



American
Gear Manufacturers
Association

Technical Resources

ANSI/AGMA ISO 17485-A08

AGMA Information Sheet

Bevel Gears – ISO System of Accuracy – Tolerance Tables

American Gear ***Bevel Gears - ISO System of Accuracy - Tolerance Tables***
Manufacturers Supplemental Tables for ANSI/AGMA ISO 17485-A08
Association

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[Tables or other self-supporting sections may be referenced. Citations should read: See Supplemental Tables for ANSI/AGMA ISO 17485-A08, *Bevel Gears - ISO System of Accuracy - Tolerance Tables* published by the American Gear Manufacturers Association, 500 Montgomery Street, Suite 350, Alexandria, Virginia 22314, <http://www.agma.org>.]

Approved January 6, 2009

ABSTRACT

This information sheet provides tolerance tables as a supplement to ANSI/AGMA ISO 17485-A08, *Bevel Gears - ISO System of Accuracy*.

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Foreword

[This Information Sheet (supplement) is provided for informational purposes only, and should not be construed to be part of American Gear Manufacturers Association Standard ANSI/AGMA ISO 17485–A08.]

This supplement provides tables of tolerances for all the different gear accuracy grades. While the tables may be used to estimate the tolerances, the actual tolerances are provided in ANSI/AGMA ISO 17485–A08.

The range of gear sizes covered by the standard is generally shown in the tables. The tolerances are calculated at convenient combinations of module and tolerance diameter, d_T . The tables are limited to the range of 5 to 400 teeth, using the simple spur gear relationship that tolerance diameter is approximately equal to the number of teeth times the module. Some combinations of module and diameter that are beyond the range shown in these tables may be valid. Therefore, limits of application implied by these tables should not be relied upon; the actual limits given in ANSI/AGMA ISO 17485–A08 should be used.

The inch table limits are within the permissible range given in ANSI/AGMA ISO 17485–A08, so they cover a slightly narrower range than those given in the metric tables. The diameter of 98 inches is used to be just within the tolerance diameter limit of 2500 mm (98.425 inches).

The first draft of the Supplemental Tables for ANSI/AGMA ISO 17485–A08 was made in April, 2008. It was approved by the AGMA Technical Division Executive Committee in January, 2009.

Suggestions for improvement of this information sheet will be welcome. They should be sent to the American Gear Manufacturers Association, 500 Montgomery Street, Suite 350, Alexandria, Virginia 22314.

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Bevel Gears - ISO System of Accuracy - Tolerance Tables

1 Scope

This information sheet contains tolerance tables dealing with the tangential measurements of bevel gear tooth flanks. While the tables may be used to estimate the tolerances, the actual tolerances are provided in ANSI/AGMA ISO 17485-A08. This information sheet supplements standard ANSI/AGMA ISO 17485-A08, *Bevel Gears — ISO System Of Accuracy*.

Information related to measurement methods may be found in ISO/TR 10064-6:2008.

2 References

The following standards contain provisions which are referenced in the text of this information sheet. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this document are encouraged to investigate the possibility of applying the most recent editions of the standards indicated.

ANSI/AGMA ISO 17485-A08, *Bevel gears - ISO system of accuracy*.

ISO/TR 10064-6:2008, *Code of inspection practice - Part 6: Bevel gear measurement methods*

ISO 701:1998, *International gear notation - Symbols for geometrical data*

3 Symbols and corresponding terms

The symbols and terms used throughout this document are in basic agreement with the symbols and terms given in ISO 701:1998, *International gear notation - Symbols for geometrical data*. See table 1.

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

Table 1 - Symbols and definitions

Symbols	Definition	Units	
		SI	Inch
d_T	Tolerance diameter	mm	in
f_{isT}	Single flank composite tolerance, tooth mesh component	μm	0.0001 in
F_{isT}	Single flank composite tolerance, total	μm	0.0001 in
f_{ptT}	Single pitch tolerance	μm	0.0001 in
F_{pT}	Cumulative pitch tolerance, total	μm	0.0001 in
F_r	Total runout deviation	μm	0.0001 in
m_{mn}	Mean normal module	mm	--
P_{ndm}	Mean normal diametral pitch	--	in^{-1}