



OGP

Coatings standards and committees for the international oil & gas industry

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Publications

Global experience

The International Association of Oil & Gas Producers has access to a wealth of technical knowledge and experience with its members operating around the world in many different terrains. We collate and distil this valuable knowledge for the industry to use as guidelines for good practice by individual members.

Consistent high quality database and guidelines

Our overall aim is to ensure a consistent approach to training, management and best practice throughout the world.

The oil and gas exploration and production industry recognises the need to develop consistent databases and records in certain fields. The OGP's members are encouraged to use the guidelines as a starting point for their operations or to supplement their own policies and regulations which may apply locally.

Internationally recognised source of industry information

Many of our guidelines have been recognised and used by international authorities and safety and environmental bodies. Requests come from governments and non-government organisations around the world as well as from non-member companies.

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Coatings standards and committees for the international oil & gas industry

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Abbreviations (origin)

ABS	American Bureau of Shipping
ABNT	Associação Brasileira de Normas Técnicas
AFNOR	Association Française de Normalisation
ASME	American Society of Mechanical Engineers
ANSI	American National Standards Institute
API	American Petroleum Institute
AWWA	American Water Works Association
BS	British Standards
CEN	European Committee for Standardization
CSA	Canadian Standards Association
DNV	Det Norske Veritas (Norway)
DIN	German Institute for Standardization
EEMUA	Engineering Equipment & Materials Users' Association
EFC	European Federation of Corrosion
EN	European Norm
GCC	Cooperation Council for the Arab States of the Gulf
GSO	Gulf Standardization Organization for the Cooperation Council for the Gulf Arab States
IEC	International Electrotechnical Commission
IMO	International Maritime Organization
EEMUA	Instrumentation and Control Committee
IS	Indian Standard
ISO	International Organization for Standardization
NACE	National Association of Corrosion Engineers (US)
NF	National French Standard
NORSOK	Norwegian Competitive Position on the Continental Shelf
NPD	Norwegian Petroleum Directorate
NS	Norwegian Standard
OCIMF	Oil Companies International Marine Forum
OCMA	Oil Companies Materials Association
OGP	International Association of Oil & Gas Producers
OLF	Norwegian Oil Industry Association
PAS	Publicly Available Specification (ISO)
PIP	Process Industry Practices (US)
PSA	Petroleum Safety Authority (Norway)
RAL	German Reichsausschuß für Lieferbedingungen und Gütesicherung
SDO	Standards Developing Organization
SFS	Finnish Standards Association
SSPC	Society for Protective Coatings (US)
STG	Specific Technology Groups
TBL	Federation of Norwegian Manufacturing Industries
TEG	Technology Exchange Groups
TC	Technical Committee
TF	Task Force
TG	Task Group
UKOOA	UK Offshore Operator Association (Now UK Oil & Gas)
VDI	Association of German Engineers
WG	Working Group

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1 – Introduction

The International Association of Oil & Gas Producers (OGP) organised a workshop in 2008 for the (thin film) coating specialists of OGP members with the objective:

- To arrange for global networking of the coating technology specialists of OGP members.
- Share coating experience.
- Review and discuss the available coating standards, ongoing work and existing company specifications related to this discipline.
- Evaluate the needs for improvements of available industry, national or regional standards or company specifications and harmonisation with international standards in this area.
- To evaluate the need for new coating standards work in the upstream oil & gas industry, *eg* in the ISO area.
- Discuss continued OGP networking efforts.

Standards for corrosion protection by thick rubber or thermo plastic coatings are seen as separate issues and not (completely) included herein.

The purpose of this report is to provide an overview of the available and relevant international, regional, national and industry coating and painting related standards for or used by the oil and gas industries and a summary of technical committee work presently ongoing for this area as seen by the participants of this workshop.

This report was initially prepared for the workshop mentioned above and it has since been updated by the OGP Coatings Standards Task Force, established after the workshop. Text in this report is frequently taken from the open websites of the different standards development organisations described herein.

This report documents the fact finding mission that followed the workshop with the intent to serve as part of the basis for evaluation of further standards work for the OGP members and interested suppliers in this area.

Proposals for supplements or corrections of this report are welcome; please email publications@ogp.org.uk

2 – Available coating standards (identified so far)

2.1 General

The primary and specific coating standards for the oil & gas industry are singled out in paragraph 2.2 below, as these standards are the responsibility of the coating experts of the oil & gas industry community to develop and maintain, and nobody else.

Many of the references in 2.3 below are generally applicable coating and paint related standards not specifically made for the oil & gas industry, but they are frequently used by the coating discipline and hence listed to check if they are commonly referenced by the global oil & gas industry for their individual and specific purposes.

2.2 Coating standards specifically available for the oil & gas industry

API Bull 91	Planning and Conducting Surface Preparation and Coating Operations for Oil and Natural Gas Drilling and Production Facilities in a Marine Environment
API RP 5L2	RP for Internal Coating of Line Pipe for Non-Corrosive Gas Transmission Service
API RP 5L7	RP for Un-primed Internal Fusion Bonded Epoxy Coating of Line Pipe
API RP 5L9	External Fusion Bounded Epoxy Coating of Line Pipe
API RP 652	Linings of Aboveground Petroleum Storage Tank Bottoms
API 1160	Managing system integrity for hazardous liquid pipelines
API 2217A	Guidelines for Work in Inert Confined Spaces in the Petroleum Industry
ASTM 06.02	Paint-Products and Applications; Protective Coatings; Pipeline Coatings
ASTM G 8	Test method for cathodic disbanding of pipeline coatings
ASTM G14	Standard Test Method for Impact Resistance of Pipeline Coatings (Falling Weight Test).
ASTM G17	Standard Test Method for Penetration Resistance of Pipeline Coatings (Blunt Rod).
DNV RP-F102	Pipeline field joint coating and field repair of line pipe coating
DNV RP-F106	Factory applied external pipeline coatings for corrosion control.
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 10300	Steel tubes and fittings for onshore and offshore Pipelines - Bituminous hot applied materials for external coating
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 10310	Steel tubes and fittings for onshore and offshore pipelines - Internal and external polyamide powder based coatings
EN 10329	Steel tubes and fittings for onshore and offshore pipelines - External field joint coatings
EEMUA 194	Guidelines for Materials Selection and Corrosion Control for Subsea Oil and Gas Production Equipment
ISO 15741	Paints and varnishes - Friction-reduction coatings for the interior of on- and offshore steel pipelines for non-corrosive gases

ISO 20340	Paints and varnishes – Performance requirements for protective paint systems for offshore and related structures
ISO 21809	Petroleum and natural gas industries – External coatings for buried or submerged pipelines used in pipeline transportation systems: <i>Part 1: Polyolefin coatings (3-layer PE and 3-layer PP) (In preparation)</i> Part 2: Fusion-bonded epoxy coatings (issued 2007) Part 3: Field joint coatings (issued 2008) <i>Part 4: Polyethylene coatings (2-Layer PE) (In preparation)</i> <i>Part 5: External concrete coatings (In preparation)</i>
NACE 30105	Electrical Isolation/Continuity and Coating Issues for Offshore Pipeline Cathodic Protection Systems
NACE RP0105	Standard Recommended Practice Liquid-Epoxy Coatings for External Repair, Rehabilitation, and Weld Joints on Buried Steel Pipelines
NACE RP-0176	Corrosion Control of Steel, Fixed Offshore Platforms Associated with Petroleum Production
NACE RP0178	Fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Surface.
NACE RP0188	Discontinuity (Holiday) Testing of Protective Coatings
NACE RP0191	Application of Internal Plastic Coatings for Oilfield Tubular Goods and Accessories
NACE RP0193	External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms
NACE RP0198	Control of Corrosion Under Thermal Insulation and Fireproofing Materials - A Systems Approach
NACE RP0274	High-Voltage Electrical Inspection of Pipeline Coatings
NACE RP0303	Standard Recommended Practice Field-Applied Heat-Shrinkable Sleeves for Pipelines: Application, Performance, and Quality Control
NACE RP0304	Design, Installation, and Operation of Thermoplastic Liners for Oilfield Pipelines
NACE RP0375	Field-Applied Underground Wax Coating Systems for Underground Pipelines: Application, Performance, and Quality Control
NACE RP0394	Application, Performance, and Quality Control of Plant-Applied, Fusion-Bonded Epoxy External Pipe Coating
NACE RP0399	Plant Applied, External Coal Tar Enamel Pipe Coating Systems: Application, Performance, and Quality Control
NACE RP0402	Field-Applied Fusion-Bonded Epoxy (FBE) Pipe Coating Systems for Girth Weld Joints: Application, Performance, and Quality Control
NACE RP0602	Field-Applied Coal Tar Enamel Pipe Coating Systems: Application, Performance, and Quality Control
NACE RP0892	Coatings and Linings over Concrete for Chemical Immersion and Containment Service
NACE SP0108	Corrosion Control of Offshore Structures by Protective Coatings
NACE SP0169	Control of External Corrosion on Underground or Submerged Metallic Piping Systems
NACE SP0181	Liquid-Applied Internal Protective Coatings for Oilfield Production Equipment
NACE SP0185	Extruded Polyolefin Resin Coating Systems with Soft Adhesives for Underground or Submerged Pipe
NACE SP0490	Holiday Detection of Fusion-Bonded Epoxy External Pipeline Coatings of 250 to 760 μm (10 to 30 Mils)
NACE TM0102	Measurement of Protective Coating Electrical Conductance on Underground Pipelines
NACE TM0104	Offshore Platform Ballast Water Tank Coating System Evaluation

