

Date of issue:

April 2025

Affected publication:

IOGP S-700J, Supplementary Specification to API Standard 671 for Special-purpose Couplings, Second Edition, April 2024

ADDENDUM 1

This addendum (Version 2.01) replaces Edition 2.0 published in April 2024.

List of updates

Section	Update
H.2.12	“If specified, “ deleted from addition to first paragraph

Supplementary Specification to API Standard 671 for Special-purpose Couplings

NOTE This version (S-700J) of the specification document provides the justification statements for each technical requirement, but is otherwise identical in content to S-700.

Revision history

VERSION	DATE	PURPOSE
2.01	April 2025	Addendum 1
2.0	April 2024	Second Edition
1.0	May 2020	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).

Disclaimer

Whilst every effort has been made to ensure the accuracy of the information contained in this publication, neither IOGP nor any of its Members past present or future warrants its accuracy or will, regardless of its or their negligence, assume liability for any foreseeable or unforeseeable use made thereof, which liability is hereby excluded. Consequently, such use is at the recipient's own risk on the basis that any use by the recipient constitutes agreement to the terms of this disclaimer. The recipient is obliged to inform any subsequent recipient of such terms.

Please note that this publication is provided for informational purposes and adoption of any of its recommendations is at the discretion of the user. Except as explicitly stated otherwise, this publication must not be considered as a substitute for government policies or decisions or reference to the relevant legislation relating to information contained in it.

Where the publication contains a statement that it is to be used as an industry standard, IOGP and its Members past, present, and future expressly disclaim all liability in respect of all claims, losses or damages arising from the use or application of the information contained in this publication in any industrial application.

Any reference to third party names is for appropriate acknowledgement of their ownership and does not constitute a sponsorship or endorsement.

Copyright notice

The contents of these pages are © International Association of Oil & Gas Producers. Permission is given to reproduce this report in whole or in part provided (i) that the copyright of IOGP and (ii) the sources are acknowledged. All other rights are reserved. Any other use requires the prior written permission of IOGP.

These Terms and Conditions shall be governed by and construed in accordance with the laws of England and Wales. Disputes arising here from shall be exclusively subject to the jurisdiction of the courts of England and Wales.

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 May 2020.

Due to technical writing requirements leading to extensive changes, this second edition should be treated as a new document.

Table of Contents

Foreword.....	1
Introduction	3
1 Scope	5
2 Normative References.....	5
3 Terms, Definitions, Acronyms, and Abbreviations	5
3.1 Terms and Definitions	5
3.2 Acronyms and Abbreviations	5
4 Requirements	6
4.1 Units of Measure	6
5 Coupling Selection.....	6
6 Coupling Design	6
8 Coupling Requirements.....	7
8.1 Metallic Flexible-element Couplings.....	7
8.6 Hubs	8
8.12 Dynamics.....	8
9 Balance.....	9
9.3 Balance Criteria.....	9
9.4 Trim Balance Holes	11
10 Materials	11
11 Accessories	11
12 Manufacturing Quality, Inspection, Testing, and Preparation for Shipment.....	12
12.1 Manufacturing Quality	12
12.5 Preparation for Shipment	12
Annex G (informative) Example of the Determination of Potential Unbalance.....	14
Annex H (normative) Coupling Guards.....	15
Annex K (normative) Procedure for Residual Unbalance Check	16
Annex L (normative) Torque Measuring System.....	17
Bibliography	19

List of Figures

Figure L.1 — Coupling Direction of Rotation and Power Flow.....	18
---	----

Introduction

The purpose of the IOGP S-700 specification is to define a minimum common set of requirements for the procurement of special-purpose couplings in accordance with API Standard 671, Fifth Edition, August 2020, Special-purpose Couplings for Petroleum, Chemical and Gas Industry Services, for application in the petroleum and natural gas industries.

The IOGP S-700 specification documents follow a common structure (as shown below) comprising a specification, also known as a technical requirements specification (TRS), a procurement data sheet (PDS), an information requirements specification (IRS) and a quality requirements specification (QRS). These four specification documents, together with the purchase order, define the overall technical specification for procurement.



JIP33 Specification for Procurement Documents Supplementary Technical Requirements Specification (TRS)

This specification is to be applied in conjunction with the supporting PDS, IRS and QRS as follows.

