International Association of Oil & Gas Producers

SPECIFICATION

IOGP S-618Q

January 2025

Version 2.0

Quality Requirements for Offshore Pedestal-mounted Cranes (API)

JIP33 JOINT INDUSTRY PROGRAMME

Revision history

VERSION	DATE	PURPOSE
2.0	January 2025	Second Edition
1.0	December 2018	First Edition

Acknowledgements

This IOGP Specification was prepared by a Joint Industry Programme 33 Standardization of Equipment Specifications for Procurement organized by IOGP with support by the World Economic Forum (WEF).

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 2020).

This second edition cancels and replaces the first edition published in December 2018. Due to technical writing requirements leading to extensive changes, this second edition should be treated as a new document.

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Introduction

The purpose of this quality requirements specification (QRS) is to specify quality management requirements and the proposed extent of purchaser intervention activities for the procurement of offshore pedestal-mounted cranes in accordance with IOGP S-618 for application in the petroleum and natural gas industries.

Purchaser intervention activities are identified through the selection of one of four conformity assessment system (CAS) levels based on a risk and criticality assessment. The applicable CAS level is specified by the purchaser in the procurement data sheet (PDS) or purchase order.

The IOGP S-618 specification documents follow a common structure (as shown below) comprising a specification, also known as a technical requirements specification (TRS), a PDS, an information requirements specification (IRS) and this QRS. These four specification documents, together with the purchase order, define the overall technical specification for procurement.

JIP33 Specification for Procurement Documents
Quality Requirements Specification (QRS)

This QRS is to be applied in conjunction with the specification, the PDS and the IRS, referred to in this document as IOGP S-618, IOGP S-618D and IOGP S-618L respectively. Further information on the purpose of these documents and the order of precedence for their use is provided in the introduction of the specification.

1 Scope

This QRS specifies quality management requirements for the supply of offshore pedestal-mounted cranes to IOGP S-618 including:

a) manufacturer quality management system (QMS) requirements;

b) purchaser conformity assessment (surveillance and inspection) activities;

c) traceability requirements.

2 Normative references

For the purpose of this document, the documents referenced in IOGP S-618 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.

API Specification 2C, *Offshore Pedestal-mounted Cranes*

API Specification Q1, *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry*

EN 10204, *Metallic products - Types of inspection documents*

IOGP S-618, *Supplementary Specification to API Specification 2C for Offshore Pedestal-mounted Cranes*

ISO 9000:2015, *Quality management systems — Fundamentals and vocabulary*

ISO 9001:2015, *Quality management systems — Requirements*

ISO 10474, *Steel and steel products — Inspection documents*

ISO 29001, *Petroleum, petrochemical and natural gas industries — Sector-specific quality management systems — Requirements for product and service supply organizations*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purpose of this document, the terms and definitions given in IOGP S-618 and ISO 9000:2015 (normative to ISO 9001:2015) and the following shall apply.

3.1.1
conformity assessment
demonstration that specified requirements are fulfilled

Note 1 to entry: "Conformity assessment" is also referred to as "assessment".

Note 2 to entry: Conformity assessment includes review, inspection, verification and validation activities.

Note 3 to entry: Conformity assessment activities may be undertaken at manufacturer/sub-supplier premises, virtually by video link, desktop sharing, etc. or by review of information.

3.1.2
conformity assessment system
CAS
system that provides different levels of purchaser interventions to assess and verify manufacturer conformance to specified requirements

Note 1 to entry: CAS level A applies to the highest risk and associated extent of verification. CAS level D is the lowest.

3.1.3
hold point
H
<conformity assessment> point in the chain of activities beyond which an activity shall not proceed without the approval of the purchaser or purchaser's representative

3.1.4
witness point
W
<conformity assessment> point in the chain of activities at which the manufacturer shall notify the purchaser or purchaser's representative before proceeding

Note 1 to entry: The operation or process may proceed without witness if the purchaser does not attend after the agreed notice period.

3.1.5
surveillance
S
<conformity assessment> observation, monitoring or review, by the purchaser or purchaser's representative, of an activity, operation, process, product or associated information

3.1.6
review
R
<conformity assessment> review of the manufacturer's records, procedures and supporting information to verify and/or validate conformance to requirements

3.2 Abbreviated terms

CAS	conformity assessment system
EMC	electromagnetic compatibility
FAT	factory acceptance test
IRS	information requirements specification
ITP	inspection and test plan
NDE	non-destructive examination
PDS	procurement data sheet
QMS	quality management system
QRS	quality requirements specification
TRS	technical requirements specification

4 Quality requirements

4.1 Quality management system (QMS)

The manufacturer shall operate and maintain a quality management system (QMS) that conforms with ISO 9001, ISO 29001, API Specification Q1 or an equivalent QMS standard.

