials by Measuring pH and Conductivity
EN 50396	Non Electrical Test Methods for Low Voltage Electric Cables
EN 50443	Railway Applications – Fixed Installations - Effects of Electromagnetic Interference caused by High Voltage A.C. Railway on Pipelines – Admissible Values and Protection Measures
EN 55011	Limits and Methods of Measurement of Radio Disturbance Characteristics of Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment
EN 55015	Limits and Methods of Measurement of Radio Disturbance Characteristics of Electrical Lighting and Similar Equipment
EN 55022	Information Technology Equipment - Radio Disturbance Characteristics -Limits and Methods of Measurement

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 60079-0	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
EN 60079-1	Electrical Apparatus for Explosive Gas Atmospheres - Part 1: Flameproof Enclosures
EN 60079-7	Electrical Apparatus for Explosive Gas Atmospheres - Part 7: Increased safety
EN 60079-10	Electrical Apparatus for Explosive Gas Atmospheres - Part 10: Classification of Hazardous Areas
EN 60079-14	Electrical apparatus for explosive gas atmospheres – Part 14: Electrical installations in Hazardous areas (other than mines)
EN 60079-15	Electrical Apparatus for Explosive Gas Atmospheres – Part 15: Equipment Protection by Type of Protection "n"
EN 60079-25	Electrical Apparatus for Potentially Explosive Atmospheres - Part 25: Intrinsically Safe Electrical Systems-I
EN 60086	Primary Batteries
EN 60099-4	Surge Arresters- Part 4: Metal Oxide Surge Arresters without Gaps for A.C. Systems
EN 60099-5	Surge Arresters- Part 5: Selection & Application Recommendations
EN 60146	Semiconductor Convertors - General Requirements and Line Commutated Convertors
EN 60228	Conductors of Insulated Cables
EN 60332-1	Tests on Electrical and Optical Cables Under Fire Conditions - Test for a Vertical Flame Propagation for a Single Insulated Wire or Cable
IEC 60364	Low Voltage Electrical Installations
EN 60423	Conduits for Electrical Purposes. Outside Diameters of Conduits for Electrical Installations and Threads for Conduits and Fittings
EN 60439-2	Low-Voltage Switchgear and Controlgear Assemblies - Part 2: Particular Requirements for Busbar Trunking Systems (Busways)
EN 60439-3	Low-Voltage Switchgear and Controlgear Assemblies - Part 3: Particular Requirements for Low-Voltage Switchgear and Controlgear Assemblies
EN 60439-4	Low-Voltage Switchgear and Controlgear Assemblies - Part 4: Particular Requirements for Assemblies for Construction Sites (ACS)
EN 60439-5	Low-Voltage Switchgear and Controlgear Assemblies - Part 5: Particular Requirements for Assemblies Intended to be Installed Outdoors in Public Places

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 60445	Basic and Safety Principles for Man-machine Interface, Marking and Identification. Identification of Equipment Terminals and of Terminations of Certain Designated Conductors, Including General Rules for an Alphanumeric System
EN 60529	Degrees of Protection provided by Enclosures (IPCode)
EN 60445	Basic and Safety Principles for Man-machine Interface, Marking and Identification. Identification of Equipment Terminals and of Terminations of Certain Designated Conductors, Including General Rules for an Alphanumeric System
EN 60598	Luminaries
EN 60617	Graphical Symbols for Diagrams
EN 60896	Stationary Lead-Acid Batteries
EN 60947-1	Specification for Low-Voltage Switchgear & Controlgear- Part 1: General Rules
EN 60947-2	Specification for Low-Voltage Switchgear & Controlgear- Part 2: Circuit-Breakers
EN 60947-3	Specification for Low-Voltage Switchgear & Controlgear- Part 3: Switches, Disconnectors, Switch-Disconnectors and Fuse-Combination Units
EN 60947-4-1	Specification for Low-Voltage Switchgear & Controlgear- Part 4-1: Contactors and Motor-Starters. Electromechanical Contactors and Motor-Starters
EN 60947-5-6	Specification for low-voltage switchgear and control gear. Control circuit devices and switching elements. DC interface for proximity sensors and switching amplifiers (NAMUR)
EN 61000	Electromagnetic compatibility (EMC)
EN 61386	Conduit Systems for Cable Management
EN 61537	Cable Tray Systems and Cable Ladder Systems for Cable Management
EN 61547	Equipment for general lighting purposes – EMC immunity requirements
EN 61557-12	Electrical Safety in Low Voltage Distribution Systems up to 1000 V AC and 1500 V D.C. - Equipment for Testing, Measuring or Monitoring of Protective Measures - Part 12: Performance Measuring and Monitoring Devices (PMD)
EN 61643-11	Low Voltage Surge Protective Devices – Part 11: SPDs Connected to Low Voltage Power Distribution Systems – Performance Requirements and Testing Methods
EN 61643-21	Low Voltage Surge Protective Devices – Part 21: SPDs Connected to Telecommunication and Signaling Networks – Performance Requirements and Testing Methods
EN 62040	Uninterruptible Power Systems (UPS)

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 62305	Protection Against Lightning
EN ISO 9001	Quality Management Systems
EN ISO 14001	Environmental Management Systems - Requirements with Guidance for Use
EN ISO 17025	General Requirements for the Competence of Testing and Calibration Laboratories
EN ISO3740	Determination of sound power levels of noise sources
EN ISO 3746	Acoustics - Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure – Survey Method using an Enveloping Measurement Surface over a Reflecting Plane
CENELEC EN 60216	Electrical Insulating Materials - Properties of Thermal Endurance
CENELEC HD 308 S2	Identification of Cores in Cables and Flexible Cords
CENELEC HD 384	Requirements for Electrical Installations
CENELEC HD 60364	Electrical Installations of Buildings
IEC 60287	Electric Cables - Calculation of the Current Rating
IEC 60331-11	Tests for Electric Cables under Fire Conditions - Circuit Integrity - Part 11: Apparatus - Fire Alone at a Flame Temperature of at least 750 Degree C
IEC 60331-21	Tests for Electric Cables under Fire Conditions - Circuit Integrity - Part 21: Procedures and Requirements - Cables of Rated Voltage up to and Including 0,6 / 1,0 KV
IEC 60332-3-22	Tests on Electric and Optical Fibre Cables under Fire Conditions - Part 3-22: Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables - Category A
IEC 60502	Power Cables with Extruded Insulation and Their Accessories for Rated Voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)
IEC 60664	Insulation Coordination for Equipment within Low-Voltage Systems
IEC 60754-1	Test on Gases Evolved During Combustion of Materials from Cables - Part 1: Determination of the Amount of Halogen Acid Gas
IEC 61439-1	Low-Voltage Switchgear and Controlgear Assemblies- Part 1: General Rules
IEC 61439-2	Low-Voltage Switchgear and Controlgear Assemblies- Part 2: Power Switchgear and Controlgear Assemblies
IEC 61643-12	Low Voltage Surge Protective Devices – Part 12: SPDs Connected to Low Voltage Power Distribution Systems – Selection and Application Principles

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
IEC 61643-22	Low Voltage Surge Protective Devices – Part 22: SPDs Connected to Telecommunication and Signaling Networks – Selection and Application Principles
IEC 62548	Design Requirements for Photovoltaic (PV) Arrays
IEC 62561-1	Lightning Protection Components (LPC) - Part 1: Requirements for Connection Components
IEC 62561-2	Lightning Protection Components (LPC) - Part 2: Requirements for Conductors & Earth Electrodes
IEC 62561-3	Lightning Protection Components (LPC) - Part 3: Requirements for Isolating Spark Gaps
IEC 62561-4	Lightning protection Components (LPC) ) - Part 4: Requirements for conductor fasteners
IEC 62561-5	Lightning protection Components (LPC) - Part 5: Requirements for earth electrode inspection housings and earth electrode seals
IEC 62561-6	Lightning protection Components (LPC) - Part 6: Requirements for lightning strike counters
IEC 62561-7	Lightning protection Components (LPC) - Part 7: Requirements for earthing enhancing compounds
API 505	Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified Class 1 Zone 0, Zone 1 and Zone 2
IGEM/SR/25	Hazardous Area Classification of Natural Gas Installations

**6.5 Civil and Structural Works**

**Bulgarian Legislation**

Reference	Description
State Gazette No. 1/2.01.2001 and amendments	Spatial Development Act of the Republic of Bulgaria
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 2/2007	Design Of Buildings And Structures In Seismic Areas (Bulgarian Seismic Code)
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 3/2004	Basics of Structural Design Of Buildings and their Impacts
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 7/2004	Energy Efficiency, Heat and Energy Saving in Buildings
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 2/2008	Design, Implementation, Control and Acceptance of Waterproofing Systems for Buildings and Facilities
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 4/2009	Design, Implementation and Maintenance of Buildings in Accordance with the Requirements for Access for the Population, Including People with Disabilities
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 6/2004	Technical Rules and Standards for Design, Construction and Use of Facilities and Transport Facilities, Storage, Distribution and Supply of Natural Gas
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 2/2004	Minimum Requirements for Health and Safety in Carrying Out Construction Work
SG No:124/23.121997	Law on Health and Safety at work
Ordinance SG 67 dated 2.08.2004	

**Greek Legislation**

Reference	Description
ELOT 788	Emulsion paints



LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ELOT 808	Vitreous china washdown W.C. pans with horizontal outlet - Materials, quality, performance and dimensions other than connecting dimensions
ELOT 864	Enamel, alkyd, gloss
ELOT 884	Paints of organic solvent type for exterior walls
ELOT 919	Resin alkyd solutions
ELOT 1415	Guidelines of water proofing bituminous membranes in buildings
ELOT 1421	Steel for the reinforcement of concrete - Weldable reinforcing steel
ΠΕΤΕΠ 03-02-02-00	Temporary National Technical Specification for Hollow Clay Brick Masonry
ΠΕΤΕΠ 03-03-01-00	Temporary National Technical Specification for Plastering Mortars Prepared on-Site
ΠΕΤΕΠ 03-06-01-00	Temporary National Technical Specification for Roof Waterproofing with Bituminous Membranes
ΠΕΤΕΠ 03-06-02-02	Temporary National Technical Specification for Thermal Insulation of External Walls
ΠΕΤΕΠ 03-08-02-00	Temporary National Technical Specification for Steel Doors and Windows
ΠΕΤΕΠ 03-10-01-00	Temporary National Technical Specification for Painting of Concrete Surfaces
ΠΕΤΕΠ 03-10-03-00	Temporary National Technical Specification for Corrosion Protection and Painting of Steel Surfaces
ΠΕΤΕΠ.05.03.01.00	Temporary National Technical Specification - Road Base Courses of Excavated Material
ΠΕΤΕΠ.05.03.03.00	Temporary National Technical Specification - Road Base Courses of Unbound Aggregates
ΠΕΤΕΠ.05.03.11.04	Temporary National Technical Specification - Asphalt Paving Courses
KTS	Greek Concrete Technology Code
ΟΣΜΕΟ	Guidelines for the Design of Roadworks (Egnatia Odos S.A.)
ΦΕΚ 32/Α/1988	Greek Regulation for Fire Resistance Requirements of Buildings
ΦΕΚ 59/Δ/1989	Greek Building Requirements Regulation (Κτιριοδομικός Κανονισμός)
ΦΕΚ 140/Α/2000	Greek General Building Terms Regulation (ΓΟΚ)
ΦΕΚ 169/Α/1998	Building clearances from public roads
ΦΕΚ 179/Α/2011	Section B: Hydrocarbon survey, production and transmission networks – Chapter D: routing and installation of IGI and IGB natural gas pipelines.

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ΦΕΚ 121/Β/1983	Technical Specification for safety signs and measures for roadworks in urban areas
ΦΕΚ 212/Α/1996	Greek Construction Health & Safety Regulations Health and Safety specifications for temporary or mobile construction sites in compliance with EC directive 92/57 (ΠΔ. 305/1996)
ΦΕΚ 260/Α/1981	Greek Construction Health & Safety Regulations Safety measures for construction works in building construction and civil works (ΠΔ. 1073/1981)
ΦΕΚ 270/Δ/1985	Greek general building terms for properties outside approved town plan limits
ΦΕΚ 315/Β/1997 (ΦΕΚ 537/Β/2002)	KTS 97 - Greek Concrete Technology Code
ΦΕΚ 362/Α/1979	Greek Thermal Insulation Regulation
ΦΕΚ 407/Β/2010	Greek Regulation for the Energy Efficiency of Buildings (KENAK)
ΦΕΚ 603/Β/2012	Technical Regulation for Natural Gas Transmission Systems with Maximum Operating Pressure Above 16 Bar
ΦΕΚ 1329/Β/2000 (ΦΕΚ 447/Β/2004, ΦΕΚ 270/Β/2010)	EKOS 2000 - Greek Reinforced Concrete Code
ΦΕΚ 1416/Β/2008 (ΦΕΚ 2113/Β/2008)	KTX 2008 - Greek Concrete Reinforcement Technology Code
ΦΕΚ 2184/Β/1999 (ΦΕΚ 1154/Β/2003, ΦΕΚ 781/Β/2003, ΦΕΚ 270/Β/2010)	EAK 2000 - Greek Seismic Design Code
ΦΕΚ 2692/Β/2008	Temporary Greek Eurocode National Annexes
PPC 5143/29-9-1981	Clearances associated with overhead powerlines 66KV, 150KV and 400KV.

**International Codes and Standards (common for both countries)**

Reference	Description
CEN/TS 14754.01	Curing compounds - Test methods - Part 1: Determination of water retention efficiency of common curing compounds
EN 124	Gully tops and manhole tops for vehicular and pedestrian areas. Design requirements, type testing, marking, quality control
EN 197	Cement

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 206	Concrete
EN 287	Qualification Test of welders – Fusion Welding
EN 288	Specification and approval of welding procedures for metallic materials
EN 413	Masonry cement
EN 426	Resilient floor coverings. Determination of width, length, straightness and flatness of sheet material
EN 427	Resilient floor coverings. Determination of the side length, squareness and straightness of tiles
EN 433	Resilient floor coverings - Determination of residual indentation after static loading
EN 434	Resilient floor coverings. Determination of dimensional stability and curling after exposure to heat
EN 435	Resilient floor coverings. Determination of flexibility
EN 439	Welding consumables. Shielding gases for arc welding and cutting
EN 440	Welding consumables. Wire electrodes and deposits for gas shielded metal arc welding of non alloy and fine grain steels. Classification
EN 450	Fly ash for concrete
EN 459	Building lime
EN 480	Admixtures for concrete, mortar and grout - Test methods
EN 495	Flexible sheets for waterproofing - Determination of foldability at low temperature
EN 499	Welding consumables. Covered electrodes for manual metal arc welding of non alloy and fine grain steels. Classification
EN 654	Resilient floor coverings. Semi-flexible polyvinyl chloride tiles. Specification
EN 660	Resilient floor coverings. Determination of wear resistance.
EN 681	Elastomeric seals - Materials requirements for pipe joint seals used in water and drainage applications
EN 685	Resilient, textile and laminate floor coverings. Classification
EN 757	Welding consumables. Covered electrodes for manual metal arc welding of high strength steels. Classification
EN 771.01	Specification for masonry units - Part 1: Clay masonry units
EN 772	Methods of test for masonry units
EN 822	Thermal insulating products for building applications - Determination of length and width
EN 823	Thermal insulating products for building applications. Determination of thickness

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 826	Thermal Insulating Products for Buildings Application - Determination of Compression Behaviour.
EN 923	Adhesives - Terms and definitions.
EN 932	Tests for general properties of aggregates
EN 933	Tests for geometrical properties of aggregates
EN 934	Admixtures for concrete, mortar and grout
EN 951	Door leaves - Method for measurement of height, width, thickness and squareness.
EN 952	Door leaves - General and local flatness -Measurement method.
EN 970	Non-destructive examination of fusion welds - Visual examination
EN 998	Specification for mortar for masonry
EN 1008	Mixing water for concrete - Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete
EN 1011	Welding. Recommendations for welding of metallic materials.
EN 1015	Methods of test of mortar for masonry
EN 1026	Windows and doors - Air permeability - Test methods.
EN 1027	Windows and doors - Water tightness - Test methods.
EN 1052	Methods of test for masonry
EN 1081	Resilient floor coverings-Determination of electrical resistance.
EN 1090	Execution of steel structures and aluminium structures
EN 1097	Tests for mechanical and physical properties of aggregates
EN 1107	Flexible sheets for waterproofing
EN 1108	Flexible sheets for waterproofing - Bitumen sheets for roof waterproofing - Determination of form stability under cyclical temperature changes
EN 1109	Flexible sheets for waterproofing - Bitumen sheets for roof waterproofing - Determination of flexibility at low temperature
EN 1110	Flexible sheets for waterproofing - Bitumen sheets for roof waterproofing - Determination of flow resistance at elevated temperature
EN 1125	Building hardware – panic exit devices operated by a horizontal bar
EN 1154	Building hardware - Controlled door closing devices - Requirements and test methods
EN 1191	Windows and doors - Resistance to repeat opening and closing –Test method.