IOGP S-700: Supplementary Specification to API Standard 671 for Special-purpose Couplings

This specification defines technical requirements for the supply of the equipment and is written as an overlay to API Standard 671, following the API Standard 671 clause structure. Clauses from API Standard 671 not amended by this specification apply as written. Modifications to API Standard 671 defined in this specification are introduced by a description that includes the type of modification (i.e. Add, Replace or Delete) and the position of the modification within the clause.

NOTE Lists, notes, tables, figures, equations, examples and warnings are not counted as paragraphs.

IOGP S-700D: Procurement Data Sheet for Special-purpose Couplings (API)

The PDS defines application-specific requirements. The PDS is applied during the procurement cycle only and does not replace the equipment data sheet. The PDS may also include fields for supplier-provided information required as part of the purchaser's technical evaluation. Additional purchaser-supplied documents may also be incorporated or referenced in the PDS to define scope and technical requirements for enquiry and purchase of the equipment.

IOGP S-700L: Information Requirements for Special-purpose Couplings (API)

The IRS defines information requirements for the scope of supply. The IRS includes information content, format, timing and purpose to be provided by the supplier, and may also define specific conditions that invoke the information requirements.

IOGP S-700Q: Quality Requirements for Special-purpose Couplings (API)

The QRS defines quality management system requirements and the proposed extent of purchaser conformity assessment activities for the scope of supply. Purchaser conformity assessment activities are defined through the selection of one of four generic conformity assessment system (CAS) levels on the basis of evaluation of the associated service and supply chain risks. The applicable CAS level is specified by the purchaser in the PDS or in the purchase order.

The specification documents follow the editorial format of API Standard 671 and, where appropriate, the drafting principles and rules of ISO/IEC Directives Part 2.

The PDS and IRS are published as editable documents for the purchaser to specify application-specific requirements. The TRS and QRS are fixed documents.

The order of precedence of documents applicable to the supply of the equipment, with the highest authority listed first, shall be as follows:

- a) regulatory requirements;
- b) contract documentation (e.g. purchase order);
- c) purchaser-defined requirements (e.g. PDS, IRS and QRS);
- d) this specification;
- e) API Standard 671.

1 Scope

Add to second paragraph

This specification modifies only content applicable to metallic flexible-element type couplings.

Justification

This statement is written to clarify what content of API Standard 671 has been modified by this specification.

2 Normative References

Add to first paragraph

The following documents are referred to in this specification, the PDS (IOGP S-700D) or the IRS (IOGP S-700L) in such a way that some or all of their content constitutes requirements of these specification documents.

Add to section

IEC 60079 (all parts), *Explosive atmospheres*

IOGP S-715, *Supplementary Specification to NORSOK M-501 Coating and Painting for Offshore, Marine Coastal and Subsea Environments*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

NFPA 70, *National Electrical Code*

3 Terms, Definitions, Acronyms, and Abbreviations

3.1 Terms and Definitions

3.1.50

spacer gap length

Add new NOTE 2

NOTE 2 "Spacer gap length" is also referred to as "distance between flange faces (DBFF) (cold)".

3.2 Acronyms and Abbreviations

Add to section

CAS	conformity assessment system
DBFF	distance between flange faces
IRS	information requirements specification
PDS	procurement data sheet
QRS	quality requirements specification
TRS	technical requirements specification

4 Requirements

4.1 Units of Measure

Replace section with

The specified units of measurement (SI or USC) shall be used in all data, drawings and maintenance dimensions.

Justification

The PDS does not have separate sheets for SI and USC units, so it is necessary to provide a means in the PDS for the purchaser to specify their preferred units of measure. This replacement directs the supplier to the PDS for the determination of the preferred units of measure rather than this being defined by the purchaser's selection of either the SI or USC datasheet from Annex A.

5 Coupling Selection

5.2

Add new section

5.2.3

Metallic flexible-element special-purpose couplings shall have a design life of at least 20 years.

NOTE Couplings are selected in accordance with the application and designed for infinite life under design operating conditions. Abnormal operating conditions can lead to premature coupling failure.

Justification

This requirement aligns this specification with other API major driven equipment standards by specifying a design life of at least 20 years. Abnormal operating conditions are not considered in this specification.

