Property classes

The symbol for the property classes of bolts, screws, and studs consists of two numbers separated by a point. The first number, when multiplied by one hundred, indicates the nominal tensile strength in newtons per square millimeter. The second figure, multiplied by ten, states the ratio between the lower yield stress and the nominal tensile strength (yield stress ratio) as a percentage. The multiplication of these two figures will give one tenth of the yield stress in newtons per square millimeter.

Example of a screw in property class 5.8

Nominal tensile strength
5 ¥ 100 = 500 N/mm² (MPa)

Yield stress ratio
8 ¥ 10 = 80%

Yield stress
80% of 500 = 400 N/mm² (MPa)

Internationally, mechanical stress is expressed in newtons per square area, in bolting N/mm². US practice is to use the term megapascal (MPa), which correspond to N/mm².

Ex. 500 /mm² = 500 MPa

In this catalogue the term N/mm² is used only.

For nuts, the main characteristic property is the thread stripping strength (proof stress).

The property classes of nuts are designated by a figure to indicate the maximum appropriate property class of bolts with which they may be mated. Thus, nut property class is the same as the first figure of the bolt designation.

Mating screws and nuts

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Nuts of a higher property class can normally be used in the place of nuts of a lower property class.

* Property classes 14.9 are not ISO or ANSI standard

= quenched and tempered