

Quality Requirements for Coating and Painting for Offshore, Marine, Coastal and Subsea Environment

Public Review Draft

Revision history

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Foreword

This specification was prepared under Joint Industry Programme 33 (JIP33) "Standardization of Equipment Specifications for Procurement" organized by the International Oil & Gas Producers Association (IOGP) with the support from the World Economic Forum (WEF). Companies from the IOGP membership participated in developing this specification to leverage and improve industry level standardization globally in the oil and gas sector. The work has developed a minimized set of supplementary requirements for procurement, with life cycle cost in mind, resulting in a common and jointly agreed specification, building on recognized industry and international standards.

Recent trends in oil and gas projects have demonstrated substantial budget and schedule overruns. The Oil and Gas Community within the World Economic Forum (WEF) has implemented a Capital Project Complexity (CPC) initiative which seeks to drive a structural reduction in upstream project costs with a focus on industry-wide, non-competitive collaboration and standardization. The CPC vision is to standardize specifications for global procurement for equipment and packages. JIP33 provides the oil and gas sector with the opportunity to move from internally to externally focused standardization initiatives and provide step change benefits in the sector's capital projects performance.

This specification has been developed in consultation with a broad user and supplier base to realize benefits from standardization and achieve significant project and schedule cost reductions.

The JIP33 work groups performed their activities in accordance with IOGP's Competition Law Guidelines (November 2014).

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Introduction

The purpose of this quality requirements specification (QRS) is to define quality management requirements for the supply of coating and painting in accordance with Norsok M-501 Edition 6, 2012, Surface Preparation and Protective Coating, for application in the petroleum and natural gas industries.

The QRS includes definition of a conformity assessment system (CAS) which specifies standardized customer interventions against quality management activities at four different levels. The applicable CAS level is specified by the customer in the equipment datasheet or purchase order.

This QRS shall be used in conjunction with the supplementary requirements specification IOGP S-715, the information requirements specification IOGP S-715L and the equipment datasheet IOGP S-715D which together comprise the full set of specification documents. The introduction section in the supplementary requirements specification provides further information on the purpose of each of these documents and the order of precedence for their use.



**JIP33 Specification for Procurement Documents
Quality Requirements Specification**

1 Scope

To specify quality management requirements for the supply of coating and painting in accordance with IOGP S-715 Supplementary Specification to Norsok M-501 for Coating and Painting for Offshore, Marine, Coastal and Subsea Environment:

- a) manufacturer quality management system requirements;
- b) customer conformity assessment (surveillance and inspection) activities;
- c) traceability requirements;
- d) evidence of conformance;
- e) factory acceptance.

2 Normative references

For the purpose of this document, the documents referenced in IOGP S-715 and those listed below, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9001	Quality management systems - Requirements
ISO 29001	Petroleum, petrochemical and natural gas industries - Sector-specific quality management systems - Requirements for product and service supply organizations
API Specification Q1	Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry
IOGP S-715	Supplementary Specification to Norsok M-501 for Coating and Painting for Offshore, Marine, Coastal and Subsea Environment

3 Terms and definitions

For the purpose of this document, the terms and definitions given in Norsok M-501 Edition 6, 2012, Surface Preparation and Protective Coating and ISO 9000 (normative to ISO 9001) and the following shall apply.

3.1 Conformity assessment

Demonstration that requirements relating to a product, process, system, person or body are fulfilled.

NOTE 1 Conformity assessment (or assessment) includes but is not limited to review, inspection, verification and validation activities.

NOTE 2 Assessment activities may be undertaken at a supplier / sub-supplier's premises, virtually by video link, desktop sharing, etc. or by review of information formally submitted for acceptance or for information.

3.2 Conformity assessment system (CAS)

Systems providing different levels of assessment of the supplier's control activities by the customer (second party) or independent body (third party) based on evaluation of the supplier's capability to conform to the product or service specification and obligatory requirements.

NOTE CAS A reflects the highest risk and associated extent of verification. CAS D is the lowest.

3.3 Conformity assessment - Hold point (H)

The point in the chain of activities beyond which an activity shall not proceed without the approval of the customer / customer's representative.

3.4 Conformity assessment - Witness point (W)

The point in the chain of activities that the supplier shall notify the customer / customer's representative before proceeding. The operation or process may proceed without witness if the customer does not attend after the agreed notice period.

3.5 Conformity assessment – Surveillance (S)

Observation, monitoring or review by the customer / customer's representative of an activity, operation, process, product or associated information.

3.6 Conformity assessment – Review (R)

Review of the supplier's information to verify conformance to requirements.

NOTE Information review requirements are managed on a surveillance basis and as such do not impose schedule constraints, unless specified as hold points in Annex A or as conditions specified in the associated IRS.

4 Symbols and abbreviations

For purposes of this document, the following symbols and abbreviations apply.

CAS	Conformity assessment system
IRS	Information requirements specification
QRS	Quality requirements specification (this document)

5 Quality requirements

5.1 Quality management system

The supplier shall demonstrate that the quality management arrangements established for the coating of products and supply of coating services conform to ISO 9001, ISO 29001, API Specification Q1 or an equivalent quality management system standard agreed with the customer.