4.2 Conformity assessment system (CAS)

4.2.1

The CAS provides different levels of assessment of manufacturer control activities. The CAS level is defined by the purchaser using a risk-based approach and included in the purchase order / contract. The defined CAS level may be adjusted by the purchaser during manufacture based on the manufacturer's performance and re-assessment of risk.

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

4.2.2

Quality plans and inspection and test plans shall include provision for purchaser intervention activities based on the CAS level selected in the PDS or purchase order. See Table A.1.

4.2.3

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

4.2.4

If any subcontracted or scope of supply occurs outside of the primary manufacturer location, it shall include interventions within the primary inspection and test plan (ITP) or secondary ITP. It is discouraged to use "hold" (H) within Table A.1, section 3 and recommended to use "surveillance" (S).

5 Certification and traceability

Material certification and traceability shall be maintained in accordance with Table B.1.

6 Evidence — conformance records

Documents and information shall be provided for in accordance with IOGP S-618L.

Annex A
(normative)
Purchaser conformity assessment requirements

Table A.1 defines four CAS levels or levels of purchaser assessment.

Table A.1 — Purchaser conformity assessment requirements

Purchaser assessment activities		CAS			
		A	B	C	D
1	**Operational planning and control activities**				
1.1	Pre-inspection/pre-production planning	H	W	W	W
1.2	Quality planning	H	H	H	H
1.3	Inspection and test planning	H	H	H	H
2	**Design and development activities**				
2.1	Final design				
2.1.1	Attend final design review meeting	H	H	W	W
2.2	Manufacturing qualification				
2.2.1	Prototype or major structural revision qualification (not applicable to existing validated prototypes) (IOGP S-618, Section 12, 7.2.5.6)	H	H	H	H
2.2.2	Prototype casting qualification (not applicable to existing validated prototypes) (IOGP S-618, 11.1.5.3.1)	H	H	H	H
3	**Externally provided products and services (outsourced)**				
3.1	External supply scope of prime movers, gear boxes and hoists	W	R	R	R
4	**Production and service provision**				
4.1	Inspection and test activities as per IOGP S-618				
4.1.1	Welding control, inspection and testing (IOGP S-618, 11.1.5.2, 11.2)	W	S	S	R
4.1.2	Post-weld heat treatment (IOGP S-618, 11.2.5)	W	S	S	-
4.1.3	Non-destructive examination (NDE) process (critical and non-critical) (IOGP S-618, 11.3, Table 29)	W	S	S	R
4.1.4	Protective coating system - surface preparation and primer coat application (IOGP S-618, 11.4)	W	S	R	R
4.1.5	Application of protective coatings (intended to apply to critical components / primary structure e.g. boom and pedestal adapter) (IOGP S-618, 11.4)	W	S	R	R
4.1.6	Inspection of protective coating systems (IOGP S-618, 11.4)	W	S	S	S
4.2	Component manufacture				
4.2.1	Fabrication structural and mechanical components				
4.2.1.1	Material identification, traceability and certification review as per Table B.1 (IOGP S-618, 11.1.2)	W	S	S	R

Table A.1 *(continued)*

Purchaser assessment activities		CAS			
		A	B	C	D
4.2.1.2	Fabrication dimensional control (IOGP S-618, 4.1)	W	S	S	R
4.2.1.3	Verification of swing-circle assembly surface flatness and finish (IOGP S-618, 7.4.2.4.1)	W	S	S	R
4.2.2	Assembly primary components inspection				
4.2.2.1	Component traceability and certification review as per Table B.1 (IOGP S-618, 11.1.2, Section 15)	W	S	S	R
4.2.2.2	Component identification system (i.e. tagging) (IOGP S-618, Section 16, Table 31, Table 32)	W	S	S	R
4.2.2.3	Close tolerance and critical dimensions inspections (IOGP S-618, 6.7)	H	W	S	R
4.2.2.4	Structural assembly as per API 2C	H	W	S	S
4.2.2.5	Mechanical assembly as per API 2C	H	W	S	R
4.2.2.6	Mechanical assembly as per API 2C	W	W	S	R
4.2.2.7	Instruments, controls and alarms installation as per API 2C (IOGP S-618, 10.1.1, 10.3.1, Table 23)	W	W	S	R
4.2.2.8	Audio and visual equipment (e.g. data recorder, cameras, radios, monitors) (IOGP S-618, 10.3.8.10)	S	S	S	S
4.2.2.9	Hazardous area equipment check (IOGP S-618, 7.5.4, 7.5.5)	W	S	S	S
4.2.2.10	Marking and labeling of controls, rigging, equipment and alarms (IOGP S-618, 7.2.5.3, 10.1.1.3, 10.3.2.4, 10.3.3.4, 10.3.8.8, G.10.2, G.13.2)	S	S	S	S
4.2.2.11	Platforms, walkways, ladders and maintenance access areas (IOGP S-618, 10.2.5, 10.3.8.8)	S	S	S	S
4.2.2.12	Cabin enclosures (IOGP S-618, 10.2.1 to 10.2.4)	S	S	S	S
4.2.2.13	Verification of maintenance area around prime mover (IOGP S-618, 10.3.8.8)	S	S	S	S
4.3	Final tests, including factory acceptance test (FAT)				
4.3.1	Hydraulic cleanliness flushing (if specified) (IOGP S-618, G.14)	W	W	S	R
4.3.2	Factory acceptance test (FAT) (IOGP S-618, 12.3)	H	H	H	H
4.3.3	Final weighing	W	W	R	R
5	**Final inspection**				
5.1	Conformance to purchase order				
5.1.1	Verify ship loose items, spares, and special tools as applicable (IOGP S-618, 11.5)	H	W	W	W
5.1.2	API Monogram, crane identification marking (IOGP S-618, Section 14, Figure 12)	W	W	W	W