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 1295	Structural design of buried pipelines under various conditions of loading.
EN 1296	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roofing - Method of artificial ageing by long term exposure to elevated temperature
EN 1297	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Method of artificial ageing by long term exposure to the combination of UV radiation, elevated temperature and water
EN 1303	Building hardware. Cylinders for locks. Requirements and test methods
EN 1367	Tests for thermal and weathering properties of aggregates
EN 1372	Adhesives. Test method for adhesives for floor and wall coverings. Peel test
EN 1373	Adhesives. Test method for adhesives for floor and wall coverings. Shear test
EN 1401	Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticized polyvinyl chloride (PVC-U)
EN 1418	Welding personnel - Approval testing of welding operators for fusion welding and resistance weld setters for fully mechanized and automatic welding of metallic materials
EN 1529	Doors leaves- Height, width, thickness and squareness - Tolerance classes.
EN 1530	Doors leaves - General and local flatness - Tolerance classes
EN 1594	Gas supply systems - Pipelines for maximum operating pressure over 16 bar – Functional Requirements
EN 1602	Thermal insulating products for building applications - Determination of the apparent density
EN 1634	Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware
EN 1670	Building hardware. Corrosion resistance. Requirements and test methods
EN 1712	Non-destructive examination of welds. Ultrasonic examination of welded joints. Acceptance levels
EN 1744	Tests for chemical properties of aggregates
EN 1745	Masonry and masonry products - Methods for determining design thermal values
EN 1815	Resilient and textile floor coverings-Assessment of static electrical propensity.
EN 1844	Flexible sheets for waterproofing - Determination of resistance to ozone - Plastic and rubber sheets for roof waterproofing

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 1849	Flexible sheets for waterproofing - Determination of thickness and mass per unit area
EN 1850	Flexible sheets for waterproofing - Determination of visible defect
EN 1902	Adhesives. Test methods for adhesives for floor coverings and wall coverings. Shear test
EN 1906	Building hardware. Lever handles and knob furniture. Requirements and test methods
EN 1916	Concrete pipes and fittings, unreinforced, steel fibre and reinforced
EN 1917	Concrete manholes and inspection chambers, unreinforced, steel fibre and reinforced
EN 1928	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of watertightness
EN 1931	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of water vapour transmission properties
EN 1935	Building hardware. Single-axis hinges. Requirements and test methods
EN 1990	Eurocode – Basis of Structural Design
EN 1991	Eurocode 1: Actions on Structures
EN 1992	Eurocode 2: Design of concrete structures
EN 1993	Eurocode 3: Design of steel structures
EN 1996	Eurocode 6: Design of masonry structures
EN 1997	Eurocode 7: Geotechnical Design
EN 1998	Eurocode 8: Design of structures for earthquake resistance
EN 10021	General technical delivery requirements for steel and iron products
EN 10025	Hot rolled products of structural steels
EN 10029	Hot rolled steel plates 3 mm thick or above
EN 10034	Structural steel I and H sections - Tolerances on shape and dimensions
EN 10051	Continuously hot-rolled uncoated plate, sheet and strip of non-alloy and alloy steels - Tolerances on dimensions and shape
EN 10055	Hot rolled steel equal flange tees with radiused root and toes - Dimensions and tolerances on shape and dimensions
EN 10056	Structural steel equal and unequal leg angles
EN 10079	Definition of steel products
EN 10080	Steel for the reinforcement of concrete - Weldable reinforcing steel – General

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 10130	Cold rolled low carbon steel flat products for cold forming. Technical delivery conditions
EN 10143	Continuously hot-dip coated steel sheet and strip. Tolerances on dimensions and shape
EN 10163	Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections
EN 10164	Steel products with improved deformation properties perpendicular to the surface of the product - Technical delivery conditions
EN 10168	Steel products - Inspection documents - List of information and description
EN 10204	Metallic products - Types of inspection documents
EN 10210	Hot finished structural hollow sections of non-alloy and fine grain structural steels
EN 10218	Steel wire and wire products
EN 10219	Cold formed welded structural hollow sections of non-alloy and fine grain steels
EN 10223	Steel wire and wire products for fences
EN 10240	Internal and/or external protective coatings for steel tubes - Specification for hot dip galvanized coatings applied in automatic plants
EN 10244	Steel wire and wire products. Non-ferrous metallic coatings on steel wire.
EN 12004	Adhesives for tiles - Requirements, evaluation of conformity, classification and designation
EN 12039	Flexible sheets for waterproofing - bitumen sheets for roof waterproofing - Determination of adhesion of granules
EN 12051	Building hardware. Door and window bolts. Requirements and test methods
EN 12074	Welding consumables. Quality requirements for manufacture, supply and distribution of consumables for welding and allied processes
EN 12086	Thermal insulating products for buildings application - Determination of water vapour transmission properties
EN 12087	Thermal insulating products for building applications - Determination of long term water absorption by immersion
EN 12088	Thermal insulating products for buildings application - Determination of long term water absorption by diffusion
EN 12091	Thermal insulating products for buildings application - Determination of freeze-thaw resistance
EN 12207	Windows and doors - Air permeability - Classification.
EN 12208	Windows and doors - Water tightness - Classification.



LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 12209	Building hardware. Locks and latches. Mechanically operated locks, latches and locking plates. Requirements and test methods
EN 12210	Windows and doors - Resistance to wind load -Classification.
EN 12211	Windows and doors - Resistance to wind load - Test methods
EN 12217	Doors - Operating forces - Requirements and classification
EN 12219	Doors Climatic influences - Requirements and classification.
EN 12224	Geotextiles and geotextile-related products. Determination of the resistance to weathering
EN 12354	Estimation of Acoustic Performance of Buildings from the Performance of Elements
EN 12310	Flexible sheets for waterproofing. Determination of resistance to tearing
EN 12311	Flexible sheets for waterproofing. Determination of tensile properties.
EN 12316	Flexible sheets for waterproofing. Determination of peel resistance of joints
EN 12317	Flexible sheets for waterproofing - Determination of shear of joints
EN 12350	Testing fresh concrete
EN 12365	Building hardware - Gasket and weatherstripping for doors, windows, shutters and curtain walling
EN 12390	Testing hardened concrete
EN 12400	Windows and pedestrian doors - Mechanical durability - Requirements and classification.
EN 12412	Thermal performance of windows, doors and shutters - Determination of thermal transmittance by hot box method
EN 12447	Geotextiles and geotextile-related products. Screening test method for determining the resistance to hydrolysis in water
EN 12504	Testing concrete in structures
EN 12591	Bitumen and bituminous binders - Specifications for paving grade bitumens
EN 12594	Bitumen and bituminous binders - Preparation of test samples
EN 12597	Bitumen and bituminous binders – Terminology
EN 12613	Plastics warning devices for underground cables and pipelines with visual characteristics
EN 12620	Aggregates for concrete
EN 12691	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of resistance to impact

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 12697	Bituminous mixtures - Test methods for hot mix asphalt
EN 12878	Pigments for the colouring of building materials based on cement and or lime – Specifications and methods of test
EN 12970	Mastic asphalt for waterproofing - Definitions, requirements and test methods
EN 13001-1	Cranes. General design. General principles and requirements
EN 13001-2	Crane safety. General design. Load actions
EN 13036	Road and airfield surface characteristics - Test methods
EN 13043	Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas
EN 13084.01	Free-standing chimneys. General requirements
EN 13084.07	Free-standing chimneys. Product specifications of cylindrical steel fabrications for use in single wall steel chimneys and steel liners
EN 13108	Bituminous mixtures - Material specifications
EN 13139	Aggregates for mortar
EN 13163	Thermal insulation products for buildings - Factory made products of expanded polystyrene (EPS) – Specification
EN 13164	Thermal insulation products for buildings - Factory made products of extruded polystyrene foam (XPS) – Specification
EN 13172	Thermal insulating products - Evaluation of conformity
EN 13179	Test for filler aggregate used in bituminous mixtures
EN 13242	Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction
EN 13249	Geotextiles and geotextile-related products - Characteristics required for use in the construction of roads and other trafficked areas (excluding railways and asphalt inclusion)
EN 13251	Geotextiles and geotextile-related products - Characteristics required for use in earthworks, foundations and retaining structures
EN 13253	Geotextiles and geotextile-related products - Characteristics required for use in erosion control works (coastal protection, bank revetments)
EN 13285	Unbound mixtures. Specifications
EN 13286	Unbound and hydraulically bound mixtures. Test Methods.
EN 13369	Common rules for precast concrete products
ENV 13381	Test methods for determining the contribution to the fire resistance of structural members
EN 13415	Test of adhesives for floor covering. Determination of the electrical resistance of adhesive films and composites

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 13416	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Rules for sampling
EN 13476	Plastics piping systems for non-pressure underground drainage and sewerage. Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE)
EN 13479	Welding consumables. General product standard for filler metals and fluxes for fusion welding of metallic materials
EN 13501	Fire classification of construction products and building elements
EN 13562	Geotextiles and geotextile-related products. Determination of resistance to penetration by water (hydrostatic pressure test)
EN 13583	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of hail resistance
EN 13670	Execution of concrete structures
EN 13707	Flexible sheets for waterproofing - Reinforced bitumen sheets for roof waterproofing - Definitions and characteristics
EN 13719	Geotextiles and geotextile-related products. Determination of the long term protection efficiency of geotextiles in contact with geosynthetic barriers
EN 13793	Thermal insulating products for building applications - Determination of behaviour under cyclic loading
EN 13808	Bitumen and bituminous binders. Framework for specifying cationic bituminous emulsions
EN 13877	Concrete pavements
EN 13893	Test of adhesives for floor covering. Determination of the electrical resistance of adhesive films and composites
EN 13897	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of watertightness after stretching at low temperature
EN 13914	Design, preparation and application of external rendering and internal plastering
EN 13969	Flexible sheets for waterproofing - Bitumen damp proof sheets including bitumen basement tanking sheets - Definitions and characteristics
EN 13970	Flexible sheets for waterproofing - Bitumen water vapour control layers - Definitions and characteristics
EN 13984	Flexible sheets for waterproofing - Plastic and rubber vapour control layers - Definitions and characteristics
EN 14030	Geotextiles and geotextile-related products. Screening test method for determining the resistance to acid and alkaline liquids
EN 14188	Joint fillers and sealants

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 14259	Adhesives for floor covering. Requirements for mechanical and electrical performance
EN 14351	Windows and doors - Product standard, performance characteristics
EN 14399	High strength structural bolting for preloading
EN 14532	Welding consumables. Test methods and quality requirements.
EN 15048	Non-preloaded structural bolting assemblies
EN 20273	Fasteners - Clearance holes for bolts and screws
EN 25817	Arc-welded joints in steel. Guidance on quality levels for imperfections.
EN 45011	General requirements for bodies operating product certification systems
EN ISO 898	Mechanical properties of fasteners made of carbon steel and alloy steel
EN ISO 1461	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
EN ISO 2320	Prevailing torque type steel hexagon nuts - Mechanical and performance requirements
EN ISO 2808	Paints and varnishes. Determination of film thickness
EN ISO 2810	Paints and varnishes - Natural weathering of coatings - Exposure and assessment
EN ISO 3269	Fasteners - Acceptance inspection
EN ISO 4014	Hexagon head bolts - Product grades A and B
EN ISO 4016	Hexagon head bolts - Product grade C
EN ISO 4032	Hexagon nuts, style 1. Product grades A and B
EN ISO 4034	Hexagon nuts. Product grade C
EN ISO 4618	Paints and varnishes - Terms and definitions
EN ISO 4759	Tolerances for fasteners
EN ISO 5817	Welding - Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) - Quality levels for imperfections
EN ISO 6157	Fasteners - Surface discontinuities
EN ISO 7089	Plain washers- Nominal series- Product grade A
EN ISO 7090	Plain washers, chamfered - Normal series - Product grade A
EN ISO 7091	Plain washers - Normal series - Product grade C
EN ISO 7093	Plain washers - Large series
EN ISO 8502	Preparation of steel substrates before application of paints and related products - Tests for the assessment of surface cleanliness

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN ISO 8504	Preparation of steel substrates before application of paints and related products - Surface preparation methods
EN ISO 9692	Welding and allied processes. Recommendations for joint preparation. Manual metal-arc welding, gas-shielded metal-arc welding, gas welding, TIG welding and beam welding of steels
EN ISO 9863-1	Geosynthetics. Determination of thickness at specified pressures. Single layers
EN ISO 9864	Geosynthetics. Test method for the determination of mass per unit area of geotextiles and geotextile-related products
EN ISO 9969	Thermoplastics pipes. Determination of ring stiffness
EN ISO 10077	Thermal performance of windows, doors and shutters - Calculation of thermal transmittance
EN ISO 10319	Geotextiles. Wide-width tensile test
EN ISO 10684	Fasteners - Hot dip galvanized coatings
EN ISO 11058	Geotextiles and geotextile-related products -- Determination of water permeability characteristics normal to the plane, without load
EN ISO 11600	Building construction - Jointing products - Classification and requirements for sealants
EN ISO 11890	Paints and varnishes - Determination of volatile organic compound (VOC) content
EN ISO 12236	Geosynthetics -- Static puncture test (CBR test)
EN ISO 12944	Paints and Varnishes – Corrosion protection of steel structures by protective paint systems.
EN ISO 12956	Geotextiles and geotextile-related products -- Determination of the characteristic opening size
EN ISO 13433	Geotextiles and geotextile - related products. Dynamic perforation test (Cone drop test)
EN ISO 13918	Welding - Studs and ceramic ferrules for arc stud welding
EN ISO 14122	Safety of machinery - Permanent means of access to machinery
EN ISO 14555	Welding – Arc stud welding of metallic materials.
EN ISO 14688	Geotechnical investigation and testing - Identification and classification of soil
EN ISO 14713	Protection against corrosion of iron and steel in structures - Zinc and aluminium coatings – Guidelines
EN ISO 14731	Welding coordination - Tasks and responsibilities
EN ISO 15695	Vitreous and porcelain enamels - Determination of scratch resistance of enamel finishes
EN ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ASTM C 289	Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates
ASTM D 4914	Standard Test Methods for Density and Unit Weight of Soil and Rock in Place by the Sand Replacement Method in a Test Pit
DIN 4107	Settlement observations during and after construction of buildings
DIN 4123	Protection of buildings in the area of excavations, foundations and underpinnings
DIN 4124	Building pits and trenches Slopes, working space widths, sheeting
DIN 24537	Gratings used as floor coverings - Part 1: Metal gratings
ISO 286- 2	ISO system of limits and fits - Part 2: Tables of standard tolerance grades and limit deviations for hole and shafts
ISO 1891	Bolts, screws, nuts and accessories - Terminology and nomenclature - Trilingual edition
ISO 3310-1	Test sieves – technical requirements and testing – Part 1: test sieves of metal wire cloth
ISO 3310-2	Test sieves – technical requirements and testing – Part 2: test sieves of perforated metal plate
ISO 8992	Fasteners – General Requirements for bolts, screws, studs and nuts.
ISO 14689-1	Geotechnical Investigation and Testing – identification and Classification of rock - Part 1: Identification and description
ISO 22476-2	Geotechnical Investigation and Testing – Field Testing - Part 2: Dynamic Probing
ISO 22476-3	Geotechnical Investigation and Testing – Field Testing - Part 3: Standard Penetration Test
ISO 9002	Quality Systems – Model for Quality Assurance in Production, Installation and Servicing

