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Everyone in the gear-manufacturing industry is aware of ISO, but where did it come from, what purpose does it serve, and what does "ISO" mean?

How ISO Began

International standardization began with the International Electrotechnical Commission (IEC) in 1906. Work in other fields, by the International Federation of National Standardizing Associations (ISA), was started in 1926. ISA's emphasis was on mechanical engineering standardization, but activities ceased in 1942. Following a 1946 meeting in London, 25 countries decided to create a new international organization, "the object of which would be to facilitate the international coordination and unification of industrial standards." The new organization, ISO, began to function in 1947, and the first standard was published in 1951, titled "Standard reference temperature for industrial length measurement."

ISO is a non-governmental federation of national standards bodies from some 130 countries, one from each country. Its mission is to promote the development of standardization and related activities in the world with a view toward

facilitating international trade and developing cooperation among spheres of intellectual, scientific, technological, and economic activity.

The Creation of Standards

As with ANSI/AGMA, development and balloting of ISO standards is a consensus process. Our national positions on ISO documents are established by an ANSI Technical Advisory Group (TAG) that is administered by AGMA. The United States has been actively involved with development of ISO gear-related standards for more than 25 years.

For the past 11 years, AGMA has been Secretariat of the ISO Technical Committee 60. During this time the numbers of ISO gear standards and technical reports have increased to 47 documents (see www.iso.ch/iso/en/catalogue-list-page.catalogue-list) under field 21.200.

Data used to develop ISO standards can differ from that of AGMA and other national gearing standards. Presently, if you are only using ANSI/AGMA standards, some of the gear capacities achieved by ISO should be checked with actual experience of gear system performance in related applications.

Standards that reached publication stage during the last quarter of 2003 include:

- *ISO 6336-5: Calculation of load capacity of spur and helical gears-Part 5: Strength and quality of materials.*

This standard, originally developed from the materials section of ANSI/AGMA 2001 in the '90s, has been revised and updated. It includes the allowable stresses for rating gears in accordance with the ISO 6336 standards. Just as important, it has the characteristics required of gear materials for purchase, manufacturing, and application.

- *ISO 18653: Gears—evaluation of instruments for the measurement of individual gears.*

The main purpose of this standard is to establish

the minimum requirements for a useful gear-measuring instrument. It specifies evaluation methods for the measurements of involute, helix, pitch, and runout. It is

applicable to many instruments, such as CNC and CMM, and it gives the necessity to include an estimation of measurement uncertainty, with the use of calibrated gear artifacts, for the measurement of a gear.

Like the ISO 9000 series, it is important to recognize the global impact of applicable ISO gear standards so that you can benefit from their use. For more information, visit the AGMA Web site at [www.agma.org]. Send e-mail to tech@agma.org.

Many have noticed a seeming lack of correspondence between the official title, *International Organization for Standardization*,

the Origins of "ISO"

and the short form, ISO, thinking it is an acronym. In fact, "ISO" is a word, derived from the Greek isos, meaning "equal," which is the root of the prefix "iso-" that occurs in a host of terms, such as "isometric" (of equal measure or dimensions) and "isonomy" (equality of laws, or of people before the law). From "equal" to "standard" led to the choice of "ISO" as the short-form name to be used around the world, avoiding acronyms resulting from translation of "International Organization for Standardization" into the different languages.

"The role and continual development of AGMA standards as a contributor to reliable gear products through progressive changes and refinements can also apply to ISO gear standards, because you don't have to do business overseas to be affected by international standardization."

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