5.2 Conformance assessment

5.2.1

Quality and inspection plans and test plans developed as outputs to operational planning and control for the products and services shall define the specific coating controls to be implemented by the supplier to ensure conformance with the specified requirements.

5.2.2

Controls shall address both internally and externally sourced processes products and services.

5.2.3

Quality plans and inspection plans and test plans shall include provision for the customer conformity assessment system (CAS) as specified in the data sheet. See Annex A.

5.2.4

Supplier performance in meeting the requirements will be routinely assessed during execution of the scope and where appropriate, corrective action requested and conformity assessment activities increased or decreased consistent with criticality and risk.

NOTE 1 For industrial well proven solutions CAS level D is specified unless risk assessment indicates that a more stringent CAS level is required.

NOTE 2 Irrespective of conformity assessment requirements defined by the customer, either, by reference to standard or specification requirements or in the scope, the supplier remains responsible for operational planning and control and demonstration of the conformity of products and services with the requirements (see ISO 9001:2015, 8.1 and 8.2).

6 Certification and traceability

6.1

Material certification and traceability shall be maintained in accordance with Annex B.

6.2

Material certification and traceability of starting material including fingerprinting and batch testing of paint according to S-715, 13.2 and production inspection and testing results to S-715 Clause 10 and Clause 11 shall be maintained in accordance with S-715, 4.12.

7 Control of nonconforming products and services

Nonconformance with specified requirements identified by or to supplier prior to or during the delivery of the products and services shall be corrected such that the specified requirements are satisfied or the customer's acceptance of the nonconformance agreed in accordance with purchase order conditions. See ISO 9001:2015, 8.2.3, 8.2.4, 8.5.6 and 8.7.

8 Evidence (conformance records)

Plans, procedures, methods and resultant records shall be provided in accordance with the associated IRS.

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Annex A Customer conformity assessment requirements (normative)

This annex defines four conformity assessment systems (CAS) or levels of customer assessment.

	PURCHASER ASSESSMENT ACTIVITIES	CAS			
		A	B	C	D
1	Planning and control activities				
1.1	Quality planning (ISO9001, API Q1, ISO 29001, 8.1 and ISO10005), (IOGP S-715 4.2, 5.7, 13.1.1, 13.1.4, 13.1.6, 13.1.7, 13.1.8)	R	R	R	-
1.2	Inspection and test planning (ISO 9001, API Q1, ISO 29001, 8.1 and ISO 10005), (IOGP S-715 13.1.8)	H	H	R	-
1.3	Pre-Inspection/Pre-production planning (IOGP S-715 4.2, 13.1.5)	H	H	-	-
2	Design and development activities				
2.1	Coating contractor qualification (IOGP S-715, 10.2.1)	H	H	H	H
2.2	Personnel qualification (IOGP S-715, 5.7, 5.8, 5.9, 5.10, 10.2.2, 10.2.3, 10.2.5, 13.1.3, Table 2)	S	S	-	-
2.3	Performance (pre-qualification) testing of coating system (IOGP S-715, 4.5, 10.1, 10.3.1, Table 1, Table A.1.1, Table A.1.2, Table A.1.3, Table A.1.4, Table A.1.5, Table A.1.6, Table A.2.1, Table A.2.2, Table A.3.1, Table A.3.2, Table A.3.3, Table A.3.4, Table A.3.5, Table A.3.6, Table A.3.7, Table A.4.1, Table A.4.2, Table A.4.3, Table A.6.1, Table A.6.2, Table A.6.3, Table A.7.1, Table A.7.2, Table A.7.3, Table A.8, Table A.10.1)	R	R	R	-
2.4	Coating Procedure Specification (CPS) (IOGP S-715, 4.4, 4.5, 4.13.1, 4.13.2.1, 4.13.2.2, 4.13.2.3, 4.13.3, 4.13.4, 4.13.5.1, 4.13.5.2, 4.13.5.3, 4.13.5.4, 4.13.6.1, 4.13.6.2, 4.13.7, 4.13.8.2, 5.7, 8.1, 10.3.1, 10.3.2, 12.1.2, 12.3.1, 12.3.2, 13.2.1, 13.2.2, 14.1, 14.2, 14.3, 14.8, Table 6, Table 7, Table 8, Table A.1.1, Table A.1.2, Table A.1.3, Table A.1.4, Table A.1.5, Table A.1.6, Table A.2.1, Table A.2.2, Table A.3.1, Table A.3.2, Table A.3.3, Table A.3.4, Table A.3.5, Table A.3.6, Table A.3.7, Table A.4.1, Table A.4.2, Table A.4.3, Table A.6.1, Table A.6.2, Table A.6.3, Table A.7.1, Table A.7.2, Table A.7.3, Table A.8, Table A.10.1)	R	R	R	-
2.5	Coating Procedure Test (CPT) (IOGP S-715, 4.5, 4.13.8.2, 10.3.2, 13.2.1, 13.2.2, 14.8, Table 2, Table 3, Table A.1.1, Table A.1.2, Table A.1.3, Table A.1.4, Table A.1.5, Table A.1.6, Table A.2.1, Table A.2.2, Table A.3.1, Table A.3.2, Table A.3.3, Table A.3.4, Table A.3.5, Table A.3.6, Table A.3.7, Table A.4.1, Table A.4.2, Table A.4.3, Table A.6.1, Table A.6.2, Table A.6.3, Table A.7.1, Table A.7.2, Table A.7.3, Table A.8, Table A.10.1)	W	R	R	-
3	Control of external supply				
3.1	External supply scope, risk assessment and controls (ISO 9001, 8.4) (IOGP S-715, 13.1.1, 13.1.2)	R	-	-	-
3.2	Nominated sub-suppliers list of coating material and services (IOGP S-715, 13.1.8)	R	R	R	-
4	Production and service provision				
4.1	Coating materials verification (IOGP S-715, 4.5, 4.8, 5.1, 5.2, 5.3, 5.5, 6.2, 8.2, 13.2.1, 13.2.2, Table 4)	S	S	-	-
4.2	Pre-production trial (PPT) (IOGP S-715, 10.3.2)	H	W	-	-
4.3	Surface preparation (IOGP S-715, 4.4, 4.6, 4.8, 4.13.1, 6.1, 6.2, 6.3, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.4.5, 6.4.6, 6.4.7, 6.4.8, 6.5.1.1, 6.5.1.3, 6.5.1.4, 6.5.1.5, 6.5.1.6, 6.5.2, 8.1, 8.4, 12.3.3, 12.3.4, 12.3.5, 12.3.6, Table 4, Table A.1.1, Table A.1.2, Table A.1.3, Table A.1.4, Table A.1.5, Table A.1.6, Table A.2.1, Table A.2.2, Table A.3.1, Table,	S	S	-	-

