

Material specificationsheet

WixSteel - 50CrMo4

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|-------------|--------------------|--|
| MaterialNo: | Former brand name: | International steel grades: |
| 1.7228 | Mo50 | BS: 708A47 AFNOR: 50CrMo4 SAE: 4150 |

Material group: Steel for quenching and tempering according to DIN EN 10083

| Chemical composition: (Typical analysis in %) | C | Si | Mn | Cr | Mo | other |
|--|------|------|------|------|------|-------|
| | 0,50 | 0,25 | 0,70 | 1,10 | 0,20 | (Pb) |

Application: Alloyed heat treatable steel with a typical tensile strength of 900 - 1200 N/mm². For automotive and aircraft components with high toughness as tyres, rings, axles, bushes, shafts, steering components.

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|--|-------------------------|---------------------|
| Hot forming and heat treatment: | Forging or hot rolling: | 1050 - 850°C |
| | Normalising: | 850 - 880°C/air |
| | Soft annealing: | 680 - 720°C/furnace |
| | Hardening: | 820 - 860°C/oil |
| | Tempering: | 540 - 680°C/air |

Mechanical Properties: Treated for cold shearability +S: See condition A
 Soft annealed +A: max. 248 HB

Quenched and tempered, +QT:

| | < 16 | >16 – 40 | >40 – 100 | >100 – 160 | >160 – 250 |
|--|-------------|-------------|------------|------------|------------|
| Diameter d [mm] | < 16 | >16 – 40 | >40 – 100 | >100 – 160 | >160 – 250 |
| Thickness t [mm] | < 8 | 8<t<20 | 20<t<60 | 60<t<100 | 100<t<160 |
| 0,2% proof stress R_{p0,2} [N/mm²] | min. 900 | min. 780 | min. 700 | min. 650 | min. 550 |
| Tensile strength R_m [N/mm²] | 1100 - 1300 | 1000 - 1200 | 900 - 1100 | 850 - 1000 | 800 - 950 |
| Fracture elongation A_s [%] | min. 9 | min. 10 | min. 12 | min. 13 | min. 13 |
| Reduction of area Z [%] | min. 40 | min. 45 | min. 50 | min. 50 | min. 50 |
| Notch impact energy ISO-V [J] | min. 30 | min. 30 | min. 30 | min. 30 | min. 30 |