NACE TM0105	Test Procedures for Organic-Based Conductive Coating Anodes for Use on Concrete Structures
NACE TM0174	Laboratory Methods for the Evaluation of Protective Coatings and Linings Materials on Metallic Substrates in Immersion Service
NACE TM0185	Evaluation of Internal Plastic Coatings for Corrosion Control of Tubular Goods by Autoclave Testing
NACE TM0186	Holiday Detection of Internal Tubular Coatings of 250 to 760µm (10 to 30 Mils) Dry Film Thickness
NACE TM0204	Exterior Protective Coatings for Seawater Immersion Service
NACE TM0299	Corrosion Control and Monitoring in Seawater Injection Systems
NACE TM0304	Offshore Platform Atmospheric and Splash Zone Maintenance Coating System Evaluation
NACE TM0384	Holiday Detection of Internal Tubular Coatings of Less Than 250 Micrometers (10 mils) Dry-Film Thickness
NACE TM0404	Offshore Platform Atmospheric and Splash Zone New Construction Coating System Evaluation
NORSOK M-501	Surface preparation and protective coating

2.3 Generally applicable coating or related standards

ABS 49	The Inspection, Maintenance and Application of Marine Coating Systems
ABS 153	Guide for the Class Notation Coating performance standard
AFNOR NF M87-803	Oil industry - Ballast coating for pipes - Implementation.
AFNOR NF M88-516	Steel tanks with outside concrete coating for underground storage of mineral oils.
ANSI A13.1	Scheme for identification of piping systems
ANSI Z535.1	Safety Color Code
API/EI Std 1541	Performance requirements for protective coating systems used in aviation fuel storage tanks & piping
ASTM A 123/A123M	Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 143	Safeguarding Against Embrittlement of Hot-Dip, Galvanized Structural Steel Products
ASTM A 153/A153M	Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 385	Standard Specification for Zinc Dust Pigment
ASTM A 392	Specification for zinc-coated steel chain-link fence fabric.
ASTM A 780	Specification for repair of damaged hot-dip galvanized coatings.
ASTM A 972/A972M	Standard Specification for Fusion Bonded Epoxy Coated Pipe Piles
ASTM B 117	Standard Practice for Operating Salt Spray (fog) Apparatus
ASTM C633	Standard Test Method for Adhesion or Cohesion Strength of Thermal Spray Coatings (NOTE - often preferred by thermal sprayers to ASTM D4541).
ASTM D16	Standard Terminology for Paint, Related Coatings, Materials, and Applications
ASTM D 521	Test methods for chemical analysis of zinc dust (metallic zinc powder)
ASTM D 570	Standard test method for water absorption of plastics
ASTM D 610	Standard Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces.
ASTM D 638	Standard Test Method for Tensile Properties of Plastics

ASTM D 823	Method of producing films of uniform thickness of paint, varnish, lacquer and related products on test panels
ASTM D 1000	Method of testing pressure sensitive adhesive coated tapes used for electrical insulation
ASTM D 1141	Specification for substitute ocean water
ASTM D 1186	Standard Test Methods for Non-Destructive Measurement of Dry Film Thickness of Non-Magnetic Coatings Applied to a Ferrous Base.
ASTM D 1200	Test method for viscosity of paints, varnishes and lacquers by Ford viscosity cup
ASTM D 1212	Standard Test Methods for Measurement of Wet Film Thickness of Organic Coatings
ASTM D 3276	Standard Guide for Painting Inspectors (Metal Substrates)
ASTM D 1640	Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature
ASTM D 2092	Practices for preparation of zinc-coated galvanized steel structures for paint
ASTM D 2240	Standard Test Method for Rubber Property—Durometer Hardness
ASTM D 2369	Test method for volatile content of coatings
ASTM D 2371	Test method for pigment content of solvent-reducible paints
ASTM D 3359	Method for measuring adhesion by tape test
ASTM D 3418	Standard Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry
ASTM D3451	Standard Guide for Testing Coating Powders and Powder Coatings
ASTM D 4060	Standard test method for abrasion resistance of organic coatings by the Taber abraser
ASTM D4228	Standard Practice for Qualification of Coating Applicators for Application of Coatings to Steel Surfaces.
ASTM D 4285	Test method for indicating oil or water in compressor air
ASTM D 4414	Standard Practice for Measurement of Wet Film Thickness by Notch Gages
ASTM D 4417	Method C Test method for Field Measurement of Surface Profile
ASTM D 4541	Test method for pull-off strength of coatings using portable adhesion testers.
ASTM D 4752	Standard Test Method for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub.
ASTM D 4940	Standard Test Method for Conductimetric Analysis of Water Soluble Ionic Contamination of Blasting Abrasives
ASTM D5144	Standard Guide for Use of Protective Coating Standards in Nuclear Power Plants
ASTM D7490	Standard Test Method for Measurement of the Surface Tension of Solid Coatings, Substrates and Pigments using Contact Angle Measurements
ASTM E 337	Standard Test Method for Measuring Humidity with a Psychrometer (Wet and Dry Bulb Temperatures)
ASTM F 21	Standard Test Method for Hydrophobic Surface Films by Atomiser Test
ASTM G 53	Recommended practice for operating light – and water – exposure apparatus (fluorescent UV-condensation type) for exposure of nonmetallic materials
ASTM G65	Standard Test Method for Measuring Abrasion Using the Dry Sand/Rubber Wheel Apparatus
ASTM G99	Standard Test Method for Wear Testing with a Pin-on-Disk Apparatus
AWWA C-203	Coal tar protective coatings and linings for steel water pipelines-enamel and tape-hot applied

AWWA C213	Standard for Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Lines
BS 381C	Colour for Identification, Coding and Special Purposes
BS 1710	Identification of Pipelines and Services
BS 2451	Chilled Iron, Shot and Grit
BS 2482	Whirling Hygrometers
BS 3900	Methods for Testing Coatings
BS 4164	Specification for coal tar based, hot applied coating materials for protecting iron and steel including suitable primers.
BS 4800	Specification for Paint Colours for Building Purposes
BS 5378	Safety Signs and Colours: Colour and Design.
BS 5493	Code of Practice for Protective Coating of Iron and Steel against Corrosion
BS 5973	Code of Practice for Access and Working Scaffolds and Special Scaffold Structures in Steel
BS 6374	Lining of Equipment with Polymeric Materials for the Process Industries
CSA-Z245.20-06	External Fusion Bond Epoxy Coating for Steel Pipe
CSA Z245.21-06	External polyethylene coating for pipe
DIN 32521	Acceptance test and quality control for thermal spraying equipment.
DNV CN 33.1	Corrosion prevention of tanks and holds
DNV OS-F101	Submarine pipeline systems
EFC 20	Organic and Inorganic Coatings for Corrosion Prevention - Research and Experience
EFC 54	Innovative pre-treatment techniques to prevent corrosion of metallic surfaces
EN Standards	CEN has adopted most of the ISO standards issued by ISO/TC35 Paints and varnishes, but for simplicity they are not shown here. Go to www.cen.eu for individual standards title references.
EN 582	Thermal spraying. Determination of tensile adhesive strength
EN 1403	Corrosion protection of metals - Electrodeposited coatings - Method of specifying general requirements
EN 10142	Specification for continuously hot-dip zinc coated low carbon steel sheet and strip for cold forming: technical delivery conditions
EN 10147	Continuously hot-dip zinc coated structural steels strip and sheet. Technical delivery conditions
EN 10240	Internal and/or External Protective Coatings for Steel Tubes - Specification for Hot Dip Galvanized Coatings Applied in Automatic Plants
EN 12540	Corrosion protection of metals - Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and copper plus nickel plus chromium
EN 13143	Metallic and other inorganic coatings - Definitions and conventions concerning porosity
EN 13144	Metallic and other inorganic coatings – Method for quantitative measurement of adhesion by tensile test
EN 22063	Metallic and Other Inorganic Coatings – Thermal Spraying
IMO MSC.215(82)	Performance standard for protective coatings for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers

