

Standardization

ISO Standards International standards

The ISO (International Organization for Standardization) was founded in 1946 with the objective of worldwide, uniform standardization enabling unobstructed exchange of goods. Among many others, the committees “threads” and “fasteners” were set up. The first standard issued by ISO defined inch threads (a compromise between the thread types in the U.S.A., Canada and Great Britain) and metric threads (France and Germany). In 1970, the U.S.A. decided to convert to metric fasteners. However, for technical and economic reasons, they requested improvement of the metric thread at the same time (new OMFS thread). ISO rejected the new metric thread on condition that other requests for modification be approved, such as for example:

- modifications of the property classes
- new widths across flats for hexagonal fasteners
- increase of mechanical properties and heights of nuts
- standardization of heads of machine and tapping screws

Some of these modifications were the result of latest technical research and necessities, on the other hand, we may suspect that some of the changes made were commercial policy measures.

Today, the existing ISO Standards for fasteners are excellent and well established throughout the world. The ISO Standards are recommended for national acceptance.

(There is, however, no obligation to adopt them).

Though the metric ISO thread (corresponds to DIN thread) was accepted in the U.S.A., it has only replaced the inch thread to a slight extent so far. In Europe, the modifications, an obvious compromise, have hardly been introduced yet. Only the Scandinavian countries, Australia, and some automobile companies have converted to ISO Standards.

EN-Standards European standards

In order to realize a common European market, the countries participating in the EU and EFTA mutually founded the CEN (Comité Européen de Normalisation) with the legal obligation to accept the resolutions passed by the committee. In the beginning, the CEN dealt with other things of everyday use.

Since 1991, CEN has been working on a catalogue of standardization for fastener technology to be applicable and valid throughout Europe. TC 185, a technical committee that was especially established for this reason, decided to adopt ISO Standards as EN Standards as ever possible.

Unfortunately, the relevant ISO Standards were not suitable for flange products and fasteners for high-strength structural bolting, so that new EN Standards had to be established for this area. ISO Standards apply to all other areas; the basic standards defining threads and mechanical properties are particularly important. ISO-identical products are actually designated by ISO xxxx and not EN xxxxxx (i.e. hex head screws according to ISO 4012). The EN-number is only for registration purposes.

The European Standards are listed in the ISO Standard Index on pages 016-018.

By the begin of 2003, 171 basic and product standards were declared as EN Standards. The European countries, including Switzerland, have agreed to adopt the EN Standards and withdraw differing national standards. In spite of that, introduction of new products is slow. The

main sizes of hex bolts and nuts in steel and stainless with new width across flats are available from stock. Other fasteners still are used to DIN standards, if there is a difference between DIN and EN/ISO.

Contact us for information on the progress of the conversion.

DIN Standards German standards

The DIN (Deutsches Institut für Normung = German Institute of Standardization) has compiled the most competent set of standards for the fastener industry. Many of the German standards were integrated into the ISO Standards and thus also are part of the EN Standards. In the course of the revision of the European standards, several DIN Standards were withdrawn and replaced by DIN-EN-ISO (i.e. the well-known DIN Standards 931 and 933).

SN Standards (formerly: VSM Standards) Swiss standards

In the field of fastener technology the SN Standards have no significance anymore. Practically all VSM-SN Standards have been replaced by DIN or ISO Standards, while participation of VSM/SNV committees on German, European and international panels has increased. Nowadays, the SN code mainly serves as a registration number, without significance for the product.

Comparison of DIN, ISO, EN, SN Standards:
See index of standards page 011 - 022.