6 Coupling Design

6.7

In first sentence, replace "determined based on the torque required by the driven machine at the rated operating point and the corresponding speed rather than at the normal operating point (per 6.6a) using Equation (5)" with

the highest calculated value of T_s for all operating points and corresponding speeds, including the future conditions, using Equation (5)

Justification

There are specified operating points and corresponding speeds for most upstream applications. This replacement ensures that the coupling vendor evaluates all of them and finds the highest torque rating that is to be used to calculate the service factor.

6.13

Delete "If specified," from first sentence

Justification

This deletion removes a repetitive instruction to the vendor. Possible transient events are specified in the PDS and the coupling is therefore required to be compliant with this section.

In first sentence, replace "a specified transient torque" with

the specified maximum transient torque

Justification

This amendment improves the clarity of the requirement by directing the supplier to the specified maximum transient torque.

Add after first paragraph

For equipment trains with electric motor drivers or electrical generators, transient events shall include the following:

- phase-to-phase short circuit;
- phase-to-ground short circuit;
- motor breaker re-closure;
- faulty synchronization to the grid.

Justification

This requirement ensures that the coupling is rated for all potential sources of transient torque that can arise in equipment trains with electric motor drivers or electrical generators in order to prevent damage to the coupling and possibly to the driver and/or driven equipment.

8 Coupling Requirements

8.1 Metallic Flexible-element Couplings

8.1.6

8.1.6.2

Delete list item d)

Justification

Section 8.1.7 has been added to prohibit the use of external cooling systems for both the coupling and the coupling guard, including any design feature that allows the transmission of load for a limited period in the event of a complete flexible element failure to allow safe shutdown of equipment. This requirement conflicts with section 8.1.7 and has been deleted.

Add new section

8.1.7

The coupling and coupling guard shall not use an external cooling system.

NOTE The coupling includes design features described in 8.1.6.

Justification

This amendment minimizes the complexity associated with the coupling and coupling guard requiring a cooling system. This includes any design feature described in 8.1.6.

8.6 Hubs

8.6.4 Alternate Hub Design

Delete section 8.6.4

Justification

Alternative coupling-to-shaft juncture methods can present an unquantified risk. The deletion of this requirement prohibits their use and therefore removes any such risks.

8.12 Dynamics

8.12.1

In first sentence, replace "single element convoluted diaphragm coupling" with
special-purpose coupling

Justification

This requirement is specifically applicable to single-element convoluted diaphragm couplings, but the ANF applies to all special-purpose couplings.

Delete NOTE

Justification

This note is contradictory to the amendments made to 8.12.1 and has therefore been deleted.

8.12.2

Delete "assuming infinitely stiff supports" from first sentence

Justification

The assumption of "infinitely stiff supports" would overestimate the stiffness for flexible element couplings and is more appropriate for rigid couplings.

In first sentence, replace "a more rigorous analysis based on actual geometry (for example, finite-element analysis)" with

finite-element analysis based on actual geometry

Justification

The term "more rigorous analysis" is vague and leaves the interpretation of what constitutes a more rigorous analysis method to the vendor.

Replace second sentence with

The vendor shall perform the lateral natural frequency analysis and provide details of the assumptions made in the calculations.

Justification

The lateral natural frequency analysis is a vendor deliverable in the IRS. This replacement clarifies that the vendor is to perform these calculations.

9 Balance

9.3 Balance Criteria

9.3.5 Component Balance

9.3.5.4

In first sentence, replace "except for" with

including

Justification

This replacement ensures the accuracy of the balancing of all coupling components. Additional unbalance may be introduced if the keyways are machined after balancing. Very little manufacturing error on the hub keyway can introduce a non-trivial unbalance compared to the API allowable unbalance.

Delete second sentence

Justification

The replacement of "except for" with "including" in 9.3.5.4, first sentence of first paragraph requires that the machining of all components, including keyways, is to be completed before balancing. This requirement is in contradiction with that replacement, so it has been deleted.

9.3.5.6

In first sentence, replace "or" with

and

Justification

The criterion given in the later part of the requirement (10 % of the allowable rotor unbalance) is applicable to a heavy coupling with a lighter rotor which is not a common set-up. With a heavy rotor and a light coupling, such as in the typical refinery set-up, the 10 % allowable rotor unbalance would never be necessary. It applies when the rotor weight is less than 10 % of the coupling weight.