IMO MSC.244(83)	Performance standard for protective coatings for void spaces on bulk carriers and oil tankers
IMO A.798(19)	Guidelines for the selection, application and maintenance of corrosion prevention systems of dedicated seawater ballast tanks
IMO MSC.1/Circ.1279	Guidelines for corrosion protection of permanent means of access arrangements
IMO MSC.1/Circ.1330	Guidelines for maintenance and repair of protective coatings
IS-5	Colour coding
IS-101	Methods for test for ready mixed paints and enamels
IS-2379	Indian Standard for Pipe line identification-colour code
ISO 62	Plastics – Determination of water absorption
ISO 179-2	Plastics – Determination of Charpy impact properties – Part 2: Instrumented impact test
ISO 306	Plastics – Thermoplastic materials – Determination of Vicat softening temperature
ISO 527-1	Plastics – Determination of tensile properties – Part 1: General principles
ISO 527-2	Plastics – Determination of tensile properties – Part 2: Test conditions for moulding and extrusion plastics
ISO 787-10	General methods of test for pigments and extenders - Part 10: Determination of density. Pyknometer method
ISO 868	Plastics and ebonite – Determination of indentation hardness by means of a Durometer (Shore hardness)
ISO 1133	Plastics – Determination of the melt-mass flow rate (MFR) and melt-volume flow rate (MVR) of thermoplastics
ISO 1183	Plastics-Test method for determining the density and relative density of non-cellular plastics
ISO 1461	Metallic coatings - Hot-dip galvanised coating on fabricated ferrous products
ISO 1512	Paints and varnishes – Sampling of products in liquid or paste forms
ISO 1513	Paints and varnishes – Examination and preparation of samples for testing
ISO 1514	Paints and varnishes – Standard panels for testing
ISO 1516	Paints and varnishes – Closed cup equilibrium method
ISO 1517	Paints and varnishes – Surface-drying test – Ballotini method
ISO 1519	Paints and varnishes – Bend test (cylindrical mandrel)
ISO 1524	Paints and varnishes – Determination of fineness of grind
ISO 2063	Thermal Spraying - Metallic and Other Inorganic Coatings - Zinc, Aluminium and Their Alloys
ISO 2080	Metallic and other inorganic coatings – Surface treatment, metallic and other inorganic coatings – Vocabulary
ISO 2409	Paints and varnishes – Cross-cut test
ISO 2431	Paints and varnishes – Determination of flow time by use of flow cups
ISO 2555	Plastics – Resins in the liquid state or as emulsions or dispersions – Determination of apparent viscosity by the Brookfield Test method
ISO 2808	Paints and varnishes - Determination of film thickness
ISO 2811	Paints and varnishes – Determination of density
ISO 2812	Paints and varnishes - Determination of resistance to liquids
ISO 2813	Paints and varnishes – Determination of specular gloss of non-metallic paint films at 20 degrees, 60 and 85 degrees.
ISO 2814	Paints and varnishes - Comparison of contrast ratio (hiding power) of paint of the same type and colour

ISO 2815	Paint and Varnishes – Buchholz Indentation Test Method
ISO 2632	Roughness Comparison Specimens, Cast Surfaces
ISO 2808	Paints and varnishes – Determination of film thickness
ISO 2814	Paints and varnishes - Comparison of contrast ratio (hiding power) of paint of the same type and colour
ISO 3001	Plastics – Epoxy compounds – Determination of epoxy equivalent
ISO 3231	Paints and varnishes – Determination of resistance to humid atmospheres containing sulphur dioxide
ISO 3233	Coating and varnishes determination of volume of dry coating obtained from a given volume of liquid coating
ISO 3251	Paints and varnishes –Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes
ISO 3549	Zinc dust pigments for paints – Specifications and test methods
ISO 3678	Paints and varnishes - Print-free test
ISO 3892	Conversion coatings on metallic materials - Determination of coating mass per unit area - Gravimetric methods
ISO 4287	Geometrical Product Specifications (GPS) – Surface texture: Profile method – Terms, definitions and surface texture parameters
ISO 4541	Metallic and other non-organic coatings - Corrodokote corrosion test
ISO 4543	Metallic and other non-organic coatings - General rules for corrosion tests applicable for storage conditions
ISO 4623	Paints and varnishes – Determination of resistance to filiform corrosion
ISO 4624	Paints and varnishes - Pull-off test for adhesion
ISO 4628	Paints and varnishes - Evaluation of degradation of paint coatings Designation of intensity, quantity and size of common types of defect
ISO 4892-2	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps
ISO 4998	Continuous hot-dip zinc-coated carbon steel sheet of structural quality
ISO 6270	Paints and varnishes – Determination of resistance to humidity
ISO 6860	Paints and varnishes – Bend test (conical mandrel)
ISO 6964	Polyolefine pipes and fittings: Determination of carbon black content by calcinations and pyrolysis: Test method and basic principles
ISO 7253	Paints and Varnishes – Determination of Resistance to Neutral Salt Spray.
ISO 7724	Paints and varnishes. Determination of colour and colour difference
ISO 8130-6	Coating powders – Part 6- Determination of gel time of thermosetting coating powders at a given temperature
ISO 8401	Metallic coatings - Review of methods of measurement of ductility
ISO 8403	Metallic coatings - Coatings anodic to the substrate - Rating of test specimens subjected to corrosion tests
ISO 8302	Thermal insulation-Determination of steady state thermal resistance and related properties-Guarded hot plate apparatus
ISO 8501	Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness – Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings Part 2: Preparation grades of previously coated steel substrates after localized removal of previous coatings Part 3: Preparation grades of welds, edges and other areas with surface imperfections Part 4: Initial surface conditions, preparation grades and flash rust grades in connection with high-pressure water jetting
ISO 8502	Preparation of steel substrates before application of paints and related products – Test for the assessment of surface cleanliness

	Part 2: Laboratory determination of chloride on cleaned surfaces
	Part 3: Assessment of dust on steel surfaces prepared for painting (pressure-sensitive tape method)
	Part 4: Guidance on the estimation of the probability of condensation prior to paint application
	Part 5: Measurement of chloride on steel surfaces prepared for painting (ion detection tube method)
	Part 6: Extraction of soluble contaminants for analysis - The Bresle method
	Part 8: Field method for the refractometric determination of moisture
	Part 9: Field method for the conductometric determination of water-soluble salts
	Part 11: Field method for the turbidimetric determination of water-soluble sulfate
	Part 12: Field method for the titrimetric determination of water-soluble ferrous ions
ISO 8503	Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast cleaned substrates. Part 1: Specifications and definitions for ISO surface profile comparators for the assessment of abrasive blast-cleaned surfaces Part 2: Method for the grading of surface profile of abrasive blast-cleaned steel - Comparator procedure Part 3: Method for the calibration of ISO surface profile comparators and for the determination of surface profile - Focusing microscope procedure Part 4: Method for the calibration of ISO surface profile comparators and for the determination of surface profile - Stylus instrument procedure Part 5: Replica tape method for the determination of the surface profile
ISO 8504	Preparation of steel substrates before application of paints and related products - Surface preparation methods Part 1: General principles Part 2: Abrasive blast cleaning. Part 3: Hand- and power-tool cleaning
ISO 9220	Metallic coatings - Measurement of coating thickness - Scanning electron microscope method
ISO 9223	Corrosion of metals and alloys. Atmospheres' corrosivity. Classification
ISO 9227	Corrosion tests in artificial atmospheres – Salt spray tests
ISO 10308	Metallic coatings – review of porosity test
ISO 11124	Preparation of steel substrates before application of paints and related products – Specifications for metallic blast-cleaning abrasives – 4 parts
ISO 11125	Paints and varnishes – Preparation of steel substrates before application of paints and related products. Test methods for metallic blast-cleaning abrasives – 7 parts
ISO 11126	Preparation of steel substrates before application of paints and related products – Specifications for non-metallic blast-cleaning abrasives – 8 parts
ISO 11127	Paints and varnishes – Preparation of steel substrates before application of paints and related products. Test methods for non-metallic blast-cleaning abrasives – 7 parts
ISO 11295	Guidance on the classification and design of plastics piping systems used for renovation
ISO 11357-1	Plastics – Differential scanning calorimetry (DSC) – Part 1: General principles

ISO 11357-3	Plastics – Differential scanning calorimetry (DSC) – Part 3: Determination of temperature and enthalpy of melting and crystallization
ISO 12944	Paints and Varnishes – Corrosion protection of steel structures by protective paint systems Part 1: General introduction Part 2: Classification of environments Part 3: Design considerations. Part 4: Types of surface and surface preparation Part 5: Protective paint systems Part 6: Laboratory performance test methods Part 7: Execution and supervision of paint work Part 8: Development of specifications for new work and maintenance
ISO 14713	Protection Against Corrosion of Iron and Steel in Structures – Zinc and Aluminium Coatings - Guidelines
ISO 14918	Thermal Spraying - Approval Testing of Thermal Sprayers
ISO 16348	Metallic and other inorganic coatings - Definitions and conventions concerning appearance
ISO 19840	Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Measurement of, and acceptance criteria for, the thickness of dry film on rough surfaces
ISO 28199	Paints and varnishes - Evaluation of properties of coating systems related to the application process – 3 parts
NACE 6A100	Coatings Used in Conjunction with Cathodic Protection
NACE 6A192	Dehumidification and Temperature Control During Surface Preparation, Application, and Curing for Coatings/Linings of Steel Tanks, Vessels, and Other Enclosed Areas
NACE 6A287	Electroless Nickel Coatings
NACE 6H188	Coatings over Nonabrasive-Cleaned Steel Surfaces
NACE 10D199	Coatings for the Repair and Rehabilitation of the External Coatings of Buried Steel Pipelines
NACE 2103	Liquid-Applied Coatings for High-Temperature Atmospheric Service
NACE 37507	Corrosion Prevention by Protective Coatings
NACE 80200	Preparation of Protective Coating Specifications for Atmospheric Service
NACE NO. 4	Brush-Off Blast Cleaning
NACE NO. 5	Surface Preparation and Cleaning of Metals by Waterjetting Prior to Recoating
NACE NO. 8	Industrial Blast Cleaning
NACE NO. 11	Thin-Film Organic Linings Applied in New Carbon Steel Process Vessels
NACE RP0169	Standard Recommended Practice for Control of External Corrosion on Underground or Submerged Metallic Piping Systems
NACE RP0188	Discontinuity (holiday) testing of protective coatings
NACE RP 0274	High voltage electrical inspection of pipeline coatings prior to installation
NACE RP0287	Field Measurements of Surface Profile of Abrasive Blast Cleaned Steel Surface Using Replica Tape.
NACE RP0394	Standard Recommended Practice for Application, Performance and Quality Control of Plant Applied, Fusion-Bonded Epoxy External Pipe Coating.
NACE RP0490	Standard Recommended Practice for Holiday Detection of Fusion-Bonded Epoxy External Coating of 250 to 760 Microns (10 to 30 mils)
NACE RP0495	Guidelines for Qualifying Personnel as Abrasive Blasters and Coating and Lining Applicators in the Rail Industries