6.6

HVAC

**Bulgarian Legislation**

Reference	Description
State Gazette No. 98/14.11.2008 and amendments SG. 6/23.01.2009; SG. 19/13.03.2009; SG. 42/05.06.2009; SG. 82/16.10.2009; SG. 15/23.02.2010	Energy Efficiency Act
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No.15 15/2005	Ordinance № 15 of the 2005 technical regulations and standards for design, construction and operation of facilities and equipment for generation, transmission and distribution of heat Ordinances
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 4/2006	Reduce harmful noise with Noise Reduction for buildings in their design and the rules and regulations for the implementation of the works in respect of noise emitted during construction
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 7/15.12.2004 2008 and amendments SG. 85 of 2009, promulgated, SG. 5 2005 , as amended. and supplemented. No. 85 of 2009, amended. No.88 and 92 of 2009, as amended. and supplemented. No. 2 of 2010	Energy efficiency, heat and energy in building

**Greek Legislation**

Reference	Description
TOTEE 20701-1/2010	Guidelines of Technical Chamber of Greece - National Analytical Specifications of parameters for the calculation of the Buildings energy efficiency and the decision of the Energy Efficiency certificate
TOTEE 20701-2/2010	Guidelines of Technical Chamber of Greece - Thermo physic properties of structural modules and examination of the Thermo-insulating adequacy of Buildings
TOTEE 20701-3/2010	Guidelines of Technical Chamber of Greece – Climatic data for Greek regions
T.O.T.E.E. 2423/86	Air-conditioning Installations in Buildings
T.O.T.E.E. 2425/87	Elements for Calculating Air-conditioning loads in Building Areas



LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
T.O.T.E.E. 2421/86	Hot water distribution for Heating in Building Areas

**International Codes and Standards (common for both countries)**

Reference	Description
EN 15423:2008	Ventilation for buildings - Fire precautions for air distribution systems in buildings
ASHRAE	Handbooks and standards
SMACNA (1995)	HVAC Duct Construction Standards, Metal and Flexible
EN-13831	Closed expansion vessels with built-in diaphragm for installation in water
EN-12828	Heating systems in buildings. Design for water-based heating systems
EN-14336	Heating systems in buildings. Installation and commissioning of water based heating systems
EN-442.02	Specification for radiators and convectors. Technical specifications and requirements
EN-1886	Ventilation for buildings. Air handling units. Mechanical performance
EN-12236	Ventilation for buildings - Ductwork hangers and supports - Requirements for strength
EN-13180	Ventilation for buildings. Ductwork. Dimensions and mechanical requirements for flexible ducts
EN-13779	Ventilation for non-residential buildings – Performance requirements for ventilation and room-conditioning system
EN-1505	Ventilation for buildings - Sheet metal air ducts and fittings with rectangular cross section - Dimension
EN-1506	Ventilation for buildings - Sheet metal air ducts and fittings with circular cross-section - Dimensions
EN-15650	Ventilation for buildings — Fire dampers
EN-779	Particulate air filters for general ventilation - Determination of the filtration performance
API STANDARD 410	Forced-Circulation Air-Cooling and Air-Heating Coils
EN ISO3740	Determination of sound power levels of noise sources
ANSI/ASHRAE 15-2004	Safety Standard for Refrigeration Systems
ANSI/ASME B31.5-1987	Refrigeration Piping
NFPA 90A,2009	Installation of Air Conditioning and Ventilation Systems
EN ISO 3746	Acoustics - Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure – Survey Method using an Enveloping Measurement Surface over a Reflecting Plane

**6.7 Fire Fighting**

**Bulgarian Legislation**

Reference	Description
Ministry Of Regional Development And Public Works - Ordinance № Iz-1971 / 29-10-2009	Ordinance № Iz-1971 from 29 October 2009 for construction and technical rules and norms for fire safety
Ministry Of Regional Development And Public Works - PO-PS-1227/26.11.2010	Guidelines for the implementation of Regulation № Iz-1971 from 2009 for construction and technical rules and norms for fire safety

**Greek Legislation**

Reference	Description
Π.Δ.71/88	“Regulations for Fire Protection of buildings”
Κ.Υ.Α. Φ15/οικ. 1589/104/2006	“Fire regulation for industrial buildings and mechanical installations”
TOTEE2451/86	Technical chamber of Greece Recommendations - Buildings Mechanical Installations: Fire Fighting Water Systems

**International Codes and Standards (common for both countries)**

Reference	Description
EN 2:1992/A1:2004	Classification of fires
EN 1866	Mobile fire extinguishers
EN 3	Portable fire extinguishers
EN-15004	Fixed fire fighting systems - Gas extinguishing systems
EN-12094	Fixed fire fighting systems - Components for gas extinguishing systems
EN 10240	Internal and/or external protective coatings for steel tubes
EN 10255	Non-alloy steel tubes suitable for welding or threading. Technical delivery conditions
EN 1092	Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories
EN-54	Fire detection and fire alarm systems
NFPA 70	Standard for the Electrical Safety in the Workplace
NFPA 2001	Clean Agent Fire Extinguishing Systems
NFPA 72	National Fire Alarm code
NFPA 75	Standard for the Fire Protection of Information Technology Processing Equipment

## 7. Norms and Legislations – Metering/Regulating Stations and O&M Base FEED

### 7.1 Piping and Mechanical Works

Reference	Description
ASNT/SNT-TC-1A	Personnel Qualification and Certification in Non-destructive Testing
PED 97/23/EC	Pressure Equipment Directive
EU DIRECTIVE 84/525/EEC	Seamless, Steel Gas Cylinders
EU DIRECTIVE 93/68/EC	CE-marking directive
EU DIRECTIVE 98/37/EC	Machinery
EU DIRECTIVE 2006/42/EEC	Machinery
EN 287-1	Qualification test of welders fusion welding steels
EN 593	Industrial Valves – Metallic Butterfly Valves
EN 682	Elastomeric Seals. Material Requirement for Seals used in pipes and fittings carrying gas and hydrocarbon fluids
EN 764-7	Safety Systems for Unfired Pressure Vessels
EN 729	Quality requirements for welding. Fusion welding of metallic materials guidelines for selection and use.
EN 1289	Non-destructive examination of welds. Penetrant testing of welds – Acceptance levels
EN 1291	Non-destructive examination of welds. Magnetic particle examination of welds - Acceptance levels
EN 1418	Welding Personnel - Approval Testing of Welding Operators for Fusion Welding and Resistance Weld Setters for Fully Mechanized and Automatic Welding Of Metallic Materials
EN 1503-1	Valves – Materials for Bodies, Bonnets and Covers – Part 1: Steels Specified in European Standards
EN 1503-2	Valves – Materials for Bodies, Bonnets and Covers – Part 2: Steels Other Than Those Specified in European Standards
EN 1514-2	Flanges and their joints. Dimensions of gaskets for PN-designated flanges. Spiral wound gaskets for use with steel flanges
EN 1515-2	Flanges and their joints. Bolting. Classification of bolt materials for steel flanges, PN designated
EN 1515-3	Flanges and their joints – Bolting – Part 3: Classification of bolt materials for steel flanges, class designated
EN 1594	Gas Supply Systems – Pipelines - Maximum operating pressure over 16 bar - Functional Requirements
EN 1714	Non-destructive testing of welds – Ultrasonic testing of welded joints
EN 1759-1	Flanges and their Joints – Circular flanges for pipes, valves, fittings and accessories, Class designated – Part 1: Steel Flanges, NPS 1/2 to 24

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 1776	Gas Supply – Natural Gas Measuring Stations – Functional Requirements
EN 1983	Industrial valves. Steel ball valves
EN 10028-3	Specification for flat products made of steels for pressure purposes. Weldable fine grain steels, normalized
EN 10028-7	Flat products made of steels for pressure purposes. Stainless steels
EN 10160	Ultrasonic testing of steel flat product of thickness equal to or greater than 6 mm (reflection method)
EN 10204	Metallic Products – Types of Inspection Documents
EN 10208-2	Steel pipes for pipelines for combustible fluids – Technical delivery conditions – Part:2 Pipes for requirement class B
EN 10213-2	Technical delivery conditions for steel castings for pressure purposes. Steel grades for use at room temperature and at elevated temperature
EN 10213-3	Technical delivery conditions for steel castings for pressure purposes. Steels for use at low temperatures
EN 10213-4	Technical delivery conditions for steel castings for pressure purposes. Austenitic and austenitic-ferritic steel grades
EN 10216-3	Seamless Steel Tubes for Pressure Purposes- Technical Delivery Conditions: Alloy Fine Grain Steel Tubes
EN 10216-4	Seamless steel tubes for pressure purposes. Technical delivery conditions. Non-alloy and alloy steel tubes with specified low temperature properties
EN 10216-5	Seamless steel tubes for pressure purposes. Technical delivery conditions. Stainless steel tubes
EN 10217-3	Welded steel tubes for pressure purposes. Technical delivery conditions. Alloy fine grain steel tubes
EN 10217-7	Welded steel tubes for pressure purposes. Technical delivery conditions. Stainless steel tubes
EN 10222-3	Steel forgings for pressure purposes. Nickel steels with specified low-temperature properties
EN 10222-4	Steel forgings for pressure purposes. Weldable fine-grain steels with high proof strength
EN 10222-5	Steel forgings for pressure purposes. Martensitic, austenitic and austenitic-ferritic stainless steels
EN 10226-1	Pipe Threads Where Pressure-Tight Joints Are Made On The Threads - Dimensions, Tolerances And Designation
EN 10253-2	Butt-welding pipe fittings. Non alloy and ferritic alloy steels with specific inspection requirements.
EN 10288	Steel tubes and fittings for onshore and offshore pipelines – External two layer extruded polyethylene based coatings
EN 10289	Steel tubes and fittings for onshore and offshore pipelines – External liquid applied epoxy and epoxy-modified coatings
EN 10290	Steel tubes and fittings for onshore and offshore pipelines – External liquid applied polyurethane and polyurethane - modified coatings
EN 10301	Steel tubes and fittings for on and offshore pipelines- Internal coating for the reduction of friction for conveyance of non corrosive gas

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 12068	Cathodic protection – External organic coatings for the corrosion protection of buried or immersed steel pipelines used in conjunction with cathodic protection - Tapes and shrinkable materials
EN 12186	Gas Supply Systems – Gas Pressure Regulating Stations for Transmission and Distribution – Functional Requirements
EN 12266	Industrial valves. Testing of valves. Pressure tests, test procedures and acceptance criteria. Mandatory requirements
EN 12327	Gas supply systems. Pressure testing, commissioning and decommissioning procedures. Functional requirements
EN 12560-1	Flanges and their joints. Gaskets for Class-designated flanges. Non-metallic flat gaskets with or without inserts
EN 12560-2	Flanges and their joints – Gaskets for class-designated flanges – Part 2: Spiral wound gaskets for use with steel flanges.
EN 12569	Industrial valves. Valves for chemical and petrochemical process industry. Requirements and tests
EN 12627	Industrial Valves – Butt Welding Ends for Steel Valves
EN 12732	Gas Supply Systems – Welding steel pipe work – Functional requirements
EN 12760	Valves – Socket Welding Ends for Steel Valves
EN 12954	Cathodic protection of buried or immersed metallic structures – General principles and application for Pipelines
EN 12982	Industrial Valves – End-to-End and Centre-to-End Dimensions for Butt Welding End Valves
EN 13445	Unfired Pressure Vessels
EN 13480	Metallic industrial piping
EN 13709	Industrial Valves – Steel Globe and Globe Stop and Check Valves
EN 13942	Petroleum and natural gas industries. Pipeline transportation systems. Pipeline valves
EN 14141	Valves for natural gas transportation in pipelines- Performance requirements and tests
EN 14341	Industrial Valves – Steel Check Valves
EN 14772	Flanges and their Joints - Quality Assurance Inspection and Testing of Gaskets in Accordance with the Series Of Standards EN 1514 and EN 12560
EN 14870-1:2004	Petroleum and Natural Gas Industries. Induction bends, fittings and flanges for pipeline transportation systems-Part 1: Induction Bends
EN 14870-2:2004	Petroleum and Natural Gas Industries. Induction bends, fittings and flanges for pipeline transportation systems-Part 2: Fittings
EN 14870-3:2006	Petroleum and Natural Gas Industries. Induction bends, fittings and flanges for pipeline transportation systems-Part 3: Flanges
EN 15420	Gas-fired central heating boilers. Type C boilers of nominal heat input exceeding 70 kW, but not exceeding 1000 kW
EN 15614-1	Specification and Qualification of Welding Procedures for Metallic Materials – Welding Procedure Test

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 17292	Metal ball valves for petroleum, petrochemical and allied industries
EN ISO 2808	Paints and Varnishes – Determination of Film Thickness
EN ISO 8501-1	Preparation for steel substrates before Application of Paints and related Products
EN ISO 9000	Quality Management Systems
EN ISO 9001	Quality Management Systems – Requirements
EN ISO 10440-2	Petroleum and Natural Gas Industries – Rotary Type – Displacement Compressors Part 2: Packaged Air Compressors (Oil free)
EN ISO 10497	Testing of valves - Fire type testing requirements
EN ISO 13706	Petroleum, Petrochemical and Natural Gas Industries – Air Cooled Heat Exchangers
EN ISO 15609	Specification and qualification of welding procedures for metallic materials
ISO 261	ISO General Purpose Metric Screw Threads - General Plan
ISO 898-1 & -2	Mechanical properties of fasteners made of carbon steel and alloy steel – Part 1: Bolts, screws and studs – Part 2: Nuts with specified proof load values; coarse thread.
ISO 4126	Safety Devices for Protection against excessive pressure
ISO 5199	Technical Specification for Centrifugal Pumps-Class II
ISO 13443	Natural Gas – Standard reference conditions
ISO 16812	Petroleum, petrochemical and natural gas industries – Shell and Tube Heat Exchangers
ISO 23251	Petroleum, petrochemical and natural gas industries – Pressure-relieving and depressuring systems
DIN 15018	Cranes; steel structures; principles of design and construction
API 12K	Specification for indirect type oil-field heaters
API 520	Sizing, Selection and Installation of Pressure- Relieving Devices in Refineries
API 521	Guide for Pressure-relieving and Depressuring Systems: Petroleum petrochemical and natural gas industries- Pressure relieving and depressuring systems
API 526	Flanged Steel Pressure Relief Valves
API 610	Centrifugal Pumps for Petroleum, Petrochemical and Natural Gas Industries
API 618	Packaged reciprocating Plant and Air Compressors for General Refinery Service
API 660	Petroleum and Natural Gas Industries - Shell and Tube Heat Exchangers
API 661	Petroleum and Natural Gas Industries - Air-cooled Heat Exchangers
ASME B1.20.1	Pipe Threads, 60 deg. General Purpose (Inch)
ASME B16.9	Factory-Made Wrought Buttwelding Fittings
ASME B16.11	Forged Fittings, Socket-Welding and Threaded
ASME B31.3	Process Piping
ASME B31.8	Gas Transmission and Distribution Piping Systems
ASME B36.10M	Welded and Seamless Wrought Steel Pipe
ASME VIII	Boiler & Pressure Vessel Code

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ASTM E 1961	Standard Practice for Mechanised Ultrasonic Examination of Girth Welds using Zonal Discrimination with Focused Search Units
ASTM E 1964	Standard Practice for Contact Ultrasonic Testing of Weldments
MSS SP-97	Integrally Reinforced Forged Branch Outlet Fittings - Socket Welding, Threaded and Buttwelding Ends
GSPA – Section 7	Separators and Filters
ISBN 0 7176 6171 7	The safe isolation of plant and equipment
TEMA	Tubular Exchanger Manufacturers Association

**Bulgarian Legislation**

Reference	Description
107/07.12.2004	Ordinance No. 6 dated 25.11.2004 on Technical Rules related to Design, Construction and Use of Installations for Natural Gas Transmission, Storage, Distribution and Supply of Natural Gas
67/02.08.2004	Ordinance on the Structure and Safe Operation of Gas Transmission and Gas Distribution Pipelines, Natural Gas Facilities, Installations and Appliances



