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## AGMA TECH

**Aimed at providing better standards for the industry, learn more about the work of a functioning standards development committee.**

In my earlier columns, the role and continual development of AGMA and ISO standards was discussed, in general, as a contributor to reliable gear products through progressive changes and refinements. This time I will focus on the activities of one AGMA committee that has been working to keep up with progress in gear manufacturing technology by new and revised standards.

### **AGMA Cutting Tool Committee**

The selection and use of manufacturing cutting tools is foremost "at the heart" of producing a quality product. Because a gear hob is the most frequently used cutting tool in gear production, the AGMA Cutting Tool Committee worked for over a decade to replace AGMA 120.01 of 1975. A hob is one of the more complex cutting tools to manufacture. The size, material, number of cutting surfaces, tolerances, and operating speed are among the items that need to be considered when determining the efficiency of its use versus its cost. The product gear accuracy will be influenced by the accuracy of a gear hob; therefore, publication of ANSI/AGMA 1102-A03, Tolerance Specification for Gear Hobs, should be welcomed by the industry.

### **Its New Standard**

The purpose of ANSI/AGMA 1102-A03 is to provide specifications for the nomenclature, dimensions, tolerances, and inspection of gear hobs, thereby establishing a basis for the mutual understanding of their manufacture and use. It covers single- and multiple-thread hobs, modules 0.63 to 40 mm, for cutting spur and helical gears. It does not

cover special designs, such as producing tooth modifications, but it contains informative annexes, such as one that provides definitions of gear manufacturing terms supplementing the standards nomenclature. Another annex provides users with a basic understanding of how the different elements of the hob can affect the accuracy of a gear it cuts. By knowing the cutting application and intended use, the end user can decide which parameters of hob accuracy will have the most impact on the manufactured gear accuracy.

### **Its International Work on ISO**

Like many AGMA committees, the Cutting Tool Committee also works on the U.S. position and contributes to the development of ISO standards. Presently ISO/TC 60/SC 1 Working Group 3 is revising two outdated standards; ISO 2490 for gear hob nominal dimensions, and ISO 4468 for gear hob accuracy requirements. The new ANSI/AGMA 1102-A03 standard covers the topics of these two ISO standards and is more comprehensive in its measuring methods. Hopefully, the appropriate work already developed for the AGMA standard


will be adopted in these ISO revisions. Working on AGMA and ISO documents covering the same topics increases the perspective of a committee and generally improves both documents.

### **Present Committee Work**

The AGMA committee is now working on a similar standard for gear shaper cutters. Much of the concepts developed for hobs can be adopted for shaper cutters so that the committee expects to finish the document within the

next year or two. However, to properly cover the required new material for a comprehensive standard, the committee is looking for additional help from users.

This is just one of the committees actively working within the AGMA Technical Division. Now is the time to get involved with a committee and stay abreast of new technology, contribute to the future development of industry standards, and at the same time learn from others by participating.

Detailed information on the activity of all the AGMA committees is provided on the AGMA Web site at [www.agma.org]. Send e-mail inquires to tech@agma.org. 

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