

Material properties

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|--------------------|---|
| Material | St 52-3 (Germany / DIN) |
| Group | Structural and constructional steels |
| Subgroup | DIN 17100 Steels for general structural purposes |
| Comment | Quality standard; DIN 17100 was superseded by EN 10025, EN 10222-1, EN 10250-1 and EN 10250-2 |
| Application | - |

| Yield Stress[MPa] | | | |
|---|-----|-----|--------|
| Dimension | Min | Max | Approx |
| Normalized; $\geq 0.5 < 1$ mm | 355 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $\geq 1 < 1.5$ mm | 355 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $\geq 1.5 < 2$ mm | 355 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $\geq 2 < 2.5$ mm | 355 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $\geq 2.5 < 3$ mm | 355 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $\geq 3 \leq 16$ mm | 355 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $> 16 \leq 40$ mm | 345 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $> 40 \leq 63$ mm | 335 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $> 63 \leq 80$ mm | 325 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |
| Normalized; $> 80 \leq 100$ mm | 315 | - | - |
| Note: Yield stress is Upper Yield Stress (ReH) | | | |

| Tensile Stress[MPa] | | | |
|-------------------------------|-----|-----|--------|
| Dimension | Min | Max | Approx |
| Normalized; $\geq 0.5 < 1$ mm | 510 | 680 | - |
| Normalized; $\geq 1 < 1.5$ mm | 510 | 680 | - |
| Normalized; $\geq 1.5 < 2$ mm | 510 | 680 | - |
| Normalized; $\geq 2 < 2.5$ mm | 510 | 680 | - |
| Normalized; $\geq 2.5 < 3$ mm | 510 | 680 | - |

Tensile Stress[MPa]

| Dimension | Min | Max | Approx |
|----------------------------|-----|-----|--------|
| Normalized; >= 3 <= 16 mm | 490 | 630 | - |
| Normalized; > 16 <= 40 mm | 490 | 630 | - |
| Normalized; > 40 <= 63 mm | 490 | 630 | - |
| Normalized; > 63 <= 80 mm | 490 | 630 | - |
| Normalized; > 80 <= 100 mm | 490 | 630 | - |

Elongation A5 [%]

| Dimension | Min | Max | Approx |
|---|------|-----|--------|
| Normalized; >= 0.5 < 1 mm Note: Lo = 80 mm; (long.) | 14.0 | - | - |
| Normalized; >= 1 < 1.5 mm Note: Lo = 80 mm; (long.) | 15.0 | - | - |
| Normalized; >= 1.5 < 2 mm Note: Lo = 80 mm; (long.) | 16.0 | - | - |
| Normalized; >= 2 < 2.5 mm Note: Lo = 80 mm; (long.) | 17.0 | - | - |
| Normalized; >= 2.5 < 3 mm Note: Lo = 80 mm; (long.) | 18.0 | - | - |
| Normalized; >= 3 <= 16 mm Note: (long.) | 22.0 | - | - |
| Normalized; > 16 <= 40 mm Note: (long.) | 22.0 | - | - |
| Normalized; > 40 <= 63 mm Note: (long.) | 21.0 | - | - |
| Normalized; > 63 <= 80 mm Note: (long.) | 20.0 | - | - |
| Normalized; > 80 <= 100 mm Note: (long.) | 20.0 | - | - |

Chemical Composition [%]

| Criterion | Min | Max | Approx |
|-----------|-----|--------|--------|
| C | - | 0.2000 | - |
| Si | - | 0.5500 | - |
| Mn | - | 1.6000 | - |
| P | - | 0.0400 | - |

Chemical Composition [%]

| Criterion | Min | Max | Approx |
|-----------|--------|--------|--------|
| S | - | 0.0400 | - |
| Al | 0.0200 | - | - |

- C C% = 0,22 ; 30 < d (mm) <= 100

Cross Reference Table

| Material | Standard | Country |
|-----------------------------|-----------------|----------------|
| S 355 J 2 G 3 | AFNOR NF | France |
| S 355 J 2 G 3 | B.S. | United Kingdom |
| 350WT | CSA | Canada |
| 11523 | CSN | Czech Republic |
| St 52-3 / S355J2G3 | DIN | Germany |
| St 52-3 G | DIN | Germany |
| S355J2G3 / Fe 510 D1 | DIN | Germany |
| Fe 510 D1 | EN | European Union |
| 1.0570 | EN | European Union |
| S 355 J 2 G 3 | EN | European Union |
| 16Mn | GB | China |
| 17GS | GOST | Russia |
| SM 520 C | JIS | Japan |
| SM 490 A | JIS | Japan |
| C 0563 | JUS | Yugoslavia |
| Fe 355 C/ FF | MSZ | Hungary |
| S 355 J 2 G 3 | NBN | Belgium |
| S 355 J 2 G 3 | NS | Norway |
| St 52 F | ONORM | Austria |
| 16 G 2 | PN | Poland |
| G 355 | PN | Poland |
| 2133 | SS | Sweden |
| 2132 | SS | Sweden |
| OL 52.3 kf | STAS | Romania |
| OL 52.3 k | STAS | Romania |
| S 355 J 2 G 3 | UNE | Spain |
| Fe E 420 | UNI | Italy |
| Fe 510 | UNI | Italy |

Cross Reference Table

| Material | Standard | Country |
|---------------|----------|---------|
| S 355 J 2 G 3 | UNI | Italy |
| 1.0841 | WN | Germany |
| 1.0570 | WN | Germany |