**7.2 Instrumentation, Control and Telecoms**

Reference	Description
<b>EU LEGISLATION</b>	
ATEX 94/9/EC	Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres.
ATEX 99/92/EC	Safety of Installation. (ATEX 137)
PED 97/23/EC	Pressure Equipment Directive
EU DIRECTIVE 2004/22/EC	MID Measuring Instrument
Directive 89-336 CEE	Council Directive of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility
AGA Report No 8	Compressibility Factor of Natural Gas and Related Hydrocarbon Gases
AGA Report No 9	Measurement of gas by multi-path ultrasonic meters
AGA Report No 10	Speed of Sound in Natural Gas and Other Hydrocarbon Gases
AGA Report No 12	Cryptographic Protection of SCADA Communications
<b>CODES AND STANDARDS</b>	
ANSI -FCI 70-2	Control Valve Seat Leakage
ASME A269	Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service
ASTM D1945	Standard Method for Analysis of Natural Gas by Chromatography
API RP 520	Sizing, Selection and Installation of Pressure Relieving Devices in Refineries, Part I and II
API 521	Guide for Pressure Relieving and de-pressuring systems
API RP 526	Flanged steel safety relief valves
API RP 527	Seat Tightness of Pressure Relief Valves
API RP 551	Process Measurement Instrumentation
API RP 552	Transmission Systems
API RP 670	Machinery Protection System
API 1164	Pipeline SCADA Security
DIN 19250	Control Technology fundamental Safety aspects to be considered for Measurement and control equipment
EIA -359	Standard Colours for Colour Identification and Coding
EIA RS 232C	Interface between data terminal equipment employing serial binary data interchange
EIC CCI P/1	Instrument Installation Testing Procedure
EN 54	Fire detection and fire detection and fire alarm systems
EN 837-1	Pressure Gauges-Part 1: Bourdon Tube
EN 1594	Gas supply systems

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 5026	Cable glands for electrical installations
EN 10143	Continuously hot-dip coated steel sheet and strip. Tolerances on dimensions and shape
EN 14382	Safety devices for gas pressure regulating stations and installations. Gas safety shut-off devices for operating pressure up to 100 bar
EN 50173-1	Information technology — Generic cabling systems
EN 50267	Common test methods for cables under fire conditions.
EN 50288	Multi-element metallic cables used in analogue and digital communication and control
EN 55022	Information technology equipment - Radio disturbance characteristics - Limits
EN 60073-1	Colours of indicator lights and pushbuttons
EN 60079	Specification for Electrical Apparatus for Explosive Gas Atmospheres - Electrical Installations in Hazardous Areas.
EN 60228	Conductors of Insulated Cables
EN 60269	Low Voltage Fuses
EN 60332	Tests on electric and optical fibre cables under fire conditions
EN 60670	Boxes and enclosures for electrical accessories for household and similar fixed electrical installations.
EN 60793-1-1	Optical fibres – Part 1-1: Measurement methods and test procedures – General and guidance
EN 60793-2-12	Optical fibres – Product Specification for Optical Fibres
EN 60794-1-2	Optical fibre cables Part 1-2: Generic specification Basic optical cable test procedures
EN 61000	Electromagnetic Compatibility
EN 61131	Programmable Controllers – General Information
EN 61386-1	Specification for conduit systems for cable management. General requirements
EN 61508-1	Functional Safety of Electrical/Electronic/Programmable Electronic Safety-Related Systems-Part 1: General Requirements
EN 61508-2	Functional Safety of Electrical/Electronic/Programmable Electronic Safety-Related Systems-Part 2: Requirements for Electrical/Electronic/Programmable Electronic Safety-Related Systems
EN 61515	Mineral insulated thermocouple cables and thermocouples
EN 62040	Uninterruptible power supply systems
EN 62337	Commissioning of Electrical, Instrumentation and Control Systems in the Process Industry-Specific Phase and milestones
EN ISO 3740	Determination of sound power levels of noise sources

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN ISO 3746	Acoustics - Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure – Survey Method using an Enveloping Measurement Surface over a Reflecting Plane
EN ISO 5210	Industrial Valves – Multi-turn Valve Actuator attachments
EN ISO 5211	Industrial Valves – Part-turn Valve Actuator attachments
IEC 255-4	Electrical Isolation
IEC 255-5	Electrical Insulation
IEC 60050-195	Earthing and Protection Against Electric Shock
IEC 60079-0	Electrical Apparatus for explosive gas atmosphere-Part 0: General Requirements;
IEC 60079-1	Electrical Apparatus for explosive gas atmosphere-Part 1: Flameproof enclosures “d”;
IEC 60079-7	Electrical Apparatus for explosive gas atmosphere-Part 7: Increased Safety “e”;
IEC 60079-10-1	Electrical Apparatus for explosive gas atmosphere-Part10: Classification of hazardous areas;
IEC 60079-11	Electrical Apparatus for explosive gas atmosphere-Part11: Intrinsically Safe ‘i’;
IEC 60079-14	Electrical Apparatus for Explosive Gas Atmospheres. Electrical installations in hazardous areas.
IEC 60079-15	Electrical Apparatus for explosive gas atmosphere-Part15: Construction, Test and marking of type of protection ‘n’;
IEC 60255-151	Measuring relays and protection equipment - Part 151: Functional requirements for over/under current protection
IEC 60297	Mechanical structures for electronic equipment - Dimensions of mechanical structures of the 482,6 mm (19 in) series
IEC-60331	Fire Resisting Characteristics of Electrical Cables.
IEC 60364	Low Voltage Electrical Installations
IEC 60502-1	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) - Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV)
IEC 60529 (2001)	Classification of Degrees of Protection Provided by Enclosures (IP code) and methods of measurement
IEC 60534-2-1	Industrial Process Control Valves – Part 2-1: Flow Capacity Sizing Equations for Fluid Flow under Installed Conditions
IEC 60546	Controllers with analogue signals for use in industrial process control systems.
IEC 60584-1	Thermocouples reference tables
IEC 60584-2	Thermocouples - Tolerances
IEC 60584-3	Thermocouples-Extension and Compensating Cables – Tolerances and Identification System

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
IEC 60605	Equipment Reliability Testing – General Requirements
IEC 60751	Industrial platinum resistance thermometers and platinum temperature sensors
IEC 60770	Transmitters for use in Process Control Systems
IEC 60801	Electromagnetic Compatibility for Industrial-Process Measurement and Control Equipment
IEC-60811	Common Test Methods for Insulating and Sheathing Materials of Electric Cables
IEC 60849:1998	Sound Systems for Emergency Purposes
IEC 60874	Connector for Optical Fibres and Cables.
IEC 60885	Electrical Test Methods for Electric Cables.
IEC 61000-4-3	Electromagnetic Compatibility for Industrial Process Measurement and Control Equipment
IEC 61000-6-2	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
IEC 61000-6-4	Electromagnetic compatibility (EMC) - Part 6: Generic standards - Section 4: Emission standard for industrial environments
IEC 61073-1	Fibre optic interconnecting devices and passive components - Mechanical splices and fusion splice protectors for optical fibres and cables - Part 1: Generic specification
IEC 61082	Preparation of documents used in electro-technology
IEC 61511-1	Functional safety - Safety instrumented systems for the process industry sector - Framework, definitions, system, hardware and software requirements
IEC 61643	Low Voltage Surge Protective Devices
IEC 62305	Protection against Lightning
IEEE 730	Software Quality Assurance Plan
IEEE 802.3u	Compliant 100Base-TX twisted pair interfaces, with RJ-45 connector
IEEE 802.3z	Compliant 1000Base-T twisted pair interfaces, with RJ-45 connector.port-based VLAN (IEEE 802.1Q)
IEEE 802.3an-2006	Specific requirements Part 3, Amendment 1: Physical Layer and Management Parameters for 10 Gbit/s Operation
IEEE 802.3af-2003	Power over Ethernet Standard
IEEE 802.3at-2009	Power over Ethernet Plus Standard
IEEE 829	Software Test Documentation
IEEE 830	Software Requirement Specification
ISA 75.01.01	Flow equations for sizing control valves
ISA 75.17	Control Valve Aerodynamic Noise Prediction
ISA 99	Security for Industrial Automation and Control Systems
ISO 1000	SI Units and recommendation for use of their multiples and of certain other units
ISO 1461	Hot Dip Galvanised Coatings on Iron and Steel Articles

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ISO 4126-2	Safety devices for protection against excessive pressure – part 2: Bursting Disc Safety Devices
ISO 5167	Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full
ISO 5168	Measurement of Fluid Flow – evaluation of uncertainties
ISO 6974	Natural gas -- Determination of composition with defined uncertainty by gas chromatography -- Part 6: Determination of hydrogen, helium, oxygen, nitrogen, carbon dioxide and C1 to C8 hydrocarbons using three capillary columns
ISO 6975	Natural gas. Extended analysis. Gas chromatographic method
ISO 6976	Calculation of CV, density and Wobbe index from composition
ISO 9951	Measurement of gas flow in closed conduits – turbine meters
ISO 10303	Standard for Industrial Automation Systems and Integration - Product data representation and exchange
ISO 10474	Steel and steel products -- Inspection documents
ISO 10715	Natural gas -- Sampling guidelines
ISO 10723	Performance evaluation for analytical systems
ISO 12213	Natural Gas – Calculation of Compression Factor
ISO 80000-1	SI Units and recommendation for use of their multiples and of certain other units
ISO/IEC 11801	Information technology — Generic cabling for customer premises
ISO/IEC 27002	Information Technology – Code of Practice for Information Security Management
ISO/DIS 17089-1	Measurement of fluid flow in closed conduits – Ultrasonic meters for gas – Part 1: Meters for custody transfer and allocation measurement.
ITU G.655	Characteristics of a non-zero dispersion-shifted single-mode optical fibre and cable
ITU G.692	Optical interfaces for multi-channel systems with optical amplifiers
ITU G.702	Digital hierarchy bit rates
ITU G.703	Physical/electrical characteristics of hierarchical digital interfaces.
ITU G.704	Synchronous Frame Structures Used at Primary and Secondary Hierarchical Levels.
ITU G.706	Frame alignment and cyclic redundancy check (CRC) procedures relating to basic frame structures defined in Recommendation G.704.
ITU G.707	Network node interface for the synchronous digital hierarchy (SDH). This Recommendation includes the withdrawn G.708, and G.709 Recommendations
ITU G.711	Pulse code modulation (PCM) of voice frequencies

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ITU G.712	Transmission performance characteristics of pulse code modulation channels
ITU G.731	Primary PCM multiplex equipment for voice frequencies.
ITU G.732	Characteristics of primary PCM multiplex equipment operating at 2048 kbit/s.
ITU G.735	Characteristics of primary PCM multiplex equipment operating at 2048 kbit/s and offering synchronous digital access at 384 kbit/s and/or 64 kbit/s.
ITU G.737	Characteristics of an external access equipment operating at 2048 kbit/s offering synchronous digital access at 384 kbit/s and/or 64 kbit/s.
ITU G.781	Synchronization layer functions
ITU G.783	Characteristics of SDH
ITU G.784	SDH Management
ITU G.811	Timing characteristics of primary reference clocks
ITU G.812	Timing requirements of slave clocks suitable for use as node clocks in synchronization networks
ITU G.821	Error performance of an international digital connection operating at a bit rate below the primary rate and forming part of an integrated services digital network.
ITU G.823	The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy.
ITU G.921	Digital sections based on the 2048 kbit/s hierarchy.
ITU G.957	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy.
TIA/EIA 455	Test Procedures for Fibre Optic Fibres, Cables, Transducers, Connecting and Terminating Devices
TIA/EIA-568-B.2-10	Addendum 1-Transmission Performance Specifications for 4-pair 100-Ω Augmented Category 6 Cabling
TIA 598	Standard for Colour Coding of Fibre Optic Cables
SAE AS 4059	Aerospace Fluid Power - Cleanliness Classification for Hydraulic Fluids

**7.3 Electrical Works**

**Bulgarian Legislation**

Reference	Description
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 1/2010	Design, Construction and Maintenance of Electrical Installations for Buildings in Low Voltage
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 4/2010	Lightning Protection of Buildings, Outdoor Facilities and Open Spaces

**Greek Legislation**

Reference	Description
MINISTERIAL DECISION 50/12081/642/2006 F A – GG B / 1222/5.9.2006	Security Home Electrical Installations (E.I.E.). Introduction of a Differential Current Installation of Construction and Fundamental Grounding
MINISTERIAL DECISION Δ6/B/14826, OJ 1122, 17.06.2008	Measures to Improve Energy Efficiency in the Public Sector

**European Directives (common for both countries)**

Reference	Description
94/9/EC ATEX	Equipment Explosive Atmospheres Directive
97/23/EC PED	Pressure Equipment Directive
2006/42/EEC	Machinery
2006/95/EEC LVD	Low Voltage Directive
2004/108/EEC EMC	Electromagnetic Compatibility Directive

**International Codes and Standards (common for both countries)**

Reference	Description
EN 40	Lighting columns



LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 54	Fire Detection and Fire Alarm Systems
EN 12464-1	Light and lighting - Lighting of Work places – Part 1: Indoor Work Places
EN 12464-2	Light and lighting - Lighting of Work places – Part 2: Outdoor Work Places
EN 50014	Electrical apparatus for potentially explosive gas atmospheres
EN 50086	Specification for Conduit Systems for Cable Management
EN 50130	Alarm systems
EN 50131	Alarm systems - Intrusion and hold-up systems
EN 50132	Alarm systems CCTV surveillance systems for use in security applications
EN 50133	Alarm systems: Access control systems
EN 501377	Alarm systems: CCTV systems
EN 50162	Protection against Corrosion by Stray Current from Direct-Current Systems
EN 50164-1	Lightning Protection Components (LPC) - Part 1: Requirements for Connection Components
EN 50164-2	Lightning Protection Components (LPC) - Part 2: Requirements for Conductors & Earth Electrodes
EN 50164-3	Lightning Protection Components (LPC) - Part 3: Requirements for Isolating Spark Gaps
EN 50164-4	Lightning protection Components (LPC) ) - Part 4: Requirements for conductor fasteners
EN 50164-5	Lightning protection Components (LPC) - Part 5: Requirements for earth electrode inspection housings and earth electrode seals
EN 50164-6	Lightning protection Components (LPC) - Part 6: Requirements for lightning strike counters
EN 50164-7	Lightning protection Components (LPC) - Part 7: Requirements for earthing enhancing compounds
EN 50262	Cable Glands for Electrical Installations
EN 50267-2-1	Common Test Methods for Cables Under Fire Conditions - Tests on Gases Evolved During Combustion of Materials From Cables - Part 2-1: Procedures - Determination of the Amount of Halogen Acid Gas
EN 50267-2-2	Common Test Methods for Cables Under Fire Conditions - Tests on Gases Evolved During Combustion of Materials From Cables - Part 2-2: Procedures - Determination of Degree of Acidity of Gases for Materials by Measuring pH and Conductivity

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 50396	Non Electrical Test Methods for Low Voltage Electric Cables
EN 50443	Railway Applications – Fixed Installations - Effects of Electromagnetic Interference caused by High Voltage A.C. Railway on Pipelines – Admissible Values and Protection Measures
EN 55011	Limits and Methods of Measurement of Radio Disturbance Characteristics of Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment
EN 55015	Limits and Methods of Measurement of Radio Disturbance Characteristics of Electrical Lighting and Similar Equipment
EN 55022	Information Technology Equipment - Radio Disturbance Characteristics -Limits and Methods of Measurement
EN 60034	Rotating Electrical Machines
EN 60044-1	Instrument Transformers - Part 1: Current Transformers
EN 60044-2	Instrument Transformers - Part 2: Inductive Voltage Transformers
EN 60068	Environmental Testing
EN 60072	Dimensions and Output Series for Rotating Electrical Machines
EN 60076	Power Transformers
EN 60079-0	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
EN 60079-1	Electrical Apparatus for Explosive Gas Atmospheres - Part 1: Flameproof Enclosures d
EN 60079-7	Electrical Apparatus for Explosive Gas Atmospheres - Part 7: Increased safety e
EN 60079-10	Electrical Apparatus for Explosive Gas Atmospheres - Part 10:Classification of Hazardous Areas
EN 60079-14	Electrical apparatus for explosive gas atmospheres – Part 14: Electrical installations in Hazardous areas (other than mines)
EN 60079-15	Electrical Apparatus for Explosive Gas Atmospheres – Part 15: Equipment Protection by Type of Protection "n"
EN 60079-25	Electrical Apparatus for Potentially Explosive Atmospheres - Part 25: Intrinsically Safe Electrical Systems-I
EN 60085	Electrical Insulation - Thermal Evaluation and Designation
EN 60086	Primary Batteries
EN 60099-4	Surge Arresters- Part 4: Metal Oxide Surge Arresters without Gaps for A.C. Systems