In first sentence, replace "shaft" with

rotor

Justification

This replacement corrects the nomenclature from "shaft" to "rotor" as is common in other API standards. Unbalance is caused not only by the shaft but also due to the rotor assembly of which the shaft is a component.

9.3.6 Assembly Check Balance

In second sentence of first paragraph, replace "or does" with

and

Justification

The criterion given in the later part of the requirement to not exceed the allowable shaft unbalance at the closest journal location is applicable for a heavy coupling with a lighter rotor, which is not a common set-up. With a heavy rotor and a light coupling, such as in the typical refinery set-up, the 10 % allowable rotor unbalance would never be necessary. This replacement covers very light rotors where 10 % of the journal load is lower than equations (10) to (12), meaning that the allowable residual balance will be lower.

In second sentence of first paragraph, replace "shaft" with

rotor

Justification

This replacement corrects the nomenclature from "shaft" to "rotor" as is common in other API standards. Unbalance is caused not only by the shaft but also due to the rotor assembly of which the shaft is a component.

9.3.7 Assembly Balance

9.3.7.4

In first sentence, replace "or does" with

and

Justification

The criterion given in the later part of the requirement to not exceed the allowable shaft unbalance at the closest journal location is applicable for a heavy coupling with a lighter rotor, which is not a common set-up. With a heavy rotor and a light coupling, such as in the typical refinery set-up, the 10 % allowable rotor unbalance would never be necessary.

In first sentence, replace "shaft" with

rotor

Justification

This replacement corrects the nomenclature from "shaft" to "rotor" as is common in other API standards. Unbalance is caused not only by the shaft but also due to the rotor assembly of which the shaft is a component.

9.3.11 Balance Mandrels

9.3.11.4

Replace "should" with

shall

Justification

This replacement clarifies that with heavy mandrels, when determining the coupling component residual unbalance, the residual unbalance of the mandrel has to be taken into account first.

9.3.11.6

In second paragraph, replace "should" with

shall

Justification

Making this recommendation a requirement ensures that the location of TIR readings is consistent for comparison purposes.

9.4 Trim Balance Holes

9.4.1

Delete "If specified," from first sentence

Justification

Threaded holes are required for the trim-balance holes to be capable of correcting the coupling component unbalance. This deletion makes the provision of such holes mandatory.

10 Materials

10.5

Delete second sentence

Justification

This deletion minimizes the risk of fretting and atmospheric corrosion, to the metallic flexible elements, which could lead to premature failure of the coupling. This in turn reduces OpEx and loss of production.

Delete third sentence

Justification

The use of coated non-corrosion-resistant materials for the flexible element is prohibited by the deletion of 10.5, second sentence, so specifying the details of such coating is no longer relevant.

11 Accessories

Add new section

11.4

The hydraulic pump shall be rated for at least the hydraulic pressures required for installation and removal of hydraulically fitted hubs.

Justification

This requirement ensures that the pressurized components of the hydraulic hub installation and removal tools are fit for purpose and safe to use.

Add new section

11.5

The pressure rating of hoses and fittings shall be greater than or equal to the rating pressure of the hydraulic pump.

Justification

This requirement confirms the minimum allowable pressure rating for the pump hoses and fittings associated with hydraulically fitted hubs.

12 Manufacturing Quality, Inspection, Testing, and Preparation for Shipment

12.1 Manufacturing Quality

12.1.2

Replace first sentence with

Repair of defects by welding or plating shall not be allowed.

Justification

This replacement prohibits the repair of any coupling parts by welding and plating as the fatigue performance of such repairs can be unpredictable.

Delete second sentence

Justification

12.1.2, first sentence of first paragraph prohibits the repair of any coupling parts using welding or plating. With this deletion, there are no defects or parts that could be considered repairable at the vendor's discretion, so this sentence is superfluous.

12.5 Preparation for Shipment

12.5.5

Replace second sentence with

The packing container shall be marked with the tag number, shipping weight and purchase order number.

Justification

This replacement provides the minimum requirements for the marking of the coupling container.

Add to section

The character height of the markings on the packing container shall be a minimum of 75 mm (3 in.).

Justification

This requirement provides the minimum character height for the markings on the coupling container to ensure legibility.

