American Gear Manufacturers Association

ANSI/AGMA 9003-C17
(Revision of ANSI/AGMA 9003-B08)

American National Standard

Flexible Couplings – Keyless Fits

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ABSTRACT

This standard presents information on design, dimensions, tolerances, inspection, mounting, removal, and equipment that is in common use with keyless tapered and keyless straight (cylindrical) bore hubs for flexible couplings.

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Foreword

[The foreword, footnotes and annexes, if any, in this document are provided for informational purposes only and are not to be construed as a part of AGMA 9003-C17, *Flexible Couplings – Keyless Fits*.]

This standard was developed after intensive study of existing practices, standards and literature. The intent of this document is to offer to rotating equipment designers and users a standard for design practice and dimensions regarding keyless fits for flexible couplings. In general, the information in this standard is a consolidation of the most common practices and standards currently in existence.

This AGMA standard and related publications are based on typical or average data, conditions, or applications.

Work was begun on ANSI/AGMA 9003-A91 in 1985 and was approved by the AGMA membership in February 1991. It was approved as an American National Standard on May 20, 1991.

ANSI/AGMA 9003-B08 split the original standard into inch and metric versions (ANSI/AGMA 9103-B08), updated Annex B and added an example calculation as Annex D.

The first draft of ANSI/AGMA 9003-B08 was made in October 2004. It was approved by the AGMA membership in October 2007. It was approved as an American National Standard on May 20, 2008.

ANSI/AGMA 9003-C17 provides a revised description of the effective hub to shaft engagement length, and Figure 5c has been deleted as a result.

The first draft of ANSI/AGMA 9003-C17 was made in August 2016. It was approved by the membership in November 2017 and as an American National Standard on December 6, 2017.

Suggestions for improvement of this standard will be welcome. They may be submitted to tech@agma.org.

PERSONNEL of the AGMA Flexible Couplings Committee

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American National Standard –

Flexible Couplings – Keyless Fits

1 Scope

This standard presents information on design, dimensions, tolerances, inspection, mounting, removal, and equipment that is in common use with keyless tapered and keyless straight (cylindrical) bore hubs for flexible couplings. Calculated hub stress values and hub to shaft torque capacities are nominal values. This standard does not present a rigorous analysis of the components.

1.1 Applicability

This Standard applies only to hubs and solid shafts made of steel, which generally have material properties of modulus of elasticity equal to 30×10^6 lb/in^2, density equal to 0.283 lb/in^3, and thermal expansion coefficient equal to 6.36×10^{-6} in/in/°F.

1.2 Exclusions

This standard does not apply to couplings attached to shafts with keyways, splines, split hubs or polygon bores.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

ANSI/AGMA 9002-B04, *Bores and Keyways for Flexible Couplings (Inch Series)*

ANSI/AGMA 9009-D02, *Flexible Couplings – Nomenclature for Flexible Couplings*

3 Terms and symbols

3.1 Terms

The terms used, wherever applicable, conform to the following Standards:

ANSI Y10.3-1968, *Letter Symbols for Quantities Used in Mechanics of Solids*

ANSI/AGMA 1012-G05, *Gear Nomenclature, Definition of Terms with Symbols*

3.2 Symbols

The symbols used in the formulas are shown in Table 1.

NOTE: The symbols and definitions used in this standard may differ from other AGMA standards. The user should not assume that familiar symbols can be used without a careful study of these definitions.