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 60099-5	Surge Arresters- Part 5:Selection & Application Recommendations
EN 60146	Semiconductor Convertors - General Requirements and Line Commutated Convertors
EN 60227	Polyvinyl Chloride insulated cables of rated voltages up to including 450/750V
EN 60228	Conductors of Insulated Cables
EN 60255	Electrical Relays
EN 60265	Specification for High-Voltage Switches
EN 60269	Low-voltage Fuses
EN 60282-1	High-Voltage Fuses - Part 1: Current-Limiting Fuses
EN 60289	Reactors
EN 60332-1	Tests on Electrical and Optical Cables Under Fire Conditions - Test for a Vertical Flame Propagation for a Single Insulated Wire or Cable
EN 60349	Railway Applications - Rotating Electrical Machines for Rail and Road Vehicles. Machines Other than Electronic Convertor-fed Alternating Current Motors
EN 60423	Conduits for Electrical Purposes. Outside Diameters of Conduits for Electrical Installations and Threads for Conduits and Fittings
EN 60439-2	Low-Voltage Switchgear and Controlgear Assemblies - Part 2: Particular Requirements for Busbar Trunking Systems (Busways)
EN 60439-3	Low-Voltage Switchgear and Controlgear Assemblies - Part 3: Particular Requirements for Low-Voltage Switchgear and Controlgear Assemblies
EN 60439-4	Low-Voltage Switchgear and Controlgear Assemblies - Part 4: Particular Requirements for Assemblies for Construction Sites (ACS)
EN 60439-5	Low-Voltage Switchgear and Controlgear Assemblies - Part 5: Particular Requirements for Assemblies Intended to be Installed Outdoors in Public Places
EN 60445	Basic and Safety Principles for Man-machine Interface, Marking and Identification. Identification of Equipment Terminals and of Terminations of Certain Designated Conductors, Including General Rules for an Alphanumeric System
EN 60470	High-Voltage Alternating Current Contactors and Contactor-Based Motor Starters
EN 60529	Degrees of Protection provided by Enclosures (IPCode)
EN 60598	Luminaries

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 60695	Fire Hazard Testing
EN 60617	Graphical Symbols for Diagrams
EN 60694	Common Specifications for High-Voltage Switchgear and Controlgear Standards
EN 60831-1	Shunt Power Capacitors of the Self-healing Type for A.C. Systems having a Rated Voltage up to and Including 1000 V – Part 1: General - Performance, Testing and Rating - Safety Requirements - Guide for Installation and Operation
EN 60831-2	Shunt Power Capacitors of the Self-healing Type for A.C. Systems having a Rated Voltage up to and Including 1000 V – Part 2: Ageing Test, Self-healing Test and Destruction Test
EN 60849	Sound Systems for Emergency Purposes
EN 60896	Stationary Lead-Acid Batteries
EN 60947-1	Specification for Low-Voltage Switchgear & Controlgear-Part 1: General Rules
EN 60947-2	Specification for Low-Voltage Switchgear & Controlgear-Part 2: Circuit-Breakers
EN 60947-3	Specification for Low-Voltage Switchgear & Controlgear-Part 3: Switches, Disconnectors, Switch-Disconnectors and Fuse-Combination Units
EN 60947-4-1	Specification for Low-Voltage Switchgear & Controlgear-Part 4-1: Contactors and Motor-Starters. Electromechanical Contactors and Motor-Starters
EN 60947-5-6	Specification for low-voltage switchgear and control gear. Control circuit devices and switching elements. DC interface for proximity sensors and switching amplifiers (NAMUR)
EN 60947-6-1	Specification for Low-Voltage Switchgear & Controlgear-Part 6-1: Multiple Function Equipment. Automatic Transfer Switching Equipment
EN 61000	Electromagnetic compatibility (EMC)
EN 61386	Conduit Systems for Cable Management
EN 61508	Functional Safety of Electrical / Electronic / Programmable Electronic Safety-Related Systems
EN 61537	Cable Tray Systems and Cable Ladder Systems for Cable Management
EN 61547	Equipment for general lighting purposes – EMC immunity requirements
EN 61557-12	Electrical Safety in Low Voltage Distribution Systems up to 1000 V AC and 1500 V D.C. - Equipment for Testing, Measuring or Monitoring of Protective Measures - Part 12: Performance Measuring and Monitoring Devices (PMD)

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Reference	Description
EN 61643-11	Low Voltage Surge Protective Devices – Part 11: SPDs Connected to Low Voltage Power Distribution Systems – Performance Requirements and Testing Methods
EN 61643-21	Low Voltage Surge Protective Devices – Part 21: SPDs Connected to Telecommunication and Signaling Networks – Performance Requirements and Testing Methods
EN 61921	Power Capacitors. Low-voltage Power Factor Correction Banks
EN 62040	Uninterruptible Power Systems (UPS)
EN 62271-100	High-Voltage Switchgear and Controlgear - Part 100: Alternating-Current Circuit-Breakers
EN 62271-102	High-Voltage Switchgear and Controlgear - Part 102: A.C. Alternating Current Disconnectors and Earthing Switches
EN 62271-200	High-Voltage Switchgear and Controlgear - Part 200: A.C. Metal-Enclosed Switchgear and Controlgear for Rated Voltages Above 1 kV and Up To and Including 52 KV
EN 62305	Protection Against Lightning
EN ISO 9001	Quality Management Systems
EN ISO 14001	Environmental Management Systems - Requirements with Guidance for Use
EN ISO 17025	General Requirements for the Competence of Testing and Calibration Laboratories
EN ISO3740	Determination of sound power levels of noise sources
EN ISO 3746	Acoustics - Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure – Survey Method using an Enveloping Measurement Surface over a Reflecting Plane
CENELEC EN 60216	Electrical Insulating Materials - Properties of Thermal Endurance
CENELEC HD 308 S2	Identification of Cores in Cables and Flexible Cords
CENELEC HD 384	Requirements for Electrical Installations
CENELEC HD 538-2 S1	Three-phase Dry-type Distribution Transformers 50 Hz, from 100 to 2500 kVA with Highest Voltage for Equipment not Exceeding 24 kV
CENELEC HD 60364	Electrical Installations of Buildings
IEC 60255	Measuring Relays and Protection Equipment
IEC 60279	Measurement of the Winding Resistance of an A.C. Machine During Operation at Alternating Voltage
IEC 60287	Electric Cables - Calculation of the Current Rating

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
IEC 60331-11	Tests for Electric Cables under Fire Conditions - Circuit Integrity - Part 11: Apparatus - Fire Alone at a Flame Temperature of at least 750 Degree C
IEC 60331-21	Tests for Electric Cables under Fire Conditions - Circuit Integrity - Part 21: Procedures and Requirements - Cables of Rated Voltage up to and Including 0,6 / 1,0 KV
IEC 60332-3-22	Tests on Electric and Optical Fibre Cables under Fire Conditions - Part 3-22: Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables - Category A
IEC 60364	Low Voltage Electrical Installations
IEC 60420	High-Voltage Alternating Current Switch-Fuse Combinations
IEC 60502	Power Cables with Extruded Insulation and Their Accessories for Rated Voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)
IEC 60664	Insulation Coordination for Equipment within Low-Voltage Systems
IEC 60754-1	Test on Gases Evolved During Combustion of Materials from Cables - Part 1: Determination of the Amount of Halogen Acid Gas
IEC 60801	Electromagnetic Compatibility for Industrial-Process Measurement and Control Equipment
IEC 60874-19-1	Fibre Optic Interconnecting Devices and Passive components - Connectors for Optical Fibres and Cables - Part 19-1: Fibre Optic Patch Cord Connector Type SC-PC (Floating Duplex) Standard Terminated on Multimode Fibre Type A1a, A1b - Detail Specification
IEC 60905	Loading Guide for Dry-Type Power Transformers
IEC 61439-1	Low-Voltage Switchgear and Controlgear Assemblies- Part 1: General Rules
IEC 61439-2	Low-Voltage Switchgear and Controlgear Assemblies- Part 2: Power Switchgear and Controlgear Assemblies
IEC 61643-12	Low Voltage Surge Protective Devices – Part 12: SPDs Connected to Low Voltage Power Distribution Systems – Selection and Application Principles
IEC 61643-22	Low Voltage Surge Protective Devices – Part 22: SPDs Connected to Telecommunication and Signaling Networks – Selection and Application Principles
IEC 61936-1	Power Installations Exceeding 1 kV A.C. - Part 1: Common Rules
IEC 62548	Design Requirements for Photovoltaic (PV) Arrays
IEC 62561-1	Lightning Protection Components (LPC) - Part 1: Requirements for Connection Components

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
IEC 62561-2	Lightning Protection Components (LPC) - Part 2: Requirements for Conductors & Earth Electrodes
IEC 62561-3	Lightning Protection Components (LPC) - Part 3: Requirements for Isolating Spark Gaps
IEC 62561-4	Lightning protection Components (LPC) ) - Part 4: Requirements for conductor fasteners
IEC 62561-5	Lightning protection Components (LPC) - Part 5: Requirements for earth electrode inspection housings and earth electrode seals
IEC 62561-6	Lightning protection Components (LPC) - Part 6: Requirements for lightning strike counters
IEC 62561-7	Lightning protection Components (LPC) - Part 7: Requirements for earthing enhancing compounds
ISO 3575	Continuous Hot-Dip Zinc-Coated Carbon Steel Sheet of Commercial and Drawing Qualities
ISO 5002	Hot-Rolled and Cold-Reduced Electrolytic Zinc-Coated Carbon Steel Sheet of Commercial and Drawing Qualities
IGEM/SR/25	Hazardous Area Classification of Natural Gas Installations
ANSI/TIA/EIA-568-B.3	Optical Fiber Cabling Components Standard
UL 810	Capacitors
API 505	Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified Class 1 Zone 0, Zone 1 and Zone 2
NFPA 70	Standard for the Electrical Safety in the Workplace



**7.4 Cathodic Protection**

Reference	Description
EU DIRECTIVE 1907/2006	REACH act
EN 10290	Steel Tubes and fittings for onshore and offshore pipelines. External liquid applied polyurethane and polyurethane modified coatings.
EN 10329	Steel Tubes and Fittings for Onshore and Offshore Pipelines - External Field Joint Coatings
EN 12068	Cathodic Protection - External Organic Coatings for the Corrosion Protection of Buried or Immersed Steel Pipelines Used in Conjunction with Cathodic Protection - Tapes and Shrinkable Materials
EN 12954:2001	Cathodic Protection of buried or immersed metallic structures – General principles and application for pipelines
EN 13509:2003	Cathodic Protection Measurements Techniques
prEN 15280	Evaluation of A.C. Corrosion Likelihood of Buried Pipelines - Application to Cathodically Protected Pipelines
EN 23270	Specification for temperature and humidities for conditioning and testing paints, varnishes and their raw materials
DIN 50929 Teil 3	Possibility of Corrosion of Metallic Material when subject to Corrosion from Outside
EN 61643	Low Voltage Surge Protective Devices
EN ISO 527	Plastics - Determination of tensile properties
EN ISO 868	Plastics and Ebonite. Determination of indentation hardness by means of a Durometer (Shore Hardness)
EN ISO 2431	Paints and varnishes. Determination of flow time by use of flow cups
EN ISO 2808	Paints and varnishes. Determination of film thickness
EN ISO 2811 – All parts	Paints and varnishes. Determination of density
EN ISO 3183	Petroleum and natural gas industries - Steel Pipe for Pipeline Transportation Systems
EN ISO 4624	Paints and Varnishes. Determination of film thickness.
EN ISO 8501	Preparation of Steel Substrates before Application of Paints and Related Products - Visual assessment of surface cleanliness
EN ISO 8502-2	Preparation of Steel Substrates before Application of Paints and Related Products – Test for the assessment of surface cleanliness. Laboratory determination of chlorides on cleaned surfaces
EN ISO 8502-3	Preparation of Steel Substrates before Application of Paints and Related Products - Test for the assessment of surface cleanliness. Assessment of dust on steel surfaces prepared for painting (pressure-sensitive tape method)

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN ISO 8502-5	Preparation of steel substrates before application of paints and related products -- Tests for the assessment of surface cleanliness -- Part 5: Measurement of chloride on steel surfaces prepared for painting (ion detection tube method)
EN ISO 8502-6	Preparation of steel substrates before application of paints and related products -- Tests for the assessment of surface cleanliness -- Part 6: Extraction of soluble contaminants for analysis -- The Bresle method
EN ISO 8502-9	Preparation of Steel Substrates before Application of Paints and Related Products - Test for the assessment of surface cleanliness. Field method for the conductometric determination of water soluble salts
EN ISO 8503-All parts	Preparation of Steel Substrates before Application of Paints and Related Products - Surface roughness characteristics of blast cleaned steel substrates
EN ISO 8504-All parts	Preparation of Steel Substrates before Application of Paints and Related Products - Surface preparation methods.
EN ISO 11124-All parts	Specification for metallic blast-cleaning abrasives
EN ISO 12944-4	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 4: Types of surface and surface preparation
EN ISO 15589-1	Petroleum & Natural Gas Industries – Cathodic Protection of Pipeline Transportation
EN ISO 21809-1	Petroleum and natural gas industries – External coatings for buried or submerged pipelines used in pipeline transportation systems – Part 1: Polyolefin coatings (3-layer PE and 3-layer PP)
EN ISO 21809-3	Petroleum and Natural Gas Industries- External Coatings fro Buried or Submerged Pipelines Used in Pipeline Transportation Systems- Part 3: Field Joint Coatings
EN ISO 14713	Protection against corrosion of iron and steel in structures. Zinc and aluminium coatings.
ASTM 4940	Standard Test method for Conductimetric Analysis of Water Soluble Contamination of Blasting Abrasives
NACE SP 0169	Control of External Corrosion on Underground or Submerged Metallic Piping Systems
NACE RP 0177	Mitigation of Alternating Current and Lightning Effects on Metallic Structures and Corrosion
NACE RP 0286	Electrical Isolation of Cathodically Protected Pipelines
NACE Paper/477	Updated Protective Coating Costs, Products and Service Life
SSPC-SP 10/NACE No. 2,	Near-White Blast Cleaning

**7.5 Civil and Structural Works**

**Bulgarian Legislation**

Reference	Description
State Gazette No. 1/2.01.2001 and amendments	Spatial Development Act of the Republic of Bulgaria
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 2/2007	Design Of Buildings And Structures In Seismic Areas (Bulgarian Seismic Code)
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 3/2004	Basics of Structural Design Of Buildings and their Impacts
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 7/2004	Energy Efficiency, Heat and Energy Saving in Buildings
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 2/2008	Design, Implementation, Control and Acceptance of Waterproofing Systems for Buildings and Facilities
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 4/2009	Design, Implementation and Maintenance of Buildings in Accordance with the Requirements for Access for the Population, Including People with Disabilities
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 6/2004	Technical Rules and Standards for Design, Construction and Use of Facilities and Transport Facilities, Storage, Distribution and Supply of Natural Gas
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 2/2004	Minimum Requirements for Health and Safety in Carrying Out Construction Work

**Greek Legislation**

Reference	Description
ELOT 118	Refined linseed oil
ELOT 119	Boiled linseed oil
ELOT 121	Raw materials for paints and varnishes – Sampling

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ELOT 167	Pigments - Zinc oxide for paints
ELOT CR 213	Particle boards - Determination of formaldehyde emission under specified conditions - Method called: formaldehyde emission method.
ELOT CR 245	Thermal insulation - Classification of building materials according to their thermal insulation properties
ELOT 248	Gum spirit of turpentine and wood turpentines for paints and varnishes
ELOT 255	Mineral solvents for paints - White spirits and related hydrocarbon solvents
ELOT 451	Fibrous building insulation materials
ELOT 481	Paints and varnishes - Determination of light fastness of paints for interior use
ELOT 784	Gypsum Plasterboard – Specifications
ELOT 788	Emulsion paints
ELOT 808	Vitreous china washdown W.C. pans with horizontal outlet - Materials, quality, performance and dimensions other than connecting dimensions
ELOT 864	Enamel, alkyd, gloss
ELOT 876	Enamel, undercoat for brush application
ELOT 884	Paints of organic solvent type for exterior walls
ELOT 902	Sanitary appliances - Test for resistance to shock
ELOT 903	Sanitary appliances - Resistance of the enamel to variations in temperature
ELOT 904	Sanitary appliances - Resistance of appliances to static charge
ELOT 919	Resin alkyd solutions
ELOT 965	Paint and varnishes - Primer pretreatment for metal surfaces
ELOT 1115	Sanitary appliances - Wash basins - Conditions of assembly and installation for accommodating handicapped persons
ELOT 1147	Sanitary appliances - Checking the appearance of enamelled surfaces - Test method
ELOT 1148	Sanitary appliances - Enamelled sanitary ceramic ware - General specifications
ELOT 1269	Sanitary tapware - Flow regulating devices - General technical specifications
ELOT 1415	Guidelines of water proofing bituminous membranes in buildings
ELOT 1421	Steel for the reinforcement of concrete - Weldable