	A.3.2 Table A.3.3, Table A.3.4, Table A.3.5, Table A.3.6, Table A.3.7, Table A.4.1, Table A.4.2, Table A.4.3, Table A.6.1, Table A.6.2, Table A.6.3, Table A.7.1, Table A.7.2, Table A.7.3, Table A.8, Table A.10.1				
4.4	Coating application including repair (IOGP S-715, 4.4, 4.5, 4.8, 4.11, 7.1, 7.2, 7.3, 8.2, 8.3, 8.4, 12.1.1, 12.1.2, 12.1.3, 12.1.4, 12.1.6, 12.2.1, 12.2.2, 13.1.9, Table A.1.1, Table A.1.2, Table A.1.3, Table A.1.4, Table A.1.5, Table A.1.6, Table A.2.1, Table A.2.2, Table A.3.1, Table A.3.2, Table A.3.3, Table A.3.4, Table A.3.5, Table A.3.6, Table A.3.7, Table A.4.1, Table A.4.2, Table A.4.3, Table A.6.1, Table A.6.2, Table A.6.3, Table A.7.1, Table A.7.2, Table A.7.3, Table A.8, Table A.10.1)	S	S	-	-
4.5	Coating inspection and testing (IOGP S-715, 4.4, 4.8, 7.3, 11, 12.1.5, Table 3, Table A.1.1, Table A.1.2, Table A.1.3, Table A.1.4, Table A.1.5, Table A.1.6, Table A.2.1 Table A.2.2, Table A.3.1, Table A.3.2, Table A.3.3, Table A.3.4, Table A.3.5, Table A.3.6, Table A.3.7, Table A.4.1, Table A.4.2, Table A.4.3, Table A.6.1, Table A.6.2, Table A.6.3, Table A.7.1, Table A.7.2, Table A.7.3, Table A.8, Table A.10.1)	H	W	R	-
5	Release of product or service				
5.1	Final documentation review (coating report) as per IOGP S-715L (IOGP S-715, 4.12, 13.1.9, Annex D)	H	R	R	-
5.2	Release of coated item (IOGP S-715, 4.9)	H	H	H	-
<p>H is hold point, W is witness point, S is surveillance and R is review. Note: Definitions for these terms are provided in Section 3 of this document.</p>					

Annex B Material traceability and certification requirements (normative)

Item		Certificate type	Traceability level	Additional requirements
Coating	IC001 Material Certificate	2.2	Level II	
<p>Explanatory notes</p> <p>Inspection Certificates shall be provided in accordance with ISO 10474 or EN 10204.</p> <p>Traceability</p> <p>A. Level I - Full Traceability - Material is uniquely identified and its history tracked from manufacture through stockists (where applicable) to the supplier and to actual position on the equipment with specific location defined on a material placement record (the traceability to a specific location only applies to skids / packaged equipment, not to bulks).</p> <p>B. Level II - Type Traceability – the supplier maintains a system to identify material throughout manufacture, with traceability to a material certificate.</p> <p>C. Level III - Compliance Traceability – the supplier maintains a system of traceability that enables a declaration of compliance to be issued by the supplier.</p>				

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