NACE SP0188	Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
NACE TM0109	Aboveground Survey Techniques for the Evaluation of Underground Pipeline Coating Condition
NACE TM0174	Laboratory Methods for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service
NACE TM0183	Evaluation of Internal Plastic Coatings for Corrosion Control of Tubular Goods in an Aqueous Flowing Environment
NF A 49 710	External three layer polyethylene based coating
NF A 49 711	External triple layer polypropylene based coating – Appendix K: Test for evaluating delamination resistance under negative polarization
NF T 34 550	Paints and varnishes- Corrosion protection of steel structures by protective paints systems – Specifications
NORSOK M-001	Material selection
NORSOK S-002	Working environment
NS 476	Paints and coatings - Approval and certification of surface treatment inspectors
OCIMF	International Safety Guide for Oil Tankers and Terminals
PIP CTCE1000	External Coating System Selection Criteria
PIP CTSC1000	Application of Coatings to Concrete
PIP CTSE1000	Application of External Coatings
PIP CTSL1000	Application of Internal Linings
PIP CTSU1000	Application of Underground Coatings
PIP CTEG1000	Guidelines for Use of Coatings Practices
PIP CTGG1000	Coatings Document Use Guideline
RAL 840 HR	Deutschen Normen Ausschuss
SIS 055900	Pictorial Surface Preparation Standards for Coating Steel Surfaces
SFS 8145	Anticorrosive painting, surface preparation methods of blast cleaned and shop primer coated steel substrates and preparation grades for respective treatments.
SSPC	Volume 1 Good Painting Practice
SSPC	Volume 2 Systems and Specifications
SSPC-SP COM,	Surface Preparation Commentary for Steel and Concrete Substrates
SSPC-SP 1,	Solvent Cleaning
SSPC-SP 2,	Hand Tool Cleaning
SSPC-SP 3,	Power Tool Cleaning
SSPC-SP 5/NACE No. 1	White Metal Blast Cleaning
SSPC-SP 6/NACE No. 3	Commercial Blast Cleaning
SSPC-SP 7/NACE No. 4	Brush-Off Blast Cleaning
SSPC-SP 8	Pickling
SSPC-SP 10/NACE No. 2	Near-White Blast Cleaning
SSPC-SP 11	Power Tool Cleaning to Bare Metal
SSPC-SP 12/NACE No. 5	Surface Preparation and Cleaning of Metals by Waterjetting Prior to Recoating
SSPC-SP 13/NACE No. 6	Surface Preparation of Concrete

SSPC-SP 14/NACE No. 8	Industrial Blast Cleaning
SSPC-SP 15	Commercial Grade Power Tool Cleaning
SSPC-TR 1/NACE 6G194	Thermal Pre-Cleaning
SSPC-TR 2/NACE 6G198	Wet Abrasive Blast Cleaning
SSPC-TR 3/NACE 6A192	Dehumidification and Temperature Control During Surface Preparation, Application, and Curing for Coatings/Linings of Steel Tanks, Vessels, and Other Enclosed Spaces
SSPC-TR 4/NACE 80200	Preparation of Protective Coating Specifications for Atmospheric Service
SSPC-TR 5/ICRI 03741/NACE 02203	Design, Installation, and Maintenance of Protective Polymer Flooring Systems for Concrete
SSPC-AB 1	Mineral and Slag Abrasives
SSPC-AB 2	Cleanliness of Recycled Ferrous Metallic Abrasives
SSPC-AB 3	Ferrous Metallic Abrasive
SSPC-PS 1.00	Guide for Selecting Oil Base Painting Systems
SSPC-PS 1.09	Three-Coat Oil Base Zinc Oxide Painting System (Without Lead or Chromate Pigment)
SSPC-PS 1.10	Four-Coat Oil Base Zinc Oxide Painting System (Without Lead or Chromate Pigment)
SSPC-PS 1.13	One-Coat Oil Base Slow Drying Maintenance Painting System (Without Lead or Chromate Pigments)
SSPC-PS Guide 2.00	Guide for Selecting Alkyd Painting Systems
SSPC-PS Guide 4.00	Guide for Selecting Vinyl Painting Systems
SSPC-PS 4.02	Four-Coat Vinyl Painting System
SSPC-PS 4.04	Four-Coat White or Colored Vinyl Painting System (For Fresh Water, Chemical, and Corrosive Atmospheres)
SSPC-PS Guide 7.00	Guide for Selecting One-Coat Shop Painting Systems
SSPC-PS Guide 8.00	Guide to Topcoating Zinc-Rich Primers
SSPC-PS 9.01	Cold-Applied Asphalt Mastic Painting System with Extra Thick Film
SSPC-PS 10.01	Hot-Applied Coal Tar Enamel Painting System
SSPC-PS 10.02	Cold-Applied Coal Tar Mastic Painting System
SSPC-PS 11.01	Black (or Dark Red) Coal Tar Epoxy-Polyamide Painting System
SSPC-PS Guide 12.00	Guide to Zinc-Rich Coating Systems
SSPC-PS 12.01	One Coat Zinc-Rich Painting System
SSPC-PS 13.01	Epoxy Polyamide Painting System
SSPC-PS 14.01	Steel Joist Shop Painting System
SSPC-PS Guide 15.00	Guide for Selecting Chlorinated Rubber Painting Systems
SSPC-PS 15.01	Chlorinated Rubber Painting System for Salt Water Immersion
SSPC-PS 15.02	Chlorinated Rubber Painting System for Fresh Water Immersion
SSPC-PS 15.03	Chlorinated Rubber Painting System for Marine and Industrial Atmospheres
SSPC-PS 15.04	Chlorinated Rubber Painting System for Field Application Over a Shop-Base Inorganic Zinc-Rich Primer
SSPC-PS 16.01	Silicone Alkyd Painting System for New Steel
SSPC-PS Guide 17.00	Guide for Selecting Urethane Painting Systems
SSPC-PS 18.01	Three-Coat Latex Painting System
SSPC-PS Guide 19.00	Guide for Selecting Painting Systems for Ship Bottoms
SSPC-PS Guide 20.00	Guide for Selecting Painting Systems for Boottoppings
SSPC-PS Guide 21.00	Guide for Selecting Painting Systems for Topsides
SSPC-PS Guide 22.00	Guide for Selecting One-Coat Preconstruction or Prefabrication Painting Systems
SSPC-CS 23.00/AWS C2.23M/NACE No. 12	

	Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys and Composites for the Corrosion Protection of Steel
SSPC-PS 24.00	Latex Painting System for Industrial and Marine Atmospheres, Performance-Based
SSPC-PS 26.00	Aluminum Pigmented Epoxy Coating System Materials Specification, Performance-Based
SSPC-PS 27.00	Alkyd Coating System Materials Specification, Performance-Based
SSPC-Paint COM	Commentary on Paint Specifications
SSPC-Paint 8	Aluminum Vinyl Paint
SSPC-Paint 9	White (or Colored) Vinyl Paint
SSPC-Paint 15	Steel Joist Shop Primer/Metal Building Primer
SSPC-Paint 16	Coal Tar Epoxy-Polyamide Black (or Dark Red) Paint
SSPC-Paint 17	Chlorinated Rubber Inhibitive Primer
SSPC-Paint 18	Chlorinated Rubber Intermediate Coat Paint
SSPC-Paint 19	Chlorinated Rubber Topcoat Paint
SSPC-Paint 20	Zinc-Rich Coating, Type I - Inorganic and Type II - Organic
SSPC-Paint 21	White or Colored Silicone Alkyd Paint
SSPC-Paint 22	Epoxy Polyamide Paints (Primer, Intermediate, and Topcoat)
SSPC-Paint 23	Latex Primer for Steel Surfaces
SSPC-Paint 24	Latex Semigloss Exterior Topcoat
SSPC-Paint 25	Zinc Oxide, Alkyd, Linseed Oil Primer for Use Over Hand Cleaned Steel
SSPC-Paint 25	BCS, Zinc Oxide, Alkyd, Linseed Oil Primer for Use Over Blast Cleaned Steel
SSPC-Paint 26	Slow-Drying Linseed Oil Black Maintenance Primer (Without Lead or Chromate Pigment)
SSPC-Paint 27	Basic Zinc Chromate-Vinyl Butyral Wash Primer
SSPC-Paint 28	Water-Borne Epoxy Primer for Steel Surfaces
SSPC-Paint 29	Zinc Dust Sacrificial Primer, Performance-Based
SSPC-Paint 30	Weld-Through Inorganic Zinc Primer
SSPC-Paint 31	Single-Package Water-Borne Alkyd Primer for Steel Surfaces, Performance-Based
SSPC-Paint 32	Coal Tar Emulsion Coating
SSPC-Paint 33	Coal Tar Mastic, Cold Applied
SSPC-Paint 34	Water-Borne Epoxy Topcoat for Steel Surfaces
SSPC-Paint 35	Medium Oil Alkyd Primer (Air Dry/Low Bake)
SSPC-Paint 36	Two-Component Weatherable Aliphatic Polyurethane Topcoat, Performance-Based
SSPC-Paint 37	Waterborne Epoxy Coating for Cementitious Substrates, Performance-Based
SSPC-Paint 38	Single-Component Moisture-Cure Weatherable Aliphatic Polyurethane Topcoat, Performance-Based
SSPC-Paint 39	Two-Component Aliphatic Polyurea Topcoat, Fast or Moderate Drying, Performance-Based
SSPC-Paint 101	Aluminum Alkyd Paint
SSPC-Paint 102	Black Alkyd Paint
SSPC-Paint 104	White or Tinted Alkyd Paint
SSPC-Paint 106	Black Vinyl Paint
SSPC-Paint 108	High-Build Thixotropic Leafting Aluminum Paint
SSPC-PA COM	Commentary on Paint Application Monitoring and Controlling Ambient Conditions During Coating Operations