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
	reinforcing steel
ΠΕΤΕΠ 03-02-02-00	Temporary National Technical Specification for Hollow Clay Brick Masonry
ΠΕΤΕΠ 03-03-01-00	Temporary National Technical Specification for Plastering Mortars Prepared on-Site
ΠΕΤΕΠ 03-04-05-00	Temporary National Technical Specification for Expansion Joints
ΠΕΤΕΠ 03-06-01-00	Temporary National Technical Specification for Roof Waterproofing with Bituminous Membranes
ΠΕΤΕΠ 03-06-02-02	Temporary National Technical Specification for Thermal Insulation of External Walls
ΠΕΤΕΠ 03-07-02-00	Temporary National Technical Specification for Ceramic Tile Works (Internal and External)
ΠΕΤΕΠ 03-07-03-00	Temporary National Technical Specification for Natural Stone Flooring
ΠΕΤΕΠ 03-07-08-00	Temporary National Technical Specification for Raised floors
ΠΕΤΕΠ 03-07-10-01	Temporary National Technical Specification for Permanent Suspended Ceilings from Plasterboard
ΠΕΤΕΠ 03-08-01-00	Temporary National Technical Specification for Wood Doors and Windows
ΠΕΤΕΠ 03-08-02-00	Temporary National Technical Specification for Steel Doors and Windows
ΠΕΤΕΠ 03-08-07-01	Temporary National Technical Specification for Single Pane and Laminated Glazing Panels
ΠΕΤΕΠ 03-10-01-00	Temporary National Technical Specification for Painting of Concrete Surfaces
ΠΕΤΕΠ 03-10-03-00	Temporary National Technical Specification for Corrosion Protection and Painting of Steel Surfaces
ΠΕΤΕΠ 03-10-05-00	Temporary National Technical Specification for Painting of Wood Surfaces
ΠΕΤΕΠ 04-04-03-01	Temporary National Technical Specification for Common Sanitary
ΠΕΤΕΠ 04-04-03-02	Temporary National Technical Specification for WC for Disabled
ΠΕΤΕΠ 04-04-03-03	Temporary National Technical Specification for WC Equipment
ΠΕΤΕΠ.05.03.01.00	Temporary National Technical Specification - Road Base Courses of Excavated Material
ΠΕΤΕΠ.05.03.03.00	Temporary National Technical Specification - Road Base Courses of Unbound Aggregates
ΠΕΤΕΠ.05.03.11.04	Temporary National Technical Specification - Asphalt

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Reference	Description
	Paving Courses
KTS	Greek Concrete Technology Code
TOTEE 2411/86	Technical chamber of Greece Recommendations - Installations in Building and Sites : Hot and Cold Water Distributions
TOTEE 2412/86	Technical chamber of Greece Recommendations - Installations in Buildings and Sites : Sewer System
T.O.T.E.E. 20701-2/2010	Thermophysical properties of building materials & Thermo-insulating requirements acceptance procedure
T.O.T.E.E. 20701-3/2010:	Greece regional Climatic data
T.O.T.E.E. 20701-1/2010	National specifications for calculating Buildings energy efficiency and certification approval
ΟΣΜΕΟ	Guidelines for the Design of Roadworks (Egnatia Odos S.A.)
ΦΕΚ 32/Α/1988	Greek Regulation for Fire Resistance Requirements of Buildings
ΦΕΚ 59/Δ/1989	Greek Building Requirements Regulation (Κτιριοδομικός Κανονισμός)
ΦΕΚ 121/Β/1983	Technical Specification for safety signs and measures for roadworks in urban areas
ΦΕΚ 140/Α/2000	Greek General Building Terms Regulation (ΓΟΚ)
ΦΕΚ 169/Α/1998	Building clearances from public roads
ΦΕΚ 179/Α/2011	Section B: Hydrocarbon survey, production and transmission networks – Chapter D: routing and installation of IGI and IGB natural gas pipelines.
ΦΕΚ 212/Α/1996	Greek Construction Health & Safety Regulations
ΦΕΚ 260/Α/1981	Greek Construction Health & Safety Regulations
ΦΕΚ 270/Δ/1985	Greek general building terms for properties outside approved town plan limits
ΦΕΚ 315/Β/1997 (ΦΕΚ 537/Β/2002)	KTS 97 - Greek Concrete Technology Code
ΦΕΚ 362/Α/1979	Greek Thermal Insulation Regulation
ΦΕΚ 407/Β/2010	Greek Regulation for the Energy Efficiency of Buildings (ΚΕΝΑΚ)
ΦΕΚ 603/Β/2012	Technical Regulation for Natural Gas Transmission Systems with Maximum Operating Pressure Above 16 Bar
ΦΕΚ 1329/Β/2000 (ΦΕΚ 447/Β/2004, ΦΕΚ 270/Β/2010)	EKOS 2000 - Greek Reinforced Concrete Code
ΦΕΚ 1416/Β/2008 (ΦΕΚ 2113/Β/2008)	KTX 2008 - Greek Concrete Reinforcement Technology Code

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Reference	Description
ΦΕΚ 2184/Β/1999 (ΦΕΚ 1154/Β/2003, ΦΕΚ 781/Β/2003, ΦΕΚ 270/Β/2010)	EAK 2000 - Greek Seismic Design Code
ΦΕΚ 2692/Β/2008	Temporary Greek Eurocode National Annexes
PPC 5143/29-9-1981	Clearances associated with overhead powerlines 66KV, 150KV and 400KV.

**International Codes and Standards (common for both countries)**

Reference	Description
CEN/TS 1099	Plywood - Biological durability - Guidance for the assessment of plywood for use in different hazard classes.
CEN/TS 14754.01	Curing compounds - Test methods - Part 1: Determination of water retention efficiency of common curing compounds
EN 31	Pedestal wash basins - Connecting dimensions
EN 32	Wall-hung wash basins - Connecting dimensions
EN 33	Pedestal W.C. pans with close-coupled flushing cistern - Connecting dimensions
EN 34	Wall hung W.C. pan with close coupled cistern (0) - Connecting dimensions
EN 58	Bitumen and bituminous binders - Sampling bituminous binders
EN 101	Ceramic tiles - determination of scratch hardness of surface according to MOHS
EN 107	Methods of testing windows - Mechanical test
EN 111	Wall-hung hand rinse basins - Connecting dimensions
EN 124	Gully tops and manhole tops for vehicular and pedestrian areas. Design requirements, type testing, marking, quality control
EN 130	Method of testing doors - Test for the change in stiffness of the door leaves by repeated torsion.
EN 197	Cement
EN 198	Specification for finished baths for domestic purposes made of acrylic material
EN 200	Sanitary tapware - Single taps and combination taps for water supply systems of type 1 and type 2 - General technical specification
EN 204	Classification of thermoplastic wood adhesives for non-structural applications.
EN 205	Adhesives - Wood adhesives for non-structural applications



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Reference	Description
	-Determination of tensile shear strength of lap joints.
EN 206	Concrete
EN 212	Wood preservatives - General guidance on sampling and preparation for analysis of wood preservatives and treated timber.
EN 232	Baths - Connecting dimensions
EN 246	Sanitary tapware - General specifications for flow rate regulators
EN 248	Sanitary tapware - General specification for electrodeposited coatings of Ni-Cr
EN 251	Shower trays - Connecting dimensions
EN 263	Crosslinked cast acrylic sheets for baths and shower trays for domestic purposes
EN 274	Waste fittings for sanitary appliances
EN 287	Qualification Test of welders – Fusion Welding
EN 288	Specification and approval of welding procedures for metallic materials
EN 309	Particleboards - Definition and classification.
EN 311	Wood-based panels - Surface soundness - Test method
EN 312	Particleboards – Specifications.
EN 313	Plywood - Classification and terminology
EN 314	Plywood - Bonding quality
EN 315	Plywood - Tolerances for dimensions.
EN 335	Durability of wood and wood-based products - Definition of hazard classes of biological attack
EN 350	Durability of wood and wood-based products - Natural durability of solid wood
EN 351	Durability of wood and wood-based products - Preservative-treated solid wood
EN 356	Glass in building - Security glazing - Testing and classification of resistance against manual attack
EN 357	Glass in building - Fire resistant glazed elements with transparent or translucent glass products - Classification of fire resistance
EN 410	Glass in building - Determination of luminous and solar characteristics of glazing
EN 413	Masonry cement
EN 426	Resilient floor coverings. Determination of width, length, straightness and flatness of sheet material
EN 427	Resilient floor coverings. Determination of the side length,

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Reference	Description
	squareness and straightness of tiles
EN 433	Resilient floor coverings - Determination of residual indentation after static loading
EN 434	Resilient floor coverings. Determination of dimensional stability and curling after exposure to heat
EN 435	Resilient floor coverings. Determination of flexibility
EN 438	High-pressure decorative laminates (HPL) Sheets based on thermosetting resins (Usually called Laminates)
EN 439	Welding consumables. Shielding gases for arc welding and cutting
EN 440	Welding consumables. Wire electrodes and deposits for gas shielded metal arc welding of non alloy and fine grain steels. Classification
EN 450	Fly ash for concrete
EN 459	Building lime
EN 460	Durability of wood and wood-based products - Natural durability of solid wood - Guide to the durability requirements for wood to be used in hazard classes.
EN 476	General requirements for components used in discharge pipes, drains and sewers for gravity systems
EN 480	Admixtures for concrete, mortar and grout - Test methods
EN 495	Flexible sheets for waterproofing - Determination of foldability at low temperature
EN 499	Welding consumables. Covered electrodes for manual metal arc welding of non alloy and fine grain steels. Classification
EN 515	Aluminium and aluminium alloys - Wrought products - Temper designations
EN 520	Gypsum Plaster Boards - Definitions, Requirements and Test Methods
EN 572	Glass in building - Basic soda lime silicate glass products
EN 573	Aluminium and aluminium alloys - Chemical composition and form of wrought products
EN 577	Aluminium and aluminium alloys - Liquid metal - Specifications
EN 599	Durability of wood and wood-based products - Performance of preventive wood preservatives as determined by biological tests
EN 635	Plywood - Classification by surface appearance
EN 636	Plywood – Specifications.
EN 654	Resilient floor coverings. Semi-flexible polyvinyl chloride tiles. Specification
EN 660	Resilient floor coverings. Determination of wear resistance.

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Reference	Description
EN 673	Glass in building - Determination of thermal transmittance (U value) - Calculation method
EN 674	Glass in building - Determination of thermal transmittance (U value) - Guarded hot plate method
EN 675	Glass in building - Determination of thermal transmittance (U value) - Heat flow meter method
EN 681	Elastomeric seals - Materials requirements for pipe joint seals used in water and drainage applications
EN 685	Resilient, textile and laminate floor coverings. Classification
EN 752	Drain and sewer systems outside buildings. Generalities and definitions
EN 755	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles
EN 757	Welding consumables. Covered electrodes for manual metal arc welding of high strength steels. Classification
EN 771.01	Specification for masonry units - Part 1: Clay masonry units
EN 772	Methods of test for masonry units
EN 789	Timber structures - Test methods - Determination of mechanical properties of wood based panels .
EN 816	Sanitary tapware - Automatic shut-off valves PN 10
EN 817	Sanitary tapware - Mechanical mixing valves (PN 10) - General technical specifications
EN 822	Thermal insulating products for building applications - Determination of length and width
EN 823	Thermal insulating products for building applications. Determination of thickness
EN 826	Thermal Insulating Products for Buildings Application - Determination of Compression Behaviour.
EN 845	Specification for ancillary components for masonry
EN 923	Adhesives - Terms and definitions.
EN 927	Paints and varnishes - Coating materials and coating systems for exterior wood
EN 932	Tests for general properties of aggregates
EN 933	Tests for geometrical properties of aggregates
EN 934	Admixtures for concrete, mortar and grout
EN 947	Hinged or pivoted doors - Determination of the resistance to vertical load.
EN 948	Hinged or pivoted doors -Determination of the resistance to static torsion.
EN 949	Windows and curtain walling, doors, blinds and shutters -

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Reference	Description
	Determination of the resistance to soft and heavy body impact for doors.
EN 950	Door leaves - Determination of the resistance to hard body impact
EN 951	Door leaves - Method for measurement of height, width, thickness and squareness.
EN 952	Door leaves - General and local flatness -Measurement method.
EN 970	Non-destructive examination of fusion welds - Visual examination
EN 998	Specification for mortar for masonry
EN 1008	Mixing water for concrete - Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete
EN 1011	Welding. Recommendations for welding of metallic materials.
EN 1014	Wood preservatives - Creosote and creosoted timber - Methods of sampling and analysis
EN 1015	Methods of test of mortar for masonry
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EN 1027	Windows and doors - Water tightness - Test methods.
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EN 1052	Methods of test for masonry
EN 1057	Copper and copper alloys. Seamless, round copper tubes for water and gas in sanitary and heating applications
EN 1058	Wood-based panels - Determination of characteristics values of mechanical properties and density.
EN 1063	Glass in building - Security glazing - Testing and classification of resistance against bullet attack
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EN 1067	Adhesives - Examination and preparation of samples for testing.
EN 1072	Plywood - Description of bending properties for structural plywood
EN 1081	Resilient floor coverings-Determination of electrical resistance.
EN 1084	Plywood - Formaldehyde release classes determined by the gas analysis method.
EN 1087	Particleboards - Determination of moisture resistance
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EN 1109	Flexible sheets for waterproofing - Bitumen sheets for roof waterproofing - Determination of flexibility at low temperature
EN 1110	Flexible sheets for waterproofing - Bitumen sheets for roof waterproofing - Determination of flow resistance at elevated temperature
EN 1111	Sanitary tapware - Thermostatic mixing valves (PN 10) - General technical specification
EN 1121	Doors. Behaviour between two different climates. Test method.
EN 1123	Pipes and fittings of longitudinally welded hot-dip galvanized steel pipes with spigot and socket for waste water systems.
EN 1125	Building hardware – panic exit devices operated by a horizontal bar
EN 1154	Building hardware - Controlled door closing devices - Requirements and test methods
EN 1191	Windows and doors - Resistance to repeat opening and closing –Test method.
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EN 1250	Wood preservatives - Methods for measuring losses of active ingredients and other preservative ingredients from treated timber
EN 1254	Copper and copper alloys. Plumbing fittings
EN 1286	Sanitary tapware - Low pressure mechanical mixing valves - General technical specification
EN 1287	Sanitary tapware - Low pressure thermostatic mixing valves - General technical specification
EN 1288	Glass in building - Determination of the bending strength of glass
EN 1294	Door leaves - Determination of the behaviour under humidity variation in successive uniform climates.
EN 1295	Structural design of buried pipelines under various conditions of loading.
EN 1296	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roofing - Method of artificial ageing by long term exposure to elevated temperature
EN 1297	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Method of artificial ageing by long term exposure to the combination of UV radiation, elevated temperature and water

