



American
Gear Manufacturers
Association

Technical Resources

ANSI/AGMA 9002-C14
(Revision of ANSI/AGMA 9002-B04)

American National Standard

Bores and Keyways for Flexible Couplings (Inch Series)

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Standard**

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ANSI/AGMA 9002-C14

[Revision of ANSI/AGMA 9002-B04]

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ABSTRACT

This standard describes sizes and tolerances for straight and tapered bores and the associated keys and keyways, as furnished in flexible couplings. The data in the standard considers commercially standard coupling bores and keyways, not special coupling bores and keyways that may require special tolerances.

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

ANSI/AGMA 9002-A86 consolidated and superseded the information found in AGMA 511.02, *Bore and Keyway Sizes for Flexible Couplings*, AGMA 512.03, *Keyways for Flexible Couplings*, and AGMA 513.01, *Taper Bores for Flexible Couplings*.

The intent of ANSI/AGMA 9002-A86 was to offer designers and users standard dimensions and tolerances for inch bores, keys and keyways for flexible couplings. In general, the dimensions contained in ANSI/AGMA 9002-A86 represented the dimensions and tolerances used within the industry for pre-engineered couplings. It proved useful in establishing dimensions and tolerances for custom engineered coupling products.

ANSI/AGMA 9002-A86 was developed after intensive study of previously existing standards, literature, design practices and manufacturing procedures for bores and keyways of unmounted flexible coupling hubs and similar components. The study revealed that much of the data contained in previously existing standards and specifications was predicated upon practice and procedures that pertained more to keyways in the shaft members than to keyways in coupling hub bores. The information contained with ANSI/AGMA 9002-A86 did not necessarily agree with some commonly used specifications. ANSI/AGMA 9002-A86 was based upon the design criteria related to bores and keyways in coupling hubs that had evolved over many years of successful industry practice.

ANSI/AGMA 9002-A86 presented pertinent data on dimensions, tolerances, and sizes for straight bores, tapered bores, keys and keyways for unmounted industrial flexible couplings. Decimal equivalents of fractions were shown to a maximum of four decimal places and were not meant to imply tolerances. Inspection methods for tapered bores and keyways were included in the appendices. The appendices also included the recommended design practice for tapered shafts for use with flexible couplings.

ANSI/AGMA 9002-B04 supersedes the information from ANSI/AGMA 9002-A86, *Bores and Keyways for Flexible Couplings (Inch Series)*.

This revised version of the standard includes an extension of the bore sizes (through 18 inches). It has also been rearranged and clarified to make it easier to use. One annex was broken into two annexes to clarify the information presented. Two new annexes were added: "Straight bore inspection methods" and "Coupling hub bores required to obtain ANSI B4.1 "Preferred Limits and Fits for Cylindrical Parts" FN2 class interference fits with AGMA 9002-B04 recommended shaft tolerances".

In ANSI/AGMA 9002-C14, the "measurement of bores" section was moved from an annex to clause 4, now becoming a part of the standard. Bores are to be measured prior to cutting the keyway. A discussion and a new annex G is now included covering transitional fits bridging the gap between clearance and interference fits.

The first draft of ANSI/AGMA 9002-C14 was made in April, 2011. It was approved by the AGMA membership in May 2014. It was approved as an American National Standard on February 4, 2015.

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

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American National Standard -

Bores and Keyways for Flexible Couplings (Inch Series)

1 Scope

This standard presents inch dimensions, tolerances, and sizes for straight bores, tapered bores, single keys and keyways for unmounted industrial flexible couplings. The keys are square or rectangular. This specification includes index tolerances for multiple keyways.

Inspection methods for straight and tapered bores and keyways are included in the annexes. The annexes also include the recommended design practice for tapered shafts for use with flexible couplings.

1.1 Application

This standard is applicable to couplings as defined in ANSI/AGMA 9009-D02, *Flexible Couplings - Nomenclature for Flexible Couplings*, with inch bores and keyways.

1.2 Exceptions

This standard does not apply to:

- couplings attached to shafts without keys, see ANSI/AGMA 9003-B08;
- couplings attached to shafts with tapered bushings or keyless shaft locking devices;
- shafts and bores with tapered keys;
- inch bores with metric keyways;
- metric bores with inch keyways;
- metric bores with metric keyways; or
- shaft keyseat tolerances.

See ANSI/AGMA 9112-B14 for metric bores with metric keyways.

2 Normative references

The following standard contains provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the edition indicated was 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 edition of the standard indicated below.

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

3 Symbols and definitions

3.1 Symbols

The symbols used in this standard are shown in Table 1.

NOTE: The symbols and terms contained in this document may vary from those used in other AGMA standards. Users of this standard should assure themselves that they are using these symbols and terms in the manner indicated herein.