SSPC-PA 1	Shop, Field, and Maintenance Painting of Steel
SSPC-PA 2	Measurement of Dry Coating Thickness with Magnetic Gages
SSPC-PA 3	A Guide to Safety in Paint Application
SSPC-PA Guide 4	Guide to Maintenance Repainting with Oil Base or Alkyd Painting Systems
SSPC-PA Guide 5	Guide to Maintenance Coating of Steel Structures in Atmospheric Surface
SSPC-PA 6/NACE No. 10	Fiberglass-Reinforced Plastic (FRP) Linings Applied to Bottoms of Carbon Steel Aboveground Storage Tanks
SSPC-PA 7	Applying Thin Film Coatings to Concrete
SSPC-PA 8/NACE No. 11	Thin-Film Organic Linings Applied in New Carbon Steel Process Vessels
SSPC-QP COM	Commentary on Qualification Procedures
SSPC-QP 1	Standard Procedure for Evaluating Painting Contractors (Field Application to Complex Industrial Structures)
SSPC-QP 2	Standard Procedure for the Qualification of Painting Contractors (Field Removal of Hazardous Coatings from Complex Structures)
SSPC-QP 3	Standard Procedure for Evaluating Qualifications of Shop Painting Applicators
SSPC-QP 4	Standard Procedure for Evaluating the Qualifications of Contractors Disturbing Hazardous Coatings During Demolition and Repair Work
SSPC-QP 5	Standard Procedure for Evaluating the Qualifications of Coating and Lining Inspection Companies
SSPC-QP 6	Standard Procedure for Evaluating the Qualifications of Contractors Who Apply Thermal Spray (Metallizing) for Corrosion Protection of Steel and Concrete Structures
SSPC-QP 7	Procedure for Evaluating Painting Contractors with Limited Industrial Work Experience
SSPC-QP 8	Standard Procedure for Evaluating the Qualifications of Contracting Firms That Install Polymer Coatings and Surfacing on Concrete and Other Cementitious Substrates
SSPC-QS 1	Standard Procedure for Evaluating a Contractor's Advanced Quality Management System
SSPC-Guide 6	Guide for Containing Debris Generated During Paint Removal Operations
SSPC-Guide 7	Guide for the Disposal of Lead-Contaminated Surface Preparation Debris
SSPC-Guide 9	Guide for Atmospheric Testing of Coatings in the Field
SSPC-Guide 10	Guide to Specifying Coatings Conforming to Volatile Organic Compound (VOC) Content Requirements
SSPC-Guide 12	Guide for Illumination of Industrial Painting Projects
SSPC-Guide 13	Guide for the Identification and Use of Industrial Coating Materials in Computerized Product Databases
SSPC-Guide 14	Guide for the Repair of Imperfections in Galvanized, Organic, or Inorganic Zinc-Coated Steel Using Organic Zinc-Rich Coatings
SSPC-Guide 15	Field Methods for Retrieval and Analysis of Soluble Salts on Steel and Other Nonporous Substrates
SSPC-Guide 16	Guide to Specifying and Selecting Dust Collectors
SSPC-Guide 17	Guide to Developing a Corporate Safety Program for Industrial Painting and Coating Contractors
SSPC-TU 1	Surface-Tolerant Coatings for Steel
SSPC-TU 2	Design, Installation, and Maintenance of Coating Systems for Concrete Used in Secondary Containment (NACE 6G197)
SSPC-TU 3	Overcoating
SSPC-TU 5	Accelerated Testing of Industrial Protective Coatings

SSPC-TU 6	Chemical Stripping of Organic Coatings from Steel Structures
SSPC-TU 7	Conducting Ambient Air, Soil, and Water Sampling During Surface Preparation and Paint Disturbance Activities
SSPC-TU 8	The Use of Isocyanate-Containing Paints as Industrial Maintenance Coatings
SSPC-TU 9	Estimating Costs for Protective Coatings Projects
SSPC-TU 10	Procedures for Applying Thick Film Coatings and Surfacing Over Concrete Floors
SSPC-TU 11	Inspection of Fluorescent Coating Systems

2.4 OGP Catalogue of standards

OGP Standards committee has developed a Catalogue of International – IEC and ISO – Standards used in the petroleum and natural gas industries. This report lists about 1300 ISO standards and 700 IEC standards used by the OGP Standards committee member companies. For full catalogue ref. OGP report № 362, January 2005 available at www.ogp.org.uk.

3 – ISO/TC67 coating related standards work

3.1 General

ISO/TC67 “Materials, equipment and offshore structures for the petroleum, petrochemical and natural gas industry” is the main ISO committee for development of standards within the upstream oil & gas industry. A number of the ISO standards developed are also applicable to the downstream industry. ISO/TC67 enjoys good cooperation with API, ABNT, CEN, CSA, GSO, Rostechregulirovanie (ex GOST), SAC and other standards development organisations which adopt many of the ISO standards published.

3.2 ISO/TC67/WG8 Materials, corrosion, welding and joining and NDT

Following the OGP Materials Workshop 7-8 February 2007, it was proposed, balloted and agreed within ISO to reactivate this WG, which is now well underway with its first ISO standard on materials selection, ISO 21457. Statoil has the chair and the secretary is held by ABNT, Brazil.

The present scope of WG8 include among others:

- to provide advice to ISO/TC 67 subcommittees and work groups on the selection of Standards for materials, corrosion control, welding and joining and NDE, either ISO or others as appropriate at the time;
- to analyse the current and pending ISO/TC 67 design and equipment standards for references to materials, corrosion control, welding and joining and NDE requirements in order to determine the gaps and overlaps;
- to identify possible new work items to fill the gaps;
- to propose rationalisation where overlaps exist, for example by identifying possible new work items to harmonise the overlaps;
- to assist in the prioritisation of work items for materials, corrosion control, welding and joining and NDE;
- to propose the initiation of new work items that are directly relevant to ISO/TC 67 and that are specifically in the fields of materials, corrosion control, welding and joining and NDE, and to recommend where in ISO the work could be done most efficiently;
- to propose liaisons, on behalf of ISO/TC 67, with other ISO TCs covering materials, corrosion control, welding and joining and NDE, where it is necessary to ensure that the needs of ISO/TC 67 are met.

Observation & comment: WG8 has one active new work item to develop an ISO 21457 for “Materials selection and corrosion control for oil and gas production systems”. The WG8 scope of work may be considered to include coating standards (..corrosion control..) in general, but there is no work on coating standards at present.

3.3 ISO/TC 67/SC 2 WG 14 External pipeline protective coatings

This is a large and very active WG with five task groups with the responsibility to develop a new series of standards for external protective coatings for transport pipeline systems, ISO 21809, Petroleum and natural gas industries – External coatings for buried or submerged pipelines used in pipeline transportation systems, currently in 5 parts:

- WG14-1 Polyolefin coatings (3-layer PE & 3-layer PP)
- WG14-2 Fusion bonded epoxy coatings
- WG14-3 Field joint coatings
- WG14-4 Polyethylene coatings (2-layer PE)
- WG14-5 External concrete coatings

Observation & comment: SC2 has indicated that the work of WG14 needs more participation from the end user companies.

3.4 ISO/TC 67/SC 2/WG 19 Wet thermal insulation coatings

This is a Joint WG between SC 2 and SC 4 of ISO/TC 67 that is just starting to develop an ISO standard for this subject.

4 – ISO/TC35 Paints and varnishes

Scope: Standardisation in the field of paints, varnishes and related products, including raw materials.

This TC and its SCs have developed and published a large number of ISO standards (313 as of November 2009). The complete listing of these standards can be seen at this link: http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_tc_browse.htm?commid=47962&published=on&includesc=true – TC35 list of published standards.

Participating countries: 26

Observing countries: 47

For updated information, please visit http://www.iso.org/iso/standards_development/technical_committees/list_of_iso_technical_committees/iso_technical_committee_participation.htm?commid=47962.

Subcommittees and Working Groups:

TC 35/CAG	Chairman's advisory group
TC 35/WG 1	Volatile organic compounds
TC 35/WG 2	Terminology
TC 35/SC 2	Pigments and extenders
TC 35/SC 9	General test methods for paints and varnishes
TC 35/SC 10	Test methods for binders for paints and varnishes
TC 35/SC 12	Preparation of steel substrates before application of paints and related products
TC 35/SC 14	Protective paint systems for steel structures
TC 35/SC 14/WG 5	Protective paint systems
TC 35/SC 14/WG 6	Laboratory performance test methods
TC 35/SC 14/WG 9	Protective paint systems for offshore structures.

