American
Gear Manufacturers
Association

Technical Resources

Revision of AGMA 510.03
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American National Standard

Flexible Couplings – Nomenclature for Flexible Couplings

ANSI/AGMA 9009-D02

American National Standard

Flexible Couplings - Nomenclature for Flexible Couplings
ANSI/AGMA 9009-D02
(Revision of AGMA 510.03)

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Approved June 27, 2002

ABSTRACT

This standard presents the nomenclature common to flexible couplings as used in mechanical power transmission drives. It does not address nomenclature for flexible shafts, quill shafts, universal joints or devices which exhibit slip such as clutches, fluid couplings, magnetic couplings or torque converters. The standard was prepared to reduce the language barriers that arise between designers, manufacturers and users when attempting to designate or describe various types of flexible couplings and their elements.

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Contents

Figures

Tables

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 Standard 9009–D02, *Flexible Couplings – Nomenclature for Flexible Couplings*.]

This Standard was prepared to reduce the language barriers that arise between designers, manufacturers, and users when attempting to designate or describe various types of flexible couplings and their elements.

The first draft copy of AGMA 510.01 was prepared by the Flexible Coupling Nomenclature Committee in October, 1963. It was accepted as an AGMA Standard on July 9, 1965. AGMA 510.01 was editorially changed and approved as AGMA 510.02 in August 1969.

AGMA 510.03 was approved in October, 1983. The revised standard contained an improved clarity in definitions, simplification of nomenclature, addition of coupling physical property terms and units including SI Units, and introduction of an axial travel term for couplings.

ANSI/AGMA 9009–D02 is a revision of AGMA 510.03, and was approved by the AGMA membership in May 2001. It was approved as an American National Standard on June 27, 2002. This revision includes additional nomenclature from standards developed since the previous revision.

Suggestions for improvement of this standard will be welcome. They should be sent to the American Gear Manufacturers Association, 1500 King Street, Suite 201, Alexandria, Virginia 22314.

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American National Standard –

Flexible Couplings – Nomenclature for Flexible Couplings

1 Scope

1.1 Applicability

This standard provides nomenclature common to flexible couplings and their application as used in mechanical power transmission drives.

1.2 Exceptions

The following coupling types are not included in this standard:

- flexible shaft;
- quill shaft;
- universal joint;
- devices which exhibit slip such as clutches, fluid couplings, magnetic couplings and torque converters.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of the standard. At the time of publication, the editions were valid. All publications are subject to revision, and the users of this manual are encouraged to investigate the possibility of applying the most recent editions of the publications listed.

ANSI/AGMA 9000-C90, *Flexible Couplings - Potential Unbalance Classification*

ANSI/AGMA 9002-A86, *Bores and Keyways for Flexible Couplings (Inch Series)*

ANSI/AGMA 9004-A99, *Flexible Couplings - Mass Elastic Properties and Other Characteristics*

3 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.

Table 1 - Symbols

Symbol	Definition	Units SI (inch)		Where first used
A_D	Damping energy during one cycle	N-m	lb-in	Eq 2
A_E	Elastic deformation energy	N-m	lb-in	Eq 2
dT	Rate of change in torque	Nm	lb-in	Eq 1
$d\theta$	Rate of change in torsional deflection	radians	radians	Eq 1
F	Force	N	lb	Eq 3
J	Polar mass moment of inertia	N-m-s^2	lb-in-s^2	8.4
k	Torsional stiffness	Nm/radian	lb-in/radian	8.5
M	Mass	kg	slug	8.1
Ra	Arithmetic average of surface finish	µm	µin	11.5.1
Rq	Root-mean-square of surface finish	µm	µm	11.5.2
r	Distance	m	in	Eq 3
T	Torque	Nm	lb-in	Eq 3

(continued)