



	Strength classes of screws						
	4.6	5.6	5.8	6.8	8.8	10.9	12.9
Nominal tensile strength $R_{m, nom}$ in N/mm ²	400	500	500	600	800	1000	1200
Lower yield point R_{eL} in N/mm ²	240	300	400	480	–	–	–
0,2 %-Yield limit $R_{p 0,2}$ in N/mm ²	–	–	–	–	640	900	1080
Tension under test force S_p in N/mm ²	225	280	380	440	580	830	970
Elongation A in %	22	20	–	–	12	9	8

Features

The strength class identification number consists of two numerals:

- The first number corresponds to $\frac{1}{100}$ of the nominal tensile strength in N/mm² (see table)
- The second number shows ten times the ratio of lower yield point R_{eL} (or 0.2 %-yield limit $R_{p 0,2}$) to the nominal tensile strength $R_{m, nom}$ (yield point ratio).

Example: Strength class 5.8 means:

Minimum tensile strength $R_m = 500$ N/mm²,

Minimum yield point $R_{eL} = 400$ N/mm²

Also, multiplying both numerals results in $\frac{1}{10}$ of the yield point in N/mm².

Test tension S_p in N/mm ² for thread	Strength classes of nuts				
	5	6	8	10	12
... M 4	520	600	800	1040	1150
above M 4 ... M 7	580	670	855	1040	1150
above M 7 ... M 10	590	680	870	1040	1160
above M 10 ... M 16	610	700	880	1050	1190
above M 16 ... M 39	630	720	920	1060	1200

Features

The designation of a strength class consists of a identification number which provides information on the test tension of the material used:

Identification number x 100 = Test tension S_p

The test tension is equal to the minimum tensile strength in N/mm² of a screw which, if paired with the appropriate nut, can be loaded up to the minimum yield point of the screw.

Example: Screw 8.8 – Nut 8, connection can be loaded up to the minimum yield point of the screw.