

1.4122 (X39CrMo17-1)

Material Designation

1.4122 DIN

Standards

DIN EN 10088-3

Chemical Composition

 Mass-% acc. to DIN EN 10088-3

| | C | Si | Mn | P | S | Cr | Mo | Ni |
|------|------|------|------|-------|-------|------|------|-----|
| min. | 0,33 | - | - | - | - | 15,5 | 0,80 | - |
| max. | 0,45 | 1,00 | 1,50 | 0,040 | 0,030 | 17,5 | 1,30 | 1,0 |

Customer specific restrictions upon request

Properties

1.4122 is a martensitic steel with high wear resistance and good corrosion resistance in environments with low chloride content. The corrosion resistance can be further improved by surface polishing.

Delivery Condition

- ✘ annealed (+A) max. 280 HBW
- ✘ quenched and tempered (+QT)

Mechanical Properties

 +QT750 acc. to DIN EN 10088-3, longitudinal

| Diameter d [mm] | Yield strength [N/mm ²] | Tensile strength [N/mm ²] | Elongation [%] | Impact toughness [J] Charpy-V |
|--------------------|--|--|-------------------|----------------------------------|
| d ≤ 60 | ≥ 550 | 750 - 950 | ≥ 12 | ≥ 15 |
| 60 < d ≤ 160 | ≥ 550 | 750 - 950 | ≥ 12 | ≥ 10 |

Heat Treatment

 Guideline Values

| | Temperature [°C] | Cooling medium |
|-------------------------------|---|-------------------------------------|
| Annealing (+A) | 750 - 850 | Furnace, Air |
| Quenching and tempering (+QT) | 980 - 1060 (Hardening) 650 - 750 (Tempering) | Oil, or similar cooling rate Air |

Application Area

Parts with high demands on wear and corrosion resistance in chloride-free environments media.

Typical Applications

- ✘ Surgical instruments
- ✘ Fittings & valves
- ✘ Polymer processing
- ✘ Cutting tools

Quality

- ISO 9001
- ISO 14001
- ISO 50001
- Approvals acc. to standards like ABS, BV, DNV ...
- Customer specific approval certificates

Innovation

- Fully automated ultrasonic testing up to dia. 1000 mm
- CO₂-reduction by innovative heat treatment solutions

Flexibility

- Product range from fine wire to forging
- Directly from stock close at hand

Individuality

- Dimensions
- Tolerances
- Surface qualities
- Delivery conditions

Your personal contact:

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