Special-purpose Couplings for Petroleum, Chemical, and Gas Industry Services

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Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, Suite 1100, Washington, DC 20001, standards@api.org.

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Introduction

Users of this standard should be aware that further or differing requirements may be needed for individual applications. This standard is not intended to inhibit a vendor from offering, or the purchaser from accepting alternative equipment or engineering solutions for the individual application. This may be particularly appropriate where there is innovative or developing technology. Where an alternative is offered, the vendor should identify any variations from this standard and provide details.

This standard requires the purchaser to specify certain details and features.

A bullet (●) at the beginning of a paragraph indicates that either a decision is required or further information is to be provided by the purchaser. This information should be indicated on the datasheet(s), typical examples of which are included as Annex A; otherwise it should be stated in the quotation request or in the order.

Special-purpose Couplings for Petroleum, Chemical, and Gas Industry Services

1 Scope

This standard specifies the requirements for couplings for the transmission of power between the rotating shafts of two machines in special-purpose applications in the petroleum, petrochemical, and natural gas industries. Such applications are typically in large and/or high-speed machines, in services that can be required to operate continuously for extended periods, are often unspared and are critical to the continued operation of the installation. By agreement, it can be used for other applications or services.

Couplings covered by this standard are designed to accommodate parallel (or lateral) offset, angular misalignment, and axial displacement of the shafts without imposing unacceptable mechanical loading on the coupled machines. It is applicable to gear, metallic flexible element, quill-shaft and torsionally resilient type couplings. Torsional damping and resilient type couplings are detailed in Annex B, gear-type couplings are detailed in Annex C, and quill-shaft type couplings are detailed in Annex D.

This standard covers the design, materials of construction, manufacturing quality, inspection, and testing of special-purpose couplings.

This standard does not define criteria for the selection of coupling types for specific applications.

This standard is not applicable to other types of couplings, such as clutch, hydraulic, eddy-current, rigid, radial spline, chain, and bellows types.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI/AGMA 9000,[1] *Flexible Couplings—Potential Unbalance Classification*

ANSI/AGMA 9002-C14, *Bores and Keyways for Flexible Couplings (Inch Series)*

ANSI/AGMA 9003-B08, *Flexible Couplings—Keyless Fits (Inch Series)*

ANSI/AGMA 9004-B08, *Flexible Couplings—Mass Elastic Properties and other Characteristics (Inch Series)*

ANSI/AGMA 9103-B08, *Flexible Couplings—Keyless Fits (Metric Series)*

ANSI/AGMA 9104-A06, *Flexible Couplings—Mass Elastic Properties and other Characteristics (Metric Series*)

ANSI/AGMA 9112-B15, *Bores and Keyways for Flexible Couplings (Metric Series)*

ANSI/ASME B1.1,[2] *Unified inch screw threads, UN and UNR thread form*

ANSI B11.19-2010, *Performance Requirements for Safeguarding*

BS EN ISO 80079-36:2016, *Explosive atmospheres. Non-electrical equipment for explosive atmospheres. Basic method and requirements*

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[1] American Gear Manufacturers Association, 500 Montgomery Street, Suite 350, Alexandria, Virginia 22314-1560, www.agma.org.

[2] ASME International, Three Park Avenue, New York, New York 10016-5990, www.asme.org.