American Gear Manufacturers Association

Technical Resources

AGMA 910-D12
Revision of AGMA 910-C90

AGMA Information Sheet

Formats for Fine-Pitch Gear Specification Data

AGMA 910-D12

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[Revision of AGMA 910-C90]

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[Tables or other self-supporting sections may be referenced. Citations should read: See AGMA 910-D12, *Formats for Fine-Pitch Gear Specification Data,* published by the American Gear Manufacturers Association, 1001 N. Fairfax Street, Suite 500, Alexandria, Virginia 22314, http://www.agma.org.]

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ABSTRACT

This information sheet consists of a series of printed forms for gear drawings that contain the appropriate data to be tabulated by the gear designer for the gear manufacturer. Also included are a series of definitions of the various tabulated items.

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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 910-D12, *Formats for Fine-Pitch Gear Specification Data.*]

Gathering of data for this Information Sheet, including questionnaires and surveys, was begun in the spring of 1953. The committee recognized at that time the need for standardized fine-pitch gear drawing format data. Individual sections on spur, helical, straight bevel, spiral and Zerol bevel gears; worm and wormgears; face gears and pinions; and spur and helical racks were first prepared by the Task Committee on Drawing Formats.

Each section was carefully reviewed by the Fine-Pitch Gearing Committee. Certain sections were reworked to bring them in line with the work being done by the Aerospace Gearing Committee in the field of angular accuracy specification, The formats for spur and helical gears were published as Appendix C of AGMA Standard 207.04 in June, 1956. The formats for worm and wormgears were published as Appendix B of AGMA Standard 374.03 in July, 1956. The early development work, continued review and revision, and field testing has resulted in this Information Sheet which the committee feels is based on sound gear engineering and one which can be easily understood by both the shopman and inspector.

The first draft of AGMA 114.01 was prepared in September, 1957. It was approved by the AGMA membership in February, 1961. Printing of the Information Sheet was held up in order to make it conform to AGMA 390.03, *AGMA Gear Handbook, Volume 1, Gear Classification, Materials and Measuring Methods for Unassembled Gears*. AGMA 114.02 was a revision of 114.01 which was approved by the AGMA membership in July, 1972.

AGMA 910-C90 was a revision of AGMA 114.02 which updates the style and formats for spur gears, helical gears, bevel gears, wormgearing, face gears and racks. It was approved by the members of the Fine-Pitch Gearing Committee on February 27, 1990. It was recommended by the Technical Division Executive Committee for publication and approved by the members on June 10, 1990.

The purpose of AGMA 910-D12 is to update the information relative to the ANSI Y14.5 definitions for toleranced, basic and reference dimensions and to clarify previously ambiguous terminology.

This information sheet is dedicated to Irving Laskin. His inspiration and dedication to the Fine-Pitch Committee's work over many years helped lead to the development of this information sheet. His thoroughness, enthusiasm and contributions to the Fine-Pitch Committee helped develop this and many other AGMA documents.

The first draft of AGMA 910-D12 was made in June, 2009. It was approved by the AGMA Technical Division Executive Committee in March, 2012.

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

PERSONNEL of the AGMA Fine Pitch Gearing Committee

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American Gear Manufacturers Association -

Formats for Fine-Pitch Gear Specification Data

1 Scope

The formats presented in this information sheet are intended as guides in the preparation of fine-pitch [1.25 module (20 diametral pitch) or finer] gear drawings. They show the proper data to be placed on drawings of gears which are to be used for general purpose light loads or control gear applications. In each case, the data shown indicates recommended parameters that could be specified for each type of gearing, in order to clearly convey what is required to the gear manufacturer.

2 References

The following standards contain provisions which, through reference in this text, constitute provisions of this information sheet. At the time of publication, the editions indicated were valid.

AGMA ISO 10064-6-A10, *Code of Inspection Practice - Part 6: Bevel Gear Measurement Methods*

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

ANSI/AGMA 2002-B88, *Tooth Thickness Specification and Measurement*

ANSI/AGMA 2005-D03, *Design Manual for Bevel Gears*

ANSI/AGMA 2011-A98, *Cylindrical Wormgearing Tolerance and Inspection Methods*

ANSI/AGMA 2015-1-A01, *Accuracy Classification System - Tangential Measurements for Cylindrical Gears*

ANSI/AGMA 2015-2-A06, *Accuracy Classification System - Radial Measurements for Cylindrical Gears*

ANSI/AGMA 6022-C93, *Design Manual for Cylindrical Wormgearing*

ANSI/AGMA 6035-A02, *Design, Rating and Application of Industrial Globoidal Wormgearing*

ANSI/AGMA ISO 17485-A08, *Bevel Gears - ISO System of Accuracy*

ANSI/ASME Y14.5:2009, *Dimensioning and Tolerancing*

ISO/TR 10064-3:1996, *Cylindrical gears - Code of inspection practice - Part 3: Recommendations relative to gear blanks, shaft centre distance and parallelism of axes*

3 Terms and definition

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

AGMA ISO 10064-6-A10, *Code of Inspection Practice - Part 6: Bevel Gear Measurement Methods*

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

ANSI/AGMA 2005-D03, *Design Manual for Bevel Gears*

ANSI/AGMA 2011-A98, *Cylindrical Wormgearing Tolerance and Inspection Methods*

ANSI/AGMA 2015-1-A01, *Accuracy Classification System - Tangential Measurements for Cylindrical Gears*

ANSI/AGMA 2015-2-A06, *Accuracy Classification System - Radial Measurements for Cylindrical Gears*

ANSI/AGMA 6035-A02, *Design, Rating and Application of Industrial Globoidal Wormgearing*

ANSI Y14.5-2009, *Dimensioning and Tolerancing*

