

## Material Designation

440A	ASTM
S44002	UNS
~1.4109	DIN

## Standards

ASTM F899

## Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Mo
min.	0,60	-	-	-	-	16,0	-
max.	0,75	1,00	1,00	0,040	0,03	18,0	0,75

Customer specific restrictions upon request

## Properties

AISI 440A is a Cr-Mo-alloyed stainless martensitic steel with good hardenability and excellent wear resistance.

## Application Area

High demands on wear as well as on cutting edge retention. High surface quality.

## Delivery Condition