Observation & comment: The latter of these WGs deals specifically with coating standards for offshore structures, ISO 20340, that is largely based on references to ISO 12944.

5 – ISO/TC107 Metallic and other inorganic coatings

Scope: as follows:

- Standardisation of the characteristics of protective and decorative metallic coating applied by electrolysis, fusion, vacuum or chemical means, mechanical deposition, ion plating.
- Standardisation of the characteristics of protective and decorative non-metallic coatings (excluding paints and other organic coatings) on metal surface applied by electrolysis, fusion, vacuum or chemical means.
- Standardisation of testing and inspection methods for such coatings.
- Standardisation of the preparation of the substrates prior to the deposition of metallic and inorganic coatings

Total number of published ISO standards related to the TC and its SCs: 122

For updated information, please visit http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_tc_browse.htm?commid=51358&published=on&includes=true.

Participating countries: 18

Observing countries: 24

For updated information, please visit http://www.iso.org/iso/standards_development/technical_committees/list_of_iso_technical_committees/iso_technical_committee_participation.htm?commid=51358.

Subcommittees and Working Groups:

TC 107/WG 1	Thermal spraying
TC 107/WG 2	Vitreous and porcelain enamel coatings
TC 107/WG 3	Terminology: surface treatment, metallic and other inorganic coatings
TC 107/SC 2	Test methods – STANDBY
TC 107/SC 3	Electrodeposited coatings and related finishes
TC 107/SC 4	Hot dip coatings (galvanized, etc.)
TC 107/SC 7	Corrosion tests
TC 107/SC 8	Chemical conversion coatings

6 – ISO/TC56 Corrosion of metals and alloys

Scope: Standardisation in the field of corrosion of metals and alloys including corrosion test methods and corrosion prevention methods. It also deals with the coordination of these activities within ISO (WG8). The secretariat has been transferred to China and the TC is working on a new business plan. Document No. ISO/TC156/SG8 N260 of January 2009.

Total number of published ISO standards related to the TC and its SCs: 54

For updated information, please visit http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_tc_browse.htm?commid=53264&published=on&includesc=true.

Participating countries: 19

Observing countries: 25

For updated information, please visit http://www.iso.org/iso/standards_development/technical_committees/list_of_iso_technical_committees/iso_technical_committee_participation.htm?commid=53264.

Committee structure (WG No., Title and Secretariat):

WG 1	Terminology SIS
WG 2	Stress corrosion cracking BSI
WG 4	Atmospheric corrosion testing and Classification of corrosivity of atmosphere CNI
WG 5	Intergranular corrosion GOST R
WG 6	General principles for testing and data interpretation SIS
WG 7	Accelerated corrosion tests SIS
WG 8	Coordination BSI
WG 9	Corrosion testing of materials for nuclear power generation AFNOR
WG 10	Cathodic protection of buried and immersed metallic structures SCC
WG 11	Electrochemical test methods JISC
WG 12	Industrial and cooling water systems- Testing and performance BSI
WG 13	High temperature corrosion JISC (DIN)
WG 14	Tribo-corrosion KATS

ISO/TC 156 work program currently include standards of interest to the oil & gas industry, like:

ISO/NP 12495	Cathodic protection for fixed steel offshore structures
ISO/NP 13173	Cathodic protection for steel offshore floating structures

Next meeting of ISO/TC 156 will be held 29 March – 1 April 2010, in Suzhou, China.

7 – API standard committees

API has been working on standards for the oil & gas industry since 1923, and published a few coating standards relative to this subject:

- API Bull 91 Planning and Conducting Surface Preparation and Coating Operations for Oil and Natural Gas Drilling and Production Facilities in a Marine Environment
- API RP 5L2 RP for Internal Coating of Line Pipe for Non-Corrosive Gas Transmission Service
- API RP 5L7 RP for Un-primed Internal Fusion Bonded Epoxy Coating of Line Pipe
- API RP 5L9 External Fusion Bounded Epoxy Coating of Line Pipe

8 – ASTM standard committees

Numerous ASTM standards are published for the broad application of relevant industries and many of the ASTM standards are being used in the oil & gas industry as reference documents.

According to the ASTM website, ASTM technical committees are made up of professionals from around the globe who develop ASTM standards. There are over 130 ASTM technical committees covering diverse industry areas ranging from metals to the environment, such as:

- Coating (Protective) and Lining Work for Power Generation Facilities D33 (<http://www.astm.org/COMMIT/COMMITTEE/D33.htm>)
- Coatings (Metallic and Inorganic) B08 (<http://www.astm.org/COMMIT/COMMITTEE/B08.htm>)
- Coatings (Paint and Related), Materials and Applications D01 (<http://www.astm.org/COMMIT/COMMITTEE/D01.htm>)
- Metal Powders and Metal Powder Products B09 (<http://www.astm.org/COMMIT/COMMITTEE/B09.htm>)
- Metallic and Inorganic Coatings B08 (<http://www.astm.org/COMMIT/COMMITTEE/B08.htm>)
- Metallic-Coated Iron and Steel Products A05 (<http://www.astm.org/COMMIT/COMMITTEE/A05.htm>)
- Paint and Related Coatings, Materials and Applications D01 (<http://www.astm.org/COMMIT/COMMITTEE/D01.htm>)
- Paint and Varnishes (US TAG ISO/TC35) 035 (<http://www.astm.org/COMMIT/COMMITTEE/035.htm>)
- Protective Coating and Lining Work for Power Generation Facilities D33 (<http://www.astm.org/COMMIT/COMMITTEE/D33.htm>)
- Ships and Marine Technology F25 (<http://www.astm.org/COMMIT/COMMITTEE/F25.htm>)

OGP is, however, not aware of any active participation by global oil & gas industry representatives in the ASTM work.

9 – CEN/TC12

This CEN/TC 12 committee “Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries” mainly mirrors and adopts the standards developed by ISO/TC67 as EN-ISO standards. These in turn are adopted by all national members of CEN, which are basically all the 30+ members countries of the European Union and its European Economic Area. As of December 2009, CEN/TC12 has adopted more than 115 of the ISO/TC67 published standards.

10 – CEN/TC139 Paints and varnishes

Subcommittees and Working Groups:

SC 1	Paint systems for the protection of steel structures against corrosion
SC 1/WG 2	Test methods and interpretation of test results
WG 1	Coating systems for masonry
WG 2	Coating systems for wood
WG 8	Powder organic coatings for hot-dip-galvanized steel products
WG 9	Testing of coil coated metals

CEN/TC139 adopts most of the standards published by ISO/TC35 as European Norms (EN).

11 – CEN/TC219 Cathodic protection

This committee has issued the following standard:

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.

12 – DIN/NA002 Coatings and Coating Materials standards committee

NA002 committee is an institution of DIN with the task of organizing the standardization work on the following topics:

- Raw materials for coating materials (paints, varnishes and similar coating materials. Raw materials are including binders, *eg* oils, synthetic resins, plasticisers, solvents and driers, as far as they are used for coating materials)
- Coating materials (paints, varnishes and similar coating materials)
- Coatings

13 – ECISS/TC29 Steel tubes and fittings for steel tubes

Published standards of relevance to the oil & gas industry:

- 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 10298** Steel tubes and fittings for on shore and offshore pipelines - Internal lining with cement mortar
- EN 10300** Steel tubes and fittings for onshore and offshore pipelines - Bituminous hot applied materials for external coating
- 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 10310** Steel tubes and fittings for onshore and offshore pipelines - Internal and external polyamide powder based coatings
- EN 10329** Steel tubes and fittings for onshore and offshore pipelines - External field joint coatings
- EN 10339** Steel tubes for onshore and offshore water pipelines - Internal liquid applied epoxy linings for corrosion protection

The following three standards emanating from the ISO/TC67 work are on the ECISS/TC29 programme for adoption:

- prEN 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) (ISO/DIS 21809-1)
- prEN 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
- prEN ISO 21809-5** Petroleum and natural gas industries - External coatings for buried or submerged pipelines used in pipeline transportation systems - Part 5: External concrete coatings (ISO/DIS 21809-5)

The structure of ECISS/TC29 includes the following of interest:

- ECISS/TC 29/SC 4** Coatings for steel tubes
- ECISS/TC 29/SC 4/WG 15** Internal liquid epoxy lining

14 – EEMUA (UK)

EEMUA (Engineering Equipment & Materials Users' Association) was founded in 1983 by amalgamating the Engineering Equipment Users Association (EEUA) founded in 1950 with the Oil Companies Materials Association (OCMA), also founded in the early 1950s. EEMUA has its head office in London and most of its members are British companies.

EEMUA's mission is to improve quality and safety, and to reduce the cost of operating industrial facilities by sharing experience and expertise, and by the active, enlightened promotion of the distinct interests of engineering users. This mission is achieved by:

- Providing the organisation within which networking, information sharing and collaboration among users on non-competitive technical matters can take place
- Influencing the way written regulations are interpreted and applied in practice
- Promoting and presenting the users' views, and encouraging the application of good sound engineering practice
- Developing and publishing user standards, specifications, and training materials
- Facilitating members' participation in national, European and international standards making
- Influencing relevant national and European legislation and regulations.

