

# 1.4197 (X20CrNiMoS13-1)

## Material Designation

1.4197                      DIN  
420F Mod                    AISI

## Standards

ASTM F899

## Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Mo	Ni
min.	0,20	0,2	1,0	-	0,15	12,5	1,10	0,75
max.	0,25	0,6	1,5	0,04	0,25	14,0	1,25	1,20

Customer specific restrictions upon request.

## Properties

1.4197 is a martensitic 13% Cr steel. Its corrosion resistance is increased by alloying with Mo and Ni and can be further improved by surface polishing.

Good machinability is achieved through the addition of sulphur.

## Delivery Condition

✘ annealed (+A)

## Application Area

High-precision automatic turned parts (Escomat production) with requirements for wear and corrosion resistance.

## Typical Applications

- ✘ Surgical instruments
- ✘ Milling cutters and drills in dental technology
- ✘ Watch industry

## Mechanical Properties

Tensile strength (acc. to DIN) [N/mm <sup>2</sup> ]	Hardness (acc. to ASTM) HBW
≤ 820	≤ 262

## Heat Treatment Guideline values acc. to DIN EN 10088-3

	Temperature [°C]	Cooling medium
Annealing (+A)	740 - 780	Furnace, air
Quenching and tempering (+QT)	1000 - 1050 (Hardening) 100 - 300 (Tempering) <sup>1</sup>	Oil, polymer, inert gas, air

<sup>1</sup>The temperature range around 475 °C should be avoided due to the occurrence of temper embrittlement.

## 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
- CO<sub>2</sub>-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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