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EN 1324	Adhesives for tiles - Determination of shear adhesion strength of dispersion adhesives
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EN 1433	Drainage channels for vehicular and pedestrian areas. Classification, design and testing requirements, marking and evaluation of conformity
EN 1437	Plastics piping systems. Piping systems for underground drainage and sewerage. Test method for resistance to combined temperature cycling and external loading
EN 1452-2	Plastics piping systems for water supply. Unplasticized poly(vinyl chloride) (PVC-U). Pipes
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EN 1815	Resilient and textile floor coverings-Assessment of static electrical propensity.
EN 1844	Flexible sheets for waterproofing - Determination of resistance to ozone - Plastic and rubber sheets for roof waterproofing
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EN 1850	Flexible sheets for waterproofing - Determination of visible defect
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EN 1902	Adhesives. Test methods for adhesives for floor coverings and wall coverings. Shear test
EN 1906	Building hardware. Lever handles and knob furniture. Requirements and test methods
EN 1916	Concrete pipes and fittings, unreinforced, steel fibre and reinforced
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EN 1931	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of water vapour transmission properties
EN 1932	External blinds and shutters - Resistance to wild loads - Method of testing
EN 1935	Building hardware. Single-axis hinges. Requirements and test methods
EN 1936	Natural stone test methods - Determination of real density and apparent density, and of total and open porosity
EN 1990	Eurocode – Basis of Structural Design
EN 1991	Eurocode 1: Actions on Structures
EN 1992	Eurocode 2: Design of concrete structures
EN 1993	Eurocode 3: Design of steel structures
EN 1994	Eurocode 4: Design of composite steel and concrete structures
EN 1996	Eurocode 6: Design of masonry structures
EN 1997	Eurocode 7: Geotechnical Design
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EN 10021	General technical delivery requirements for steel and iron products
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EN 10029	Hot rolled steel plates 3 mm thick or above
EN 10034	Structural steel I and H sections - Tolerances on shape and dimensions
EN 10051	Continuously hot-rolled uncoated plate, sheet and strip of non-alloy and alloy steels - Tolerances on dimensions and shape
EN 10055	Hot rolled steel equal flange tees with radiused root and toes - Dimensions and tolerances on shape and dimensions
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EN 10219	Cold formed welded structural hollow sections of non-alloy and fine grain steels
EN 10223	Steel wire and wire products for fences
EN 10240	Internal and/or external protective coatings for steel tubes - Specification for hot dip galvanized coatings applied in automatic plants
EN 10244	Steel wire and wire products. Non-ferrous metallic coatings on steel wire.
EN 10250	Open die steel forgings for general engineering purposes
EN 10326	Continuously hot-dip coated strip and sheet of structural steels. Technical delivery conditions
EN 10327	Continuously hot-dip coated strip and sheet of low carbon steels for cold forming. Technical delivery conditions
EN 12002	Adhesives for tiles - Determination of transverse deformation for cementitious adhesives and grouts
EN 12003	Adhesive for tiles - Determination of shear adhesion strength of reaction resin adhesives
EN 12004	Adhesives for tiles - Requirements, evaluation of conformity, classification and designation
EN 12020	Aluminium and aluminium alloys - Extruded precision profiles in alloys EN AW-6060 and EN AW-6063
EN 12039	Flexible sheets for waterproofing - bitumen sheets for roof waterproofing - Determination of adhesion of granules
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EN 12087	Thermal insulating products for building applications - Determination of long term water absorption by immersion
EN 12088	Thermal insulating products for buildings application - Determination of long term water absorption by diffusion
EN 12091	Thermal insulating products for buildings application - Determination of freeze-thaw resistance
EN 12150	Glass in building - Thermally toughened soda lime silicate safety glass
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EN 12208	Windows and doors - Water tightness - Classification.
EN 12209	Building hardware. Locks and latches. Mechanically operated locks, latches and locking plates. Requirements and test methods
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EN 12211	Windows and doors - Resistance to wind load - Test methods
EN 12216	Shutters, external blinds, internal blinds - Terminology, glossary and definitions
EN 12217	Doors - Operating forces - Requirements and classification
EN 12219	Doors Climatic influences - Requirements and classification.
EN 12224	Geotextiles and geotextile-related products. Determination of the resistance to weathering
EN 12354	Estimation of Acoustic Performance of Buildings from the Performance of Elements
EN 12258	Aluminium and aluminium alloys- Terms and definitions
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EN 12372	Natural stone test methods - Determination of flexural strength under concentrated load
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EN 12390	Testing hardened concrete
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EN 12429	Thermal insulating products for building applications - Conditioning to moisture equilibrium under specified temperature and humidity conditions
EN 12440	Natural stone - Denomination criteria
EN 12447	Geotextiles and geotextile-related products. Screening test method for determining the resistance to hydrolysis in water
EN 12504	Testing concrete in structures
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EN 12534	Welding consumables. Wire electrodes, wires, rods and deposits for gas shielded metal arc welding of high strength steels. Classification
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EN 12697	Bituminous mixtures - Test methods for hot mix asphalt
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EN 12898	Glass in building - Determination of the emissivity
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EN 13009	Hygrothermal performance of building materials and products - Determination of hygric expansion coefficient
EN 13036	Road and airfield surface characteristics - Test methods
EN 13043	Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas
EN 13084.01	Free-standing chimneys. General requirements
EN 13084.07	Free-standing chimneys. Product specifications of cylindrical steel fabrications for use in single wall steel chimneys and steel liners
EN 13108	Bituminous mixtures - Material specifications
EN 13111	Flexible sheets for waterproofing - Underlays for discontinuous roofing and walls - Determination of resistance to water penetration
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EN 13242	Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction
EN 13249	Geotextiles and geotextile-related products - Characteristics required for use in the construction of roads and other trafficked areas (excluding railways and asphalt inclusion)
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EN 13253	Geotextiles and geotextile-related products - Characteristics required for use in erosion control works (coastal protection, bank revetments)
EN 13285	Unbound mixtures. Specifications
EN 13286	Unbound and hydraulically bound mixtures. Test Methods.
EN 13364	Natural stone test methods - Determination of the breaking load at dowel hole
EN 13369	Common rules for precast concrete products
EN 13373	Natural stone test methods - Determination of geometric characteristics on units
ENV 13381	Test methods for determining the contribution to the fire resistance of structural members
EN 13415	Test of adhesives for floor covering. Determination of the electrical resistance of adhesive films and composites
EN 13416	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Rules for sampling
EN 13454	Binders, composite binders and factory made mixtures for floor screeds based on calcium sulphate
EN 13467:2001	Thermal insulating products for building equipment and industrial installations. Determination of dimensions, squareness and linearity of preformed pipe insulation
EN 13469:2001	Thermal insulating products for building equipment and industrial installations. Determination of water vapour transmission properties of preformed pipe insulation
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EN 13479	Welding consumables. General product standard for filler metals and fluxes for fusion welding of metallic materials
EN 13494	Thermal insulation products for building applications - Determination of the tensile bond strength of the adhesive and of the base coat to the thermal insulation material
EN 13500	Thermal insulation products for buildings - External thermal insulation composite systems (ETICS) based on mineral wool – Specification
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EN 13541	Glass in building - Security glazing - Testing and classification of resistance against explosion pressure
EN 13562	Geotextiles and geotextile-related products. Determination of resistance to penetration by water (hydrostatic pressure test)
EN 13583	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of hail resistance
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EN 13793	Thermal insulating products for building applications - Determination of behaviour under cyclic loading
EN 13808	Bitumen and bituminous binders. Framework for specifying cationic bituminous emulsions
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EN 13914	Design, preparation and application of external rendering and internal plastering
EN 13950	Gypsum plasterboard thermal/acoustic insulation composite panels - Definitions, requirements and test methods
EN 13963	Jointing Materials for Gypsum boards Definitions, Requirements and Test Methods
EN 13964	Suspended Ceilings - Requirements and Test Methods
EN 13969	Flexible sheets for waterproofing - Bitumen damp proof sheets including bitumen basement tanking sheets - Definitions and characteristics
EN 13970	Flexible sheets for waterproofing - Bitumen water vapour control layers - Definitions and characteristics
EN 13984	Flexible sheets for waterproofing - Plastic and rubber vapour control layers - Definitions and characteristics
EN 14024	Metal profiles with thermal barrier - Mechanical performance - Requirements, proof and tests for assessment
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EN 14195	Metal Framing, Components for Gypsum Plasterboard System - Definitions, Requirements and Test Methods
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EN 20140	Acoustics - Measurement of sound insulation in buildings and of building elements
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EN 25817	Arc-welded joints in steel. Guidance on quality levels for imperfections.
EN 26927	Building construction - Jointing products - Sealants – Vocabulary
EN 28394	Building construction - Jointing products - Determination of extrudability of one-component sealants
EN 29048	Building construction - Jointing products - Determination of extrudability of sealants using standardized apparatus
EN 2945	Soft soldering fluxes. Test methods
EN 45011	General requirements for bodies operating product certification systems
EN 60335	Household and similar electrical appliances – Safety
EN ISO 140	Acoustics - Measurement of Sound Insulation in Buildings and of Building Elements
EN ISO 354	Acoustics -- Measurement of sound absorption in a reverberation room
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EN ISO 898	Mechanical properties of fasteners made of carbon steel and alloy steel
EN ISO 1461	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
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EN ISO 1513	Paints and varnishes - Examination and preparation of samples for testing
EN ISO 2039	Plastics - Determination of hardness
EN ISO 2320	Prevailing torque type steel hexagon nuts - Mechanical and performance requirements
EN ISO 2702	Heat-treated steel tapping screws -- Mechanical properties
EN ISO 2808	Paints and varnishes. Determination of film thickness
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EN ISO 4032	Hexagon nuts, style 1. Product grades A and B
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EN ISO 4042	Fasteners -- Electroplated coatings
EN ISO 4526	Metallic coatings - Electroplated coatings of nickel for engineering purposes
EN ISO 4618	Paints and varnishes - Terms and definitions
EN ISO 4759	Tolerances for fasteners
EN ISO 5817	Welding - Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) - Quality levels for imperfections
EN ISO 6157	Fasteners - Surface discontinuities
EN ISO 7085	Mechanical and performance requirements of case hardened and tempered metric thread rolling screws
EN ISO 7089	Plain washers- Nominal series- Product grade A
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EN ISO 7389	Building construction - Jointing products - Determination of elastic recovery of sealants
EN ISO 7390	Building construction - Jointing products - Determination of resistance to flow of sealants
EN ISO 8289	Vitreous and porcelain enamels - Low voltage test for detecting and locating defects
EN ISO 8339	Building construction - Sealants - Determination of tensile properties (Extension to break)
EN ISO 8340	Building construction - Sealants - Determination of tensile properties at maintained extension
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EN ISO 9969	Thermoplastics pipes. Determination of ring stiffness
EN ISO 10077	Thermal performance of windows, doors and shutters - Calculation of thermal transmittance
EN ISO 10319	Geotextiles. Wide-width tensile test
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EN ISO 14688	Geotechnical investigation and testing - Identification and classification of soil
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EN ISO 14731	Welding coordination - Tasks and responsibilities
EN ISO 15148	Hygrothermal performance of building materials and products - Determination of water absorption coefficient by partial immersion
EN ISO 15186	Acoustics - Measurements of Sound Insulation in Buildings and of Building Elements using Sound Intensity.
EN ISO 15695	Vitreous and porcelain enamels - Determination of scratch resistance of enamel finishes
EN ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories
ANSI A108.1	American National Standard Specifications for Installation of Ceramic Tile
ASTM C 289	Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates
ASTM C 635	Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings
ASTM C 636	Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels
ASTM C 834	Latex Sealants
ASTM C 840	Application and Finishing of Gypsum Board
ASTM C1063	Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
ASTM D 3273	Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
ASTM D 4263	Standard Test Method For Indicating Moisture In Concrete By

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
	The Plastic Sheet Method
ASTM D 4444	Standard Test Method For Laboratory Standardization And Calibration Of Hand-Held Moisture Meters
ASTM D 4914	Standard Test Methods for Density and Unit Weight of Soil and Rock in Place by the Sand Replacement Method in a Test Pit
ASTM E 1190	Standard test methods for strength of power-actuated fasteners installed in structural members
ASTM E 90	Standard Test Method For Laboratory Measurement Of Airborne Sound Transmission Loss Of Building Partitions And Elements
ASTM E 488	Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements
ASTM E 1264	Acoustical Ceiling Products
ASTM F 1869	Standard Test Method For Measuring Moisture Vapour Emission Rate Of Concrete Subfloor Using Anhydrous Calcium Chloride
BS 1186	Timber for and workmanship in joinery. Specification for timber.
BS 1203	Specification for synthetic resin adhesives (Phenolic and Aminoplastic) for Plywood
DIN 267	Fasteners - Technical delivery conditions
DIN 1259	Glass
DIN 4102	Fire Behaviour of Building Materials and Building Components
DIN 4103	Internal non-loadbearing partitions
DIN 4107	Settlement observations during and after construction of buildings
DIN 4109	Noise Control in Buildings
DIN 4123	Protection of buildings in the area of excavations, foundations and underpinnings
DIN 4124	Building pits and trenches Slopes, working space widths, sheeting
DIN 7863	Non cellular elastomer glazing and panel gaskets; technical delivery conditions
DIN 18089	Fire barriers; fillers for fire-doors; mineral fibre boards (felts); definition, designation, requirements, tests
DIN 18093	Fire barriers; installation of fire doors in fireproof masonry or concrete walls; position and shapes of anchorages, installation
DIN 18095	Smoke control doors; concepts and requirements
DIN 18100	Doors; wall openings for doors with dimensions in accordance with DIN 4172
DIN 18101	Doors; doors for residential buildings; sizes of door leaves, position of hinges and lock, interdependence of dimensions
DIN 18111	Door frames - Steel door frames

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
DIN 18168	Light Ceiling Linings and Under Ceilings
DIN 18180	Gypsum plasterboards - Types and requirements
DIN 18181	Gypsum plasterboards for building construction - Application
DIN 18182	Accessories for use with gypsum plasterboards
DIN 18183	Partitions and wall linings with gypsum boards on metal framing
DIN 18202	Dimensional Tolerances in Building Construction
DIN 18203	Tolerances in building construction
DIN 18335	German construction contract procedures (VOB) - Part C: General technical specifications in construction contracts (ATV) - Structural steelwork
DIN 18357	German construction contract procedures (VOB) - Part C: General technical specifications in construction contracts (ATV) - Mounting of door and window hardware
DIN 18360	German construction contract procedures (VOB) - Part C: General technical specifications in construction contracts (ATV) – Metalwork
DIN 18361	German construction contract procedures (VOB) - Part C: General technical specifications in construction contracts (ATV) - Glazing works
DIN 18364	German construction contract procedures (VOB) - Part C: General technical specifications in construction contracts (ATV) - Corrosion protection of steel structures
DIN 18365	German construction contract procedures (VOB) - Part C: General technical specifications in construction contracts (ATV) - Flooring work
DIN 18545	Glazing with sealants; rebates; requirements
DIN 18560	Floor screeds in building construction
DIN 24537	Gratings used as floor coverings - Part 1: Metal gratings
DIN 51958	Testing of organic floor coverings (except textile floor coverings); chemical-physical effect of test agents up to 24 hours
DIN 51961	Resistance to cigarette embers
DIN 52453-2	Testing of sealing compounds for sealing and glazing in building constructions; migration of binder, paper filter method
DIN 52455	Testing of sealing compounds in buildings constructions - Adhesion and expansion test
DIN 53516	Testing for abrasion resistance
DIN 59600	Strips, Plates and Sheets of Aluminium and Wrought Aluminium Alloys, Hot Rolled, Dimensions
DIN 68706	Interior doors made from wood and wood-based panels
DIN 68800	Protection of timber used in buildings; general specifications



LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ISO 286- 2	ISO system of limits and fits - Part 2: Tables of standard tolerance grades and limit deviations for hole and shafts
ISO 1891	Bolts, screws, nuts and accessories - Terminology and nomenclature - Trilingual edition
ISO 4649	Rubber, vulcanized or thermoplastic - determination of abrasion resistance using a rotating cylindrical drum device
ISO 8992	Fasteners – General Requirements for bolts, screws, studs and nuts.

