

1.4112 (X90CrMoV18)

Material Designation

1.4112 DIN

Standards

DIN EN 10088-3

Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Mo	V
min.	0,85	-	-	-	-	17,00	0,90	0,07
max.	0,95	1,00	1,00	0,04	0,03	19,00	1,30	0,12

Customer specific restrictions upon request

Properties

1.4112 is a hardenable, stainless martensitic steel with high wear and corrosion resistance. The grade is similar to S44003 Type 440B acc. to ASTM.

The ESR-variant fulfils highest requirements towards homogeneity and offers superior mechanical properties and service life.

Delivery Condition

✂ annealed (+A) max. 265 HBW

Application Area

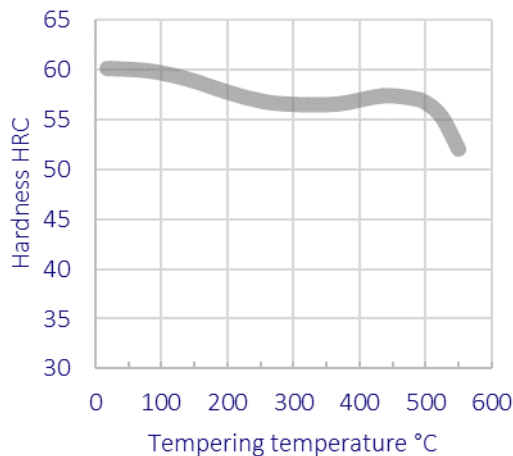
High demands on wear and corrosion resistance.

Typical Applications

- ✂ Surgical instruments
- ✂ Cutting tools
- ✂ Chemical and petrochemical industry
- ✂ Food industry
- ✂ Fuel injection

Heat Treatment Guideline Values

	Temperature [°C]	Cooling medium
Annealing (+A)	800 - 880	Furnace, Air
Stress relieving	620 - 680, min. 2h	Furnace
Quenching and tempering (+QT)	1000 - 1050 (Hardening)	Oil
	180 - 500 (Tempering)	Air



Tempering graph, hardening temperature 1025 °C, oil

Quality

- ISO 9001
- ISO 14001
- ISO 50001
- Approvals acc. to standards like ABS, BV, DNVGL ...
- 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

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