One of the EEMUA committees focus on Material Technology (EEMUA MTC) but there is no committee on Coating as such. Some of their publication touches upon coating, such as their "EEMUA 194 – Guidelines for Materials Selection and Corrosion Control for Subsea Oil and Gas Production Equipment". The document provides an overview of principles and practices relating to materials selection and corrosion control for subsea oil and gas production equipment, and incorporates valuable lessons learned from designers, manufacturers, offshore contractors and operators. It covers cathodic protection, wellheads and Christmas trees, manifold piping, flowlines and risers, valves, fasteners and gaskets, flexible piping, hydraulic control and chemical injection systems, umbilicals, instruments, and protective coatings and insulation.

15 – European Federation of Corrosion

The main activities of the EFC are:

- EFC reports and state-of-the-art reviews on corrosion and protection
- Working Parties on corrosion and protection issues
- Organization of congresses:
 - The European Corrosion Congress (EUROCORR)
 - Application of Electrochemical Techniques to Organic Coatings (AETOC)

WP14 is the denomination of a Working Group on "Coatings". One of the latest activities of the WP14 is the Green Book on "Self Healing Properties of New Surface Treatments (EFC 58)", which is expected for April 2010.

16 – Energy Institute

During 2006, the Corrosion Management Working Group (CMWG) was formed which comprises the Energy Institute, Health & Safety Executive, offshore operators and consultants supported by Oil and Gas UK. On behalf of this group, the EI managed development of the publication *Guidance For Corrosion Management In Oil And Gas Production And Processing* and its associated *Corrosion threats handbook* both of which were published during 2008.

The CMWG is now working on developing further guidance on external corrosion in particular, management of coatings through the development of KPIs for External Corrosion Protection. It is envisaged that this publication will be accepted and applied throughout the wider industry and will aid reducing costs associated with this important aspect of plant maintenance. In parallel to this, the group will also be developing an External corrosion awareness handbook aimed at informing inspectors and on-site personnel.

17 – Gulf Standards Organisation

GSO TC 7 – Gulf Standards Technical Committee for Oil and Gas Industry

International Standards Workshop for Global Oil and Gas Industry focus on Region 3-4 April 2006 jointly organised between OGP and Qatar Petroleum took a recommendation to establish a Gulf Region Oil and Gas Industry Standards Technical Committee. The main purpose would be to unify the oil and gas industry standardization efforts in the Gulf countries by adopting International Standards as Gulf Standards and developing new Gulf standards to satisfy the Gulf region specific requirements. The Technical Committee No.7 was approved on the 19th of April 2006 by GSO GS and with Qatar as Chair and Secretary.

General Objectives

- To unify the Gulf Oil & Gas Industry Standardisation work in order to achieve uniformity, reliability and efficiency through:
 - Variety control and inter-changeability.
 - Provide technical guidance for design, engineering, procurement and maintenance activities.
 - Improve communication by implementing codes, terminology, symbols and other standards.
 - Implement solutions to various problems through standard legislation.
 - Educate through provisions for instructions, warnings, demonstrations, symbols, etc.
 - Improve the quality of life by providing improvements in HSE standards.
- To improve quality of work and avoid work duplication of standardization work within GCC.
- To achieve cost optimisation in procurement (material/equipment), design, production/processing and services.

This can be through:

- Eliminate confusion in design, construction, maintenance & procurement.
- Uniform design of facilities will allow for lower manufacturer /contractor quotations, which leads to cost saving.
- Reduction in Engineering and construction project schedules and project cycle time.
- Reduction in HSE costs as a result of standardisation.

Specific GSO TC 7 Objectives

- To harmonise GCC Countries Oil, Gas & Petrochemical companies standards with each other and with international standards.
- To develop new and update current Oil & Gas relevant Gulf Standards to satisfy the GCC Countries specific requirements, latest technology and international standardisation needs. This is in cooperation with the relevant national, regional and international organisations
- To establish a system for involvement of GCC Countries in ISO TC 67, TC 176, TC 28 and TC 193 technical work to include Gulf Region specific requirements.
- To adopt latest revisions of Oil & Gas International Standards, which satisfy the region specific requirements as Gulf Standards. This is in cooperation with the relevant national, regional and international organisations.
- To establish a database for Gulf Oil & Gas Companies Standards & Specifications and provide easy access to all members

GSO TC7 Scope of Work

Gulf Standards Technical Committee for oil & gas industry in the GCC Countries (GSO TC7) covers the following activities:

- Standards and Technical Regulations for materials, equipment and offshore structures used in Petroleum, Petrochemical, Natural Gas industries and LNG industries i.e., drilling, production, processing, transportation and storage equipment.
- Standards & Technical Regulations related to the Petroleum and natural gas products (refined products, *ie* fuel Products & LNG/NGL Products) and petrochemicals.
- Standards and Technical Regulations related to technical terminology, inspection and testing, Management Systems: Quality, Health, Safety, Security and Environment.

GSO TC 7 Structure

GSO TC 7 Structure includes four Sub-committees (SC1- SC4) and five Working Groups (WG1-WG5). Within GSO TC 7 WG5 – Working Group on Coatings and Linings handles standards on coatings and linings. Qatar is the Chair and Secretary of this WG.

Current work programme on coating related standards:

Group	Standard No.	Title
SC3	GSO-TC7-016	Specifications for pipeline cleaning, gauging flooding & hydro-testing
WG5	GSO-TC7-017	Pipeline internal coating and lining
WG5	GSO-TC7-019	External coating of riser pipes
SC4	GSO-TC7-020	Corrosion inhibitors and their injection package for oil and gas production facilities
WG5	GSO-TC7-021	Internal lining of above ground steel storage tanks and vessels - rigid reinforced fibre glass lining
WG5	GSO/ISO 21809-1	Petroleum and natural gas industries - external coatings for buried and submerged pipelines used in pipeline transportation systems - part1: polyolefin coatings (3-layer pe and 3-layer pp)
WG5	GSO/ISO 21809-3	Petroleum and natural gas industries - external coatings for buried and submerged pipelines used in pipeline transportation systems - part 3 : field joint coatings
WG5	GSO/ISO 21809-4	Petroleum and natural gas industries – external coatings for buried and submerged pipelines used in pipeline transportation systems – part 4: polyethylene coatings (2-layer pe)
WG5	GSO/ISO 21809-5	Petroleum and natural gas industries - external coatings for buried and submerged pipelines used in pipeline transportation systems - part 5: external concrete coatings

18 – IMO

A group of experts under the IMO Sub-Committee on Ship Design and Equipment (DE) has developed a number of standards and guidelines for performance standard for protective coatings of dedicated seawater tanks, void spaces, oil tankers etc. The relevant ones are approved by the IMO Sub-committee and the IMO Marine Safety Committee for use. Normally, minimum 1 ½ year have to pass before the standards enter into force. Some of these are mandatory under the SOLAS regulations, whereas others are voluntary for the shipping industry. These standards and guidelines may well be useful for the oil & gas industry.

MSC.215(82)	Performance standard for protective coatings for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers
MSC.244(83)	Performance standard for protective coatings for void spaces on bulk carriers and oil tankers
A.798(19)	Guidelines for the selection, application and maintenance of corrosion prevention systems of dedicated seawater ballast tanks
MSC.1/Circ.1279	Guidelines for corrosion protection of permanent means of access arrangements
MSC.1/Circ.1330	Guidelines for maintenance and repair of protective coatings
DRAFT	Draft new SOLAS regulation and the draft performance standard for cargo oil tanks of crude oil tankers. See report of the Coating Working Group from the last session of the DE Sub-Committee (DE 52/WP.5) 9 March 2009, annexes 2 and 3.
IN DEVELOPMENT	Guidelines for test procedures (in development)

19 – NACE standards committee

NACE International was originally known as "The National Association of Corrosion Engineers" when it was established in 1943 by eleven corrosion engineers in the pipeline industry. Since then NACE has been dedicated to a single mission – to protect people, assets, and environment from the effects of corrosion. NACE have members in 92 countries. Built upon decades of knowledge and expertise from dedicated members all around the world, NACE International is involved in every industry and area of corrosion prevention and control, from chemical processing and water systems to transportation and infrastructure protection. NACE International is a track to the corrosion engineering and science community, and is recognized around the world as an authority for corrosion control solutions.

NACE International serves its members by:

- Setting standards for the corrosion industry
- Disseminating the latest technology worldwide through peer-reviewed journals and technical papers
- Hosting and managing the most important international conferences, exhibits and topical meetings in the corrosion industry
- Recognising distinguished achievement in corrosion through the presentation of well-respected awards
- Linking you to colleagues and important career information
- Enhancing programs, services and connections with the corporate community
- Promoting the interests of the corrosion science and engineering industry through government relation activities in Washington, D.C.

