

Grade of Screws following DIN EN ISO 898-1

| mechanical or physical property | | Strength class | | | | | | | | | |
|---|-------------------|-------------------|-----|-----|-----|------|--------------------------------|--------------------------------|-----------------|------|------|
| | | 4.6 | 4.8 | 5.6 | 5.8 | 6.8 | 8.8 dia ≤ 16mm ^a | 8.8 dia > 16mm ^b | 9.8 d ≤ 16mm | 10.9 | 12.9 |
| Tensile strength R _m in N/mm ² | nom. ^c | 400 | | 500 | | 600 | 800 | | 900 | 1000 | 1200 |
| | min. | 400 | 420 | 500 | 520 | 600 | 800 | 830 | 900 | 1040 | 1220 |
| Lower yield strength R _{eL} ^d in N/mm ² | nom. ^c | 240 | - | 300 | - | - | - | - | - | - | - |
| | min. | 240 | - | 300 | - | - | - | - | - | - | - |
| 0,2%-yield point R _{p0,2} in N/mm | nom. ^c | - | - | - | - | - | 640 | 640 | 720 | 900 | 1080 |
| | min. | - | - | - | - | - | 640 | 660 | 720 | 940 | 110 |
| Percentage elongation at break of a machined sample A in % | min. | 22 | - | 20 | - | - | 12 | 12 | 10 | 9 | 8 |
| Percentage elongation at rupture of a machined sample Z in % | min. | - | | | | | 52 | | 48 | 48 | 44 |
| Head impact toughness | | no breakage | | | | | | | | | |
| Vickers hardness HV F ≥ 98N | min. | 120 | 130 | 155 | 160 | 190 | 250 | 255 | 290 | 320 | 385 |
| | max. | 220 ^e | | | | 250 | 320 | 335 | 360 | 380 | 435 |
| Brinell hardness HBW F = 30D ² | min. | 114 | 124 | 147 | 152 | 181 | 238 | 242 | 276 | 304 | 366 |
| | max. | 209 ^e | | | | 238 | 304 | 318 | 342 | 361 | 414 |
| Rockwell hardness HRB | min. | 67 | 71 | 79 | 82 | 89 | - | | | | |
| | max. | 95,0 ^e | | | | 99,5 | - | | | | |
| Rockwell hardness HRC | min. | - | | | | | 22 | 23 | 28 | 32 | 39 |
| | max. | - | | | | | 32 | 34 | 37 | 39 | 44 |
| Notch impact energy K _V ^{k,l} in J | min. | - | | 27 | - | | 27 | 27 | 27 | 27 | f |

a Values aren't valid for steel construction screws

b for steel construction screws dia ≥ M12

- c Values are just valid for the labeling system of the strength classes.
- d If the lower yield strength R_{eL} can't be specified, ascertaining of the 0,2%-yield point is permitted.
- e The hardness at the end of a screw can be a maximum of 250 HV, 238 HB or 99,5 HRB.
- f Values for K_V are analyzed.

k ***Values are take at – 20 Deg. Celsius***

L ***Valid for $d \geq 16$ mm***