Table A.1 *(continued)*

Purchaser assessment activities		CAS			
		A	B	C	D
5.2	Verify handling, packaging, and preservation	H	W	W	W
5.3	Release equipment for shipment (IOGP S-618, 4.1, 12.2)	H	H	H	H

Key

- **-** No intervention performed
- H Hold point
- W Witness point
- R Review
- S Surveillance

Annex B
(normative)
Certification and traceability requirements

Table B.1 provides the certification and traceability requirements for the equipment and component parts.

Table B.1 — Certification and traceability requirements

Item		Certificate type [a]	Traceability level [b]	Additional requirements
Crane equipment	Lifting equipment (e.g. hook and hook block, ropes) including lifting aides for installation and maintenance (e.g. engine removal frame/beam, installation of boom and pedestal adaptor)	3.1	Level II	Proof load certificates
	Assemblies with critical mechanical components (not individual valves, pumps, motors, gearboxes)	3.1	Level II	Class requirements may require Type 3.2 certification. Refer to IOGP S-618L, S618-IR-45, List of critical components, for applicable components
	Critical rigging components	3.1	Level II	Class requirements may require Type 3.2 certification. Refer to IOGP S-618L, S618-IR-45, List of critical components, for applicable components
Crane structural members	Critical structural members (e.g. pedestal and kingpost)	3.1	Level I	Class requirements may require Type 3.2 certification. Refer to IOGP S-618L, S618-IR-45, List of critical components, for applicable components
	Secondary and tertiary structural steel, grating, bolts and fittings	2.1	Level III	
Hoses (i.e. hydraulic and pneumatic)	Pressure test on hose fitting assembly (if specified)	3.1	Level II	Certificate to state the standard to which the hose assembly is manufactured and tested to
Pressure vessels (e.g. hydraulic/pneumatic accumulators)	Pressure vessels (e.g. hydraulic/pneumatic accumulators)	3.1	Level I	
Fuel tank and piping	Fuel tank and piping	3.1	Level II	Fuel tanks manufactured from 316L stainless steel (see IOGP S-618, 7.5.3.3)
Critical fasteners including bolts, stud bolts and nuts)	Critical fasteners including bolts, stud bolts and nuts	3.1	Level II	Fasteners classed as critical components (see IOGP S-618, Annex C)
Welding consumables	Critical welding consumables	3.1	Level I	
	Non-critical welding consumables	2.1	Level III	

Table B.1 *(continued)*

Item		Certificate type [a]	Traceability level [b]	Additional requirements
Electrical equipment and instruments, including cables and glands	Electrical equipment and instrumentation (e.g. fire and gas detection, telecoms, aviation warning lighting, general lighting, instrument tubing, solenoids, cables and glands, and power distribution)	2.1	Level III	Electromagnetic compatibility (EMC) certificates

[a] Inspection certificates shall be provided in accordance with ISO 10474 or EN 10204.

[b] Traceability levels are defined in the following table.

Level	Traceability	Definition
Level I	Full traceability	Material is uniquely identified and its history tracked from manufacture through stockists (where applicable) to the manufacturer and to the actual position on the equipment with the specific location defined on a material placement record (the traceability to a specific location only applies to skids / packaged equipment, not to bulks).
Level II	Type traceability	The manufacturer maintains a system to identify material throughout manufacture, with traceability to a material certificate.
Level III	Compliance traceability	The manufacturer maintains a system of traceability that enables a declaration of compliance to be issued by the manufacturer.

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