Three New AGMA Publications

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AGMA is pleased to announce the publication of three new documents: AGMA 923-C22, Metallurgical Specifications for Steel and Cast Iron Gearing, written by the AGMA Metallurgy and Materials Committee, AGMA 929-B22, Calculation of Bevel Gear Top Land, Slot Widths and Cutter Edge Radii, written by the AGMA Bevel Gearing Committee, and AGMA 955-A22, Guidance for Industrial Gear Lubrication written by the AGMA Lubrication Committee.

AGMA 923-C22

AGMA 923-C22 begins with an extensive definitions clause specific to gear metallurgy, then defines acceptance criteria for various metallurgical characteristics to meet three quality grades. These quality grades are used in multiple other AGMA standards to define gear performance.

Work on the first edition of AGMA 923 began in 1993 with the goal of consolidating AGMA metallurgical specifications into one document. Through much discussion and consensus building the first edition was published in the year 2000. A second edition with only minor changes was published in 2005. In 2013 the work on this current, third edition, began. This current "C" edition of AGMA 923 has extensive updates from previous editions that took hard work and many meetings for the committee to hash out. It has been developed to be consistent with ISO 6336-5:2016. It has an expanded reduction ratio calculation methodology. Metallurgical tables have been updated to list requirements sequentially, add chemistry and cleanliness requirements, footnotes were reworded and renumbered for uniformity, and new metallurgical tables were added for gray cast iron, ductile iron, and austempered ductile iron.

AGMA 929-B22

AGMA 929-C22 provides a set of equations, integrated from various publications, to calculate bevel gear top land, slot widths, and cuter edge radii. It is intended to aid in completing calculations for gear capacity in ANSI/AGMA 2003, Rating the Pitting Resistance and Bending Strength of Generated Straight Bevel, Zerol Bevel and Spiral Bevel Teeth.

The first edition of AGMA 929 was published in 2006. Work on this second, "B" edition began in 2010, but the bulk of the work was completed in the last couple years. This new edition includes calculations anywhere along the face width instead of just toe, mean, and heel. The expanded calculations are largely based on the paper, 14FTM13, A Practical Approach for Modeling a Bevel Gear, by Brendan Bijonowski.

AGMA 955-A22

AGMA 955-A22 is a guide for gear designers and manufacturers in the selection of suitable commercially available liquid lubricants for open and enclosed gear drives. Work on AGMA 955-A22 began in 2016 after the AGMA Lubrication committee wrapped up the publication of ANSI/AGMA 9005-F16. AGMA 955-A22, was created as the first step of separating ANSI/AGMA 9005-F16 into two documents. AGMA 955-A22 provides fundamental, generalized lubrication information, whereas the future edition of ANSI/AGMA 9005 is planned to cover only information on lubricants. The first working draft of AGMA 955 was copied text from ANSI/AGMA 9005, but through the course of editing, this was greatly added to and expanded upon to produce the published version.

On behalf of the gearing industry, AGMA would like to extend a sincere appreciation for the participation and valuable contributions of the following experts. In addition, AGMA would like to especially thank the companies of these experts whose foresight and generosity made their participation possible.

AGMA 923-C22—AGMA Metallurgy and Materials Committee

Carl Ribaudo of Timken Company (Retired), committee chairperson
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Dan Antos of Canton Drop Forge
James Bishar of GE Transportation, a Wabtec Company
Robert Errichello of Geartech
Michael He of Scot Forge Company
Justin Lefevre of Applied Process Inc.
David McLain of General Motors LLC
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Al Swiglo of Northern Illinois University
Terry Tressler of Ellwood City Forge
Dale Weires of Boeing Rotorcraft—Philadelphia
Frank Uherek of Regal Rexnord Corporation
Dereck Yatzook of Artec Machine Systems

AGMA 929-B22 – AGMA Bevel Gearing Committee

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George Lian of Amarillo Gear Company (Retired)
Jodi Bello of GE Renewable Energy (Onshore Wind)
Richard Calvert of Chalmers & Kubeck
Michael D'Arduini of The Gleason Works
Wei-Jiung Tsung of Dana Incorporated (Retired)
Claus Weyand of Regal Rexnord Corporation

AGMA 955-A22 – AGMA Lubrication Committee

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Michael Blumenfeld of ExxonMobil Research and Engineering
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