**7.6**

**HVAC**

**Bulgarian Legislation**

Reference	Description
State Gazette No. 98/14.11.2008 and amendments SG. 6/23.01.2009; SG. 19/13.03.2009; SG. 42/05.06.2009; SG. 82/16.10.2009; SG. 15/23.02.2010	Energy Efficiency Act
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No.15 15/2005	Ordinance № 15 of the 2005 technical regulations and standards for design, construction and operation of facilities and equipment for generation, transmission and distribution of heat Ordinances
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 4/2006	Reduce harmful noise with Noise Reduction for buildings in their design and the rules and regulations for the implementation of the works in respect of noise emitted during construction
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 4/17.06.2005	Design, construction and operation of building water supply and sewerage installations
MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS ORDINANCE No. 7/15.12.2004 2008 and amendments SG. 85 of 2009, promulgated, SG. 5 2005 , as amended. and supplemented. No. 85 of 2009, amended. No.88 and 92 of 2009, as amended. and supplemented. No. 2 of 2010	Energy efficiency, heat and energy in building

**Greek Legislation**

Reference	Description
TOTEE 20701-1/2010	Guidelines of Technical Chamber of Greece - National Analytical Specifications of parameters for the calculation of the Buildings energy efficiency and the decision of the Energy Efficiency certificate

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
TOTEE 20701-2/2010	Guidelines of Technical Chamber of Greece - Thermo physic properties of structural modules and examination of the Thermo-insulating adequacy of Buildings
TOTEE 20701-3/2010	Guidelines of Technical Chamber of Greece – Climatic data for Greek regions
T.O.T.E.E. 2423/86	Air-conditioning Installations in Buildings
T.O.T.E.E. 2425/87	Elements for Calculating Air-conditioning loads in Building Areas
T.O.T.E.E. 2421/86	Hot water distribution for Heating in Building Areas
ELOT EN 60529	Degrees of Protection provided by Enclosures (IP Code)

**International Codes and Standards (common for both countries)**

Reference	Description
DIN 4701/77	Regulations for calculating the energy requirements of buildings
DIN EN ISO 5801-2011	Industrial Fans – Performance testing using standardized airways
DIN EN ISO 8497 (1996)	Thermal insulation – Determination of steady state thermal transmission properties of thermal insulation for circular pipes
DIN EN 12086	Thermal insulating products for building applications – Determination of water vapour transmissions properties
DIN EN 12667 (2001)	Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter products
DIN EN 12599 (2000)	Ventilation for buildings – Test procedures and measuring methods for handling over installed ventilation and air conditioning systems
DIN-ISO 15665 (2011)	Acoustic insulation for pipes, valves and flanges
ISO 13347-4 /2004	Industrial Fans. Determination of sound power levels under standardized laboratory conditions. Sound intensity method
ASHRAE St 62.1-2010	Ventilation for Acceptable Indoor Air Quality
SMACNA (1995)	HVAC Duct Construction Standards, Metal and Flexible, 1995 2nd edition
SMACNA (1985)	HVAC Air Duct Leakage Test Manual, 1 <sup>st</sup> edition
SMACNA (2001)	Installation of Air-Conditioning and Ventilating systems
NFPA 90A, 2009	Installation of Air Conditioning and Ventilating Systems
ANSI/ASHRAE 15-2004	Safety Standard for Refrigeration Systems
ANSI/ASME B31.5-1987	Refrigeration Piping
ARI 410	Forced-Circulation Air-Cooling and Air-Heating Coils
EN 10240	Internal and/or External Protective Coatings for Steel Tubes - Specification for Hot Dip Galvanized Coatings Applied in Automatic Plants
EN 10220	Seamless and welded steel tubes – Dimensions and masses per unit length.

LIST OF APPLICABLE NORMS AND LEGISLATIONS

EN 15423:2008	Ventilation for buildings - Fire precautions for air distribution systems in buildings
EN-13831	Closed expansion vessels with built-in diaphragm for installation in water
EN-12828	Heating systems in buildings. Design for water-based heating systems
EN-14336	Heating systems in buildings. Installation and commissioning of water based heating systems
EN-442.02	Specification for radiators and convectors. Technical specifications and requirements
EN-1886	Ventilation for buildings. Air handling units. Mechanical performance
EN-12236	Ventilation for buildings - Ductwork hangers and supports - Requirements for strength
EN-13180	Ventilation for buildings. Ductwork. Dimensions and mechanical requirements for flexible ducts
EN-13779	Ventilation for non-residential buildings – Performance requirements for ventilation and room-conditioning system
EN-1505	Ventilation for buildings - Sheet metal air ducts and fittings with rectangular cross section - Dimension
EN-1506	Ventilation for buildings - Sheet metal air ducts and fittings with circular cross-section - Dimensions
EN-15650	Ventilation for buildings — Fire dampers
EN-779	Particulate air filters for general ventilation - Determination of the filtration performance

**7.7 Fire Fighting**

**Bulgarian Legislation**

Reference	Description
Ministry Of Regional Development And Public Works - Ordinance № Iz-1971 / 29-10-2009	Ordinance № Iz-1971 from 29 October 2009 for construction and technical rules and norms for fire safety
Ministry Of Regional Development And Public Works - PO-PS-1227/26.11.2010	Guidelines for the implementation of Regulation № Iz-1971 from 2009 for construction and technical rules and norms for fire safety

**Greek Legislation**

Reference	Description
Π.Δ.71/88	“Regulations for Fire Protection of buildings”
Κ.Υ.Α. Φ15/οικ. 1589/104/2006	“Fire regulation for industrial buildings and mechanical installations”
TOTEE2451/86	Technical chamber of Greece Recommendations - Buildings Mechanical Installations: Fire Fighting Water Systems

**International Codes and Standards (common for both countries)**

Reference	Description
EN 2:1992/A1:2004	Classification of fires
EN 1866	Mobile fire extinguishers
EN 3	Portable fire extinguishers
EN-15004	Fixed fire fighting systems - Gas extinguishing systems
EN-12094	Fixed fire fighting systems - Components for gas extinguishing systems
EN10240	Internal and/or external protective coatings for steel tubes
EN 10220	Seamless and welded steel tubes - Dimensions and masses per unit length
EN10255	Non-alloy steel tubes suitable for welding or threading. Technical delivery conditions
EN 1092	Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 12201	Plastic piping systems for water supply. Polyethylene (PE). General
EN-12845	Fixed fire fighting systems - Automatic sprinkler systems - Design, installation and maintenance
EN 14384	Pillar fire hydrants
EN 671	Fixed fire fighting systems - Hose systems
EN ISO 14557	Fire-fighting hoses - Rubber and plastics suction hoses and hose assemblies.
IEC	International Electrotechnical Commission
EN 54	Fire detection and fire alarm systems
NFPA 70	Standard for the Electrical Safety in the Workplace
NFPA 75	Standard for the Fire Protection of Information Technology Processing Equipment
NFPA 2001	Clean Agent Fire Extinguishing Systems
NFPA	As applicable

**8. Norms and Legislations – SCADA / Telecoms & Security FEED**

Reference	Description
<b>EU LEGISLATION</b>	
ATEX 94/9/EC	Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres.
ATEX 99/92/EC	Safety of Installation. (ATEX 137)
PED 97/23/EC	Pressure Equipment Directive
Directive 89-336 CEE	Council Directive of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility
<b>CODES AND STANDARDS</b>	
AGA 12	Cryptographic Protection of SCADA Communications
API 1164	Pipeline SCADA Security
EIA -359	Standard Colours for Colour Identification and Coding
EIA /TIA 455	Test Procedures for Fibre Optic Fibres, Cables, Transducers, Connecting and Terminating Devices
EIA /TIA 598	Standard for Colour Coding of Fibre Optic Cables
EIA RS 232C	Interface between data terminal equipment employing serial binary data interchange
EIC CCI P/1	Instrument Installation Testing Procedure
EN 1594	Gas Supply Systems – Pipelines - Maximum operating pressure over 16 bar - Functional Requirements
EN 5026	Cable glands for electrical installations
EN 10143	Continuously hot-dip coated steel sheet and strip. Tolerances on dimensions and shape
EN 50131	Alarm systems - Intrusion and hold-up systems
EN 50133	Alarm systems: Access control systems
EN 50137	Alarm systems: CCTV systems
EN 50164	Lightning protection components
EN 50173-1	Information technology — Generic cabling systems
EN 50267	Common test methods for cables under fire conditions.
EN 55022	Information technology equipment - Radio disturbance characteristics - Limits
EN 60079-0	Electrical Apparatus for explosive gas atmosphere-Part 0: General Requirements;
EN 60079-1	Electrical Apparatus for explosive gas atmosphere-Part 1: Flameproof enclosures “d”;
EN 60079-7	Electrical Apparatus for explosive gas atmosphere-Part 7: Increased Safety “e”;
EN 60079-10-1	Electrical Apparatus for explosive gas atmosphere-Part10: Classification of hazardous areas;



LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN 60079-11	Electrical Apparatus for explosive gas atmosphere-Part11: Intrinsically Safe ‘i’;
EN 60079-14	Electrical Apparatus for Explosive Gas Atmospheres. Electrical installations in hazardous areas.
EN 60079-15	Electrical Apparatus for explosive gas atmosphere-Part15: Construction, Test and marking of type of protection ‘n’;
EN 60189	Low-frequency cables and wires with PVC insulation and PVC sheath
EN 60228	Conductors of Insulated Cables
EN 60269	Low Voltage Fuses
EN 60304	Standard colours for insulation for low-frequency cables and wires
EN 60332	Tests on electric and optical fibre cables under fire conditions
EN 60529	Classification for degrees of protection provided by enclosures (IP rating)
EN 60670	Boxes and enclosures for electrical accessories for household and similar fixed electrical installations.
EN 60793-1-1	Optical fibres – Part 1-1: Measurement methods and test procedures – General and guidance
EN 60793-2-1	Optical fibres – Product Specification for Optical Fibres
EN 60794-1-2	Optical fibre cables Part 1-2: Generic specification Basic optical cable test procedures
EN 60811	Common Test Methods for Insulating and Sheathing Materials of Electric Cables
EN 60825-1	Safety of Laser Products. Equipment Classification, Requirements and User Guide
EN 60825-2	Safety of Laser Products, Safety of Optical Fibre Communications Systems
EN 61000	Electromagnetic Compatibility
EN 61082	Preparation of documents used in electro-technology
EN 61386-1	Specification for conduit systems for cable management. General requirements
EN 61508-1	Functional Safety of Electrical/Electronic/Programmable Electronic Safety-Related Systems-Part 1: General Requirements
EN 61508-2	Functional Safety of Electrical/Electronic/Programmable Electronic Safety-Related Systems-Part 2: Requirements for Electrical/Electronic/Programmable Electronic Safety-Related Systems
EN 61643	Low Voltage Surge Protective Devices
EN 62040	Uninterruptible power supply systems
EN 62305	Protection against Lightning
EN 62337	Commissioning of Electrical, Instrumentation and Control Systems in the Process Industry-Specific Phase and milestones
EN ISO 3740	Determination of sound power levels of noise sources

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
EN ISO 3746	Acoustics - Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure – Survey Method using an Enveloping Measurement Surface over a Reflecting Plane
EPPA	European Perimeter Protection Association - Standard for Fencing Systems
IEC 14443	Identification cards - Contactless integrated circuit cards -- Proximity cards
IEC 14496	Coding of audio-visual objects (MPEG-4 part 2)
IEC 15693:2010	Identification cards - Contactless integrated circuit cards - Vicinity cards
IEC 60297	Mechanical structures for electronic equipment - Dimensions of mechanical structures of the 482,6 mm (19 in) series
IEC-60331	Fire Resisting Characteristics of Electrical Cables.
IEC 60364	Low Voltage Electrical Installations
IEC 60502-1	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) - Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV)
IEC 60534-2-1	Industrial Process Control Valves – Part 2-1: Flow Capacity Sizing Equations for Fluid Flow under Installed Conditions
IEC 60534-4	Industrial-Process Control Valves, Part 4: Inspection and Routine Testing
IEC 60849:1998	Sound Systems for Emergency Purposes
IEC 60874	Connector for Optical Fibres and Cables.
IEC 61073-1	Fibre optic interconnecting devices and passive components - Mechanical splices and fusion splice protectors for optical fibres and cables - Part 1: Generic specification
IEC 61082	Preparation of documents used in electro-technology
EN 61131	Programmable Controllers – General Information
IEC 61218	Fibre optic-Safety guide
IEC 61511-1	Functional safety - Safety instrumented systems for the process industry sector - Framework, definitions, system, hardware and software requirements
IEC 78101: 2003	Identification cards - Physical characteristics
IEEE 730	Software Quality Assurance Plan
IEEE 802.1ab	Link Layer Discovery Protocol (LLDP)
IEEE 802.1d	Spanning Tree Protocol
IEEE 802.1Q	Virtual LANs
IEEE 802.1s	Multiple Spanning Tree Protocol
IEEE 802.1w	Rapid Reconfiguration of Spanning Tree
IEEE 802.1x	Port Based Network Access Control

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
IEEE 802.3	Standard CSMA/CD Media Access Control (Ethernet)
IEEE 802.3ad	Link aggregation for parallel links
IEEE 802.3ae	10 Gbit/s (1,250 MB/s) Ethernet over fiber; 10GBASE-SR, 10GBASE-LR, 10GBASE-ER, 10GBASE-SW, 10GBASE-LW, 10GBASE-EW
IEEE 802.3ak	10GBASE-CX4 10 Gbit/s (1250 MB/s) Ethernet
IEEE 802.3c	Local and Metropolitan Area Networks
IEEE 802.3u	Compliant 100Base-TX twisted pair interfaces, with RJ-45 connector
IEEE 802.3z	Compliant 1000Base-T twisted pair interfaces, with RJ-45 connector.port-based VLAN (IEEE 802.1Q)
IEEE 802.3an-2006	Specific requirements Part 3, Amendment 1: Physical Layer and Management Parameters for 10 Gbit/s Operation
IEEE 802.3af-2003	Power over Ethernet Standard
IEEE 802.3at-2009	Power over Ethernet Plus Standard
IEEE 802.3x	10 Gigabit Ethernet
IEEE 829	Software Test Documentation
IEEE 830	Software Requirement Specification
ISA 99	Security for Industrial Automation and Control Systems
ISA 5.1	Instrumentation symbols and identification
ISA-5.2	Binary Logic Diagrams for Process Operations
ISA-5.3	Graphic Symbols for Distributed Control/Shared Display Instrumentation, Logic, and Computer Systems
ISA-5.5	Graphic Symbols for Process Display
ISA 18.1	Annunciator Sequences and Specifications
ISA-TR6704.08	Set points for Sequenced Actions
ISO 1000	SI Units and recommendation for use of their multiples and of certain other units
ISO 10303	Standard for Industrial Automation Systems and Integration - Product data representation and exchange
ISO 80000-1	SI Units and recommendation for use of their multiples and of certain other units
ISO/IEC 11801	Information technology — Generic cabling for customer premises
ISO/IEC 27002	Information Technology – Code of Practice for Information Security Management
ITU G.652	Non Dispersion-Shifted Fibre

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ITU G.655	Characteristics of a non-zero dispersion-shifted single-mode optical fibre and cable
ITU G.656	Characteristics of a fibre and cable with non-zero dispersion for wideband optical transport
ITU G.692	Optical interfaces for multi-channel systems with optical amplifiers
ITU G.702	Digital hierarchy bit rates
ITU G.703	Physical/electrical characteristics of hierarchical digital interfaces.
ITU G.704	Synchronous Frame Structures Used at Primary and Secondary Hierarchical Levels.
ITU G.706	Frame alignment and cyclic redundancy check (CRC) procedures relating to basic frame structures defined in Recommendation G.704.
ITU G.707	Network node interface for the synchronous digital hierarchy (SDH). This Recommendation includes the withdrawn G.708, and G.709 Recommendations
ITU G.711	Pulse code modulation (PCM) of voice frequencies
ITU G.712	Transmission performance characteristics of pulse code modulation channels
ITU G.731	Primary PCM multiplex equipment for voice frequencies.
ITU G.732	Characteristics of primary PCM multiplex equipment operating at 2048 kbit/s.
ITU G.735	Characteristics of primary PCM multiplex equipment operating at 2048 kbit/s and offering synchronous digital access at 384 kbit/s and/or 64 kbit/s.
ITU G.737	Characteristics of an external access equipment operating at 2048 kbit/s offering synchronous digital access at 384 kbit/s and/or 64 kbit/s.
ITU G.781	Synchronization layer functions
ITU G.783	Characteristics of SDH
ITU G.784	SDH Management
ITU G.811	Timing characteristics of primary reference clocks
ITU G.812	Timing requirements of slave clocks suitable for use as node clocks in synchronization networks
ITU G.821	Error performance of an international digital connection operating at a bit rate below the primary rate and forming part of an integrated services digital network.
ITU G.823	The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy.
ITU G.921	Digital sections based on the 2048 kbit/s hierarchy.
ITU G.957	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy.
ITU H.264	Advanced Video Coding (MPEG-4 part 10)

LIST OF APPLICABLE NORMS AND LEGISLATIONS

Reference	Description
ITU T	Transmission Systems and Media, Digital Systems & Networks
ITU T G.955	Digital Line Systems Based on the 1544 kbit/s and the 2048 kbit/s Hierarchy on Optical Fibre Cables
TIA/EIA 455	Test Procedures for Fibre Optic Fibres, Cables, Transducers, Connecting and Terminating Devices
TIA/EIA-568-B.2-10	Addendum 1-Transmission Performance Specifications for 4-pair 100-Ω Augmented Category 6 Cabling
TIA 598	Standard for Colour Coding of Fibre Optic Cables

**Bulgarian Legislation**

Reference	Description
67/02.08.2004 – Bulgaria	Ordinance on the Structure and Safe Operation of Gas Transmission and Gas Distribution Pipelines, Natural Gas Facilities, Installations and Appliances
107/07.12.2004 - Bulgaria	Ordinance No. 6 dated 25.11.2004 on Technical Rules related to Design, Construction and Use of Installations for Natural Gas Transmission, Storage, Distribution and Supply of Natural Gas