NACE has three Specific Technology Groups (STG) relevant for this subject and reporting to these there are a large number of Task Groups (TGs) and Technology Exchange Groups (TEGs), some of them are listed here:

STG 02 Coatings and Linings, Protective: Atmospheric

<http://web.nace.org/Departments/Technical/Directory/Committee.aspx?id=dedc32a6-5fef-db11-9194-0017a4466950>

- TG 260** Offshore Platform Maintenance Coatings (Nonimmersion): Standard Test Methods
TG 312 Offshore Platforms: Coatings for Atmospheric and Splash Zone New Construction
TG 340 Offshore Coating Condition Assessment for Maintenance Planning

STG 03 Coatings and Linings, Protective: Immersion and Buried Service

<http://web.nace.org/Departments/Technical/Directory/Committee.aspx?id=dfdc32a6-5fef-db11-9194-0017a4466950>

- TEG 354X** Pipeline Coatings: Underground Blistering
TEG 359X External Pipeline Coatings: Performance Under High-Operating-Temperature Conditions
TG 031 Pipeline Coating, Plant-Applied Fusion-Bonded Epoxy: Review of NACE Standard RP0394
TG 034 Pipeline Coatings, External: Gouge Test
TG 037 Pipelines, Oilfield: Thermoplastic Liners
TG 248 Coatings, Heat-Shrink Sleeves for External Repair, Rehabilitations, and Weld Joints on Pipelines
TG 251 Coatings, Tape for External Repair, Rehabilitations, and Weld Joints on Pipelines
TG 263 Offshore Ballast Water Tank Coatings: Standard Test Method
TG 264 Offshore Exterior Submerged Coatings: Standard Test Method
TG 265 Coating, Polyolefin Resin Systems: Review of NACE SP0185-2007
TG 281 Coatings, Polyurethane for Field Repair, Rehabilitation, and Girth Weld Joints on Pipelines
TG 296 Coating Systems, Wax, for Underground Piping Systems: Review of NACE Standard RP0375

- TG 336** External Pipeline Coatings: Practices, Test Methods, and/or Test Methodologies for High Operating Temperature Pipelines, Immersion and Buried Service Only
- TG 337** External Pipeline Coatings: Field Installation and Inspection Criteria for Maximum Performance
- TG 352** Coating Systems (External) for Pipeline Directional Drill Applications
- TG 353** External Pipeline Coatings: Multi-Layer Polyolefin Coating Systems

STG 04 Coatings and Linings, Protective: Surface Preparation

<http://web.nace.org/Departments/Technical/Directory/Committee.aspx?id=e0dc32a6-5fef-dbb1-9194-0017a4466950>

- TEG 314X** Pipelines: Liquid Petroleum Industry Corrosion Control Issues Forum
- TEG 351X** Coatings Under Insulation Material Testing Procedure Recommendations: Discussion
- TEG 399X** Evaluation, Testing, and Specifying Coating Materials for Elevated Temperatures for Insulated and Uninsulated Service
- TEG 424X** Insulative Coatings
- TG 248** Coatings, Heat-Shrink Sleeves for External Repair, Rehabilitations, and Weld Joints on Pipelines
- TG 251** Coatings, Tape for External Repair, Rehabilitations, and Weld Joints on Pipelines
- TG 265** Coating, Polyolefin Resin Systems: Review of NACE SP0185-2007
- TG 281** Coatings, Polyurethane for Field Repair, Rehabilitation, and Girth Weld Joints on Pipelines
- TG 296** Coating Systems, Wax, for Underground Piping Systems: Review of NACE Standard RP0375
- TG 325 CUI** Revision of NACE Standard RP0198, "The Control of Corrosion Under Thermal Insulation and Fireproofing Materials—A Systems Approach"
- TG 352** Coating Systems (External) for Pipeline Directional Drill Applications
- TG 386** Below-Grade Corrosion Control of Transmission, Distribution, and Substation Structures
- TG 395** Above Grade (Atmospheric) Corrosion Control of Transmission, Distribution, and Substation Structures by Coating Systems

20 – NORSOK standards committee – Standards Norway

The NORSOK standards are developed by the Norwegian petroleum industry since 1993 to ensure adequate safety, value adding and cost effectiveness for petroleum industry developments and operations. Furthermore, NORSOK standards are as far as possible intended to replace the Norwegian oil company specifications and serve as references in the authorities' regulations.

The NORSOK standards are normally based on recognized international standards, adding the provisions deemed necessary to fill the broad needs of the Norwegian petroleum industry. Where relevant, NORSOK standards will be used to provide the Norwegian industry input to the international standardization process. Subject to development and publication of international standards, the relevant NORSOK standard will be withdrawn.

The NORSOK standards are developed according to the consensus principle generally applicable standards work and according to established procedures defined in NORSOK A-001.

The NORSOK standards are prepared and published with supported by OLF (The Norwegian Oil Industry Association) and Norsk Industri (Federation of Norwegian Industries). NORSOK standards are administered and published by SN (Standards Norway).

Expert Group Materials (SN/K114/EgM) is active, includes coating in its scope and meets regularly and is responsible for the publication and maintenance of *eg* following NORSOK standards:

- M-001 Materials selection (Rev. 4, August 2004)
- M-501 Surface preparation and protective coating (Rev. 5, June 2004)
- M-503 Cathodic protection (Rev. 2, Sept. 1997)

21 – Process Industry Practices (PIP)

PIP is a self-funded consortium of process industry companies that share the goal of reducing process plant costs by up to 6% through the development and implementation of common industry practices for projects and maintenance work. Related industries such as power, pulp & paper, and pharmaceuticals will also find the PIP harmonization process and published Practices to be of value in their industries. PIP operates under the umbrella of the Construction Industry Institute, a recognized research unit within the University of Texas at Austin, in the USA.

PIP has eight active Function Teams harmonising Practices in the following a number of engineering disciplines, including Coatings, Insulation, Refractory.

In 2002, PIP chartered a standing Globalization Committee that is providing direction for future additional development. Current activities include “enablement” of PIP Practices for global application and identification of specific globalization needs for each PIP discipline.

BP, Chevron, ConocoPhillips, Shell and others are members of PIP.

22 – Society for Protective Coatings

The Society for Protective Coatings (hereinafter referred to as SSPC) was founded in 1950 as the Steel Structures Painting Council, a non-profit professional society concerned with the use of coatings to protect industrial steel structures. Head office is in Pittsburg, PA, US. SSPC has over 7,000 individual members and 740 organizational members. In 1997, the name of the association was changed to The Society for Protective Coatings to better reflect the changing nature of coatings technology and the ever-expanding types of construction materials.

The mission and purpose the SSPC is to advance the technology and promote the use of protective coatings to preserve industrial, marine and commercial structures, components and substrates.

SSPC's vision: SSPC will be the worldwide acknowledged resource and authority for protective coatings technology and information.

SSPC claims to be the only non-profit association that is focused on the protection and preservation of concrete, steel and other industrial and marine structures and surfaces through the use of high-performance industrial coatings. SSPC claims to be the leading source of information on surface preparation, coating selection, coating application, environmental regulations, and health and safety issues that affect the protective coatings industry.

The association's many industry-specific products and services include:

- standards development [<http://www.sspc.org/standards/>]
- technical publications (books, videotapes, CDs) [<http://www.sspc.org/books/>]
- training courses [<http://www.sspc.org/training/>]
- company and individual certification programs [<http://www.sspc.org/certification/>]
- publications [<http://www.sspc.org/books/>]
- conferences [<http://www.sspc.org/events/>]

SSPC Technical Committees are divided into six large Group Committees, as follows:

- C.1 – Coating Materials
- C.2 – Surface Preparation
- C.3 – Application, Inspection, and Quality Control
- C.4 – Methods for Improved Performance
- C.5 – Environmental, Health, and Safety Compliance
- C.7 – Protection of Concrete and Cementitious Substrates

Each Group Committee contains one or more Unit Committees. If you join a Unit Committee, you will automatically become a member of the Group Committee to which it belongs. Since SSPC standards must be balloted through both the developing Unit and its corresponding Group Committee, you may receive ballots on subjects which appear to be outside the scope of the unit committee you joined. This is done in order to provide as many concerned individuals as possible the opportunity to review and comment on draft standards, and we encourage you to provide as much input as possible.

SSPC Standards

SSPC has over the years developed a significant volume of standards, specifications, guidelines, reports and other relevant publications. Many of these are collated in their two large manuals:

SSPC Painting Manual, Volume 1

The 4th edition of SSPC's "Good Painting Practice" provides a detailed overview of the procedures, equipment and materials used for surface preparation and coating work on industrial steel and concrete structures. Herein is information on a wide range of relevant topics - from the fundamentals of surface preparation and coating application-to recent advances in alternate coating removal technologies-to the complexities of painting specific facilities and structures, regulations affecting the coatings industry, strategies for the development of maintenance coating programs, and much more.

SSPC Painting Manual, Volume 2

The 2005 edition of “Systems and Specifications” is a complete, up-to-date collection of SSPC standards, guides, specifications, and other consensus documents for the cleaning and preparation of steel and concrete surfaces, the selection and application of protective coating systems, the composition and performance capabilities of paints and coatings, and other materials, processes, and technologies.

SSPC Visual Standards and Reference Photographs

These collections of high-quality colour reference photos are used to supplement and illustrate the cleaning requirements of certain SSPC Surface Preparation Specifications.

23 – Company specification

All of the international operators have their own in-house technical specifications in order to specify exactly what is considered required for their plants and installations. These specifications also carry valuable experience and they may be supplemented by individual project specifications to cover specific project needs. These documents are normally based on, but include various degrees of supplements, variation control, option selection and amendments to international, national, regional and industry standards. These documents carry different designations in operating companies such as: company standards, design & engineering practices, best practices, supplementary technical specifications, *etc.*

For further information and publications,
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