Add new section

12.5.10

Identification markings shall be included in the detailed coupling drawing.

Justification

The inclusion of identification markings in the detailed coupling drawing enables the purchaser to verify that the markings are correct before they are added to the coupling.

Annex G (informative)

Example of the Determination of Potential Unbalance

G.3 Balancing

In list item a), replace "ISO 1940-1:2003" with

ISO 21940-11:2016

Justification

ISO 1940-1:2003 has been withdrawn and replaced with ISO 21940-11:2016.

In list item b), replace "ISO 1940-1:2003" with

ISO 21940-11:2016

Justification

ISO 1940-1:2003 has been withdrawn and replaced with ISO 21940-11:2016.

In list item c), replace "ISO 1940-1:2003" with

ISO 21940-11:2016

Justification

ISO 1940-1:2003 has been withdrawn and replaced with ISO 21940-11:2016.

In list item d) NOTE, replace "ISO 1940-1:2003" with

ISO 21940-11:2016

Justification

ISO 1940-1:2003 has been withdrawn and replaced with ISO 21940-11:2016.

Annex H (normative)

Coupling Guards

H.2 General Requirements for All Guards

H.2.12

Add to first paragraph

The guard shall be provided with protection to prevent personnel from contacting the guard when the maximum enclosure/guard surface temperature at maximum continuous speed is greater than 60 °C (140 °F).

Justification

In cases when the maximum enclosure/guard surface temperature at maximum continuous speed is greater than 60 °C (140 °F) and a temperature below this cannot be achieved, this requirement allows the purchaser to specify whether protection to prevent personnel from contacting the guard is required.

H.2.13

In first sentence, replace "H.2.13" with

H.2.12

Justification

The requirement to calculate the maximum coupling guard surface temperature at the maximum continuous speed is covered by H.2.12 rather than H.2.13 which covers the maximum internal enclosure temperature.

Replace second sentence with

The vendor shall calculate the maximum enclosure temperature at the maximum continuous speed.

Justification

The maximum enclosure temperature at the maximum continuous speed calculation is a vendor deliverable in the IRS. This replacement clarifies that the vendor is to perform these calculations.

H.2.17

Delete section H.2.17

Justification

This requirement conflicts with 8.1.7 which prohibits external cooling systems.

Annex K (normative)

Procedure for Residual Unbalance Check

K.4 Residual Unbalance Check

K.4.1 General

K.4.1.1

Delete NOTE

Justification

Calibration of the balancing machine is performed before the balancing process starts. The residual unbalance check is performed after the final correction of unbalance is performed.

K.4.2 Procedure

K.4.2.1

Delete NOTE

Justification

This note provides an example for identifying the trial weight magnitude as per Table K.1. Figure K.2 already provides an example calculation so this note is not required. Also, the use of "£" instead of "=" is understood to be a typographical error.

K.4.2.3

Replace section (including NOTE) with

Before starting the residual unbalance check, the readings of the balancing machine shall be stable with no faulty sensors or displays.

Justification

This ensures the correct functioning of sensors and displays before the residual unbalance check starts. The balancing tolerance or balancing machine calibration is checked prior to rather than during the balancing activity.

Annex L (normative)

Torque Measuring System

L.2 Cyclic Torque (Torsional) Monitoring Capability (If Specified)

Replace list item b) with

- b) accuracy of torsional measurement;

Justification

Cyclic loading and static/steady state torque have different ranges of amplitude so the use of different units should be a standard requirement.

Replace list item c) with

- c) units of measurement;

Justification

Cyclic loading and static/steady state torque have different ranges of amplitude so the use of different units should be a standard requirement.

L.4 Accuracy

Replace second sentence of fourth paragraph with

The degradation in accuracy of the torque measuring system with respect to time shall be provided.

Justification

This requirement ensures that if the accuracy of the torque measuring system is expected to degrade over time, information regarding the rate of expected degradation is provided in order to allow the purchaser to account for this.

Add to section

If specified, the torque measuring system shall have a self-test feature to assist in determining the degradation of accuracy of the torque measuring system.

Justification

L.4, NOTE 1 states that some torque measuring systems include a self-test feature. This requirement and the corresponding PDS element enable the purchaser to specify when this feature is required.

Delete NOTE 1

Justification

L.4, first sentence of fifth paragraph and a corresponding PDS element have been added to allow the purchaser to specify if a self-test feature is required. This requirement contains the information contained within this note, so it has been deleted to avoid duplication.

L.5 Effect of Rotordynamics

Replace section with

Changes to the mass elastic properties of the coupling resulting from the incorporation of the torque meter shall be included in the rotordynamic analysis of the drive train.

Justification

If the coupling design changes are mass elastic due to the incorporation of the torque meter, the rotor dynamics analysis is no longer valid and needs to be repeated to account for the changes. This is a mandatory requirement as failure to do this could result in imbalance. This replacement also clarifies the interpretation of the requirement. The addition of a torque meter always causes physical changes to the coupling, however, there may not be any mass elastic properties changes. Only changes in the mass elastic properties affect the rotor dynamics of the drive train. The term "rotordynamic analysis of the drive train" is more specific than "system rotordynamics" since the rotordynamics for the entire drive train is required.

L.10 Additional Information

Add to list item e)

in accordance with Figure L.1

Justification

Figure L.1 provides a reference to allow the direction of rotation and power flow to be specified.

Add new Figure L.1

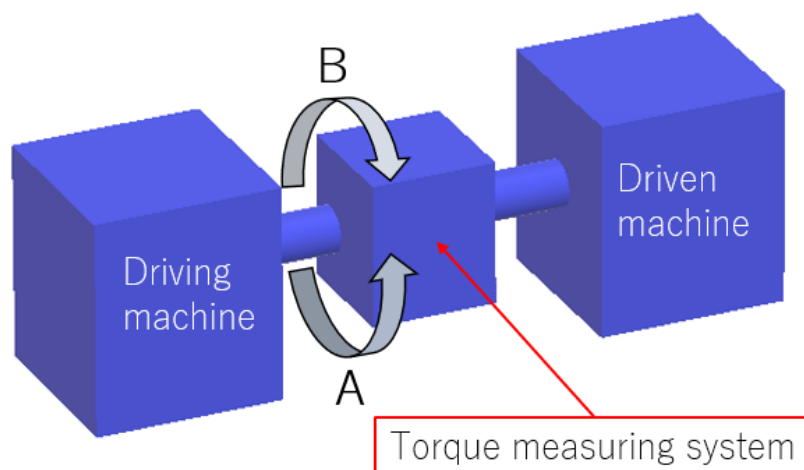


Figure L.1 — Coupling Direction of Rotation and Power Flow

Justification

Figure L.1 provides a reference to allow the direction of rotation and power flow to be specified.

Bibliography

Add to start of Bibliography

The following documents are informatively cited in the text of this specification, API Standard 671, the PDS (IOGP S-700D) or the IRS (IOGP S-700L).

Add to Bibliography

- [6] EN 10204, *Metallic products – Types of inspection documents*
- [7] ISO 9001, *Quality management systems — Requirements*
- [8] ISO 10005, *Quality management — Guidelines for quality plans*
- [9] ISO 10474, *Steel and steel products — Inspection documents*
- [10] ISO 21940-11:2016, *Mechanical vibration — Rotor balancing — Part 11: Procedures and tolerances for rotors with rigid behaviour*
- [11] ISO/IEC 17000, *Conformity assessment — Vocabulary and general principles*
- [12] ISO/IEC 17020:2012, *Conformity assessment — Requirements for the operation of various types of bodies performing inspection*
- [13] ISO/IEC Directives, Part 2, *Principles and rules for the structure and drafting of ISO and IEC documents*

Delete from Bibliography

- [1] ISO 1940-1:2003, *Mechanical vibration — Balance quality requirements for rotors in a constant (rigid) state — Part 1: Specification and verification of balance tolerances*

Registered Office

City Tower
Level 14
40 Basinghall Street
London EC2V 5DE
United Kingdom
T +44 (0)20 3763 9700
reception@iogp.org

Brussels Office

Avenue de Tervuren 188A
B-1150 Brussels
Belgium
T +32 (0)2 790 7762
reception-europe@iogp.org

Houston Office

15377 Memorial Drive
Suite 250
Houston, TX 77079
USA
T +1 (713) 261 0411
reception-americas@iogp.org

www.iogp.org

