AS 2938—1993

Australian Standard®

Gears—Spur and helical—Guide to specification and rating

This Australian Standard was prepared by Committee ME/11, Gears and Splines. It was approved on behalf of the Council of Standards Australia on 2 September 1993 and published on 13 December 1993.

The following interests are represented on Committee ME/11:

Australian Sugar Milling Council

Bureau of Steel Manufacturers of Australia

CSIRO, Division of Applied Physics

German-Australian Chamber of Industry and Commerce

Institution of Engineers, Australia

Metal Trades Industry Association

Sugar Industry Manufacturers and Services Group of Australia

University of Wollongong

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PREFACE

This Standard was prepared by the Standards Australia Committee on Gears and Splines to supersede AS 2938—1987, *Gear—Spur and helical—Guide to specification and rating*.

When AS 2938 was first published in 1987 it was based on American Gear Manufacturers Association (AGMA) Standard 218.01—1982, *Rating and pitting resistance and bending strength of spur and helical involute gear teeth*. In 1988 ANSI/AGMA 2001-B88, *Fundamental rating factors and calculation methods for involute spur and helical gear teeth*, was published to supersede AGMA 218.01. The new Standard was examined by the Committee and it was decided that ANSI/AGMA 2001-B88 should replace AGMA 218.01 as the base document for AS 2938.

The changes introduced include an update of the list of referenced documents given in Appendix A, updating the list of AGMA documents given in Appendix B, and editorial modifications to align with Standards Australia style.

There are many changes in the new American Standard most of which are minor. The two most significant changes which may affect users are a more rigorous assignment of the material factors s_{ac} and s_{at} and the introduction of a new factor K_B for rim thickness below the teeth. Brief descriptions of these changes are given in this edition. Users of AS 2938 should review ANSI/AGMA 2001-B88 to become familiar with other changes.

AGMA policy is moving towards metrication and most equations are being presented in revised AGMA documents in Imperial units with the metric unit equivalent in parenthesis. This presentation is not universal and some quantities will require conversion to Imperial units when using some equations in ANSI/AGMA 2001-B88.

AGMA agreed to the use of their Standards as a basis for Australian Standards and acknowledgment is made of this assistance.

Copies of AGMA Standards may be purchased from any office of Standards Australia.

The Committee acknowledges the contribution by the Coated Products Division and the Slab and Plate Products Division of BHP International Steel of the original material on geometry factors as well as the co-operation of the University of Wollongong, and wishes to record its appreciation for their permission to include material relating to this subject.

A software program (SAA SP 001) is available to calculate the geometry factors for pitting resistance and bending strength for external spur and helical involute gears in accordance with this Standard. The listing of the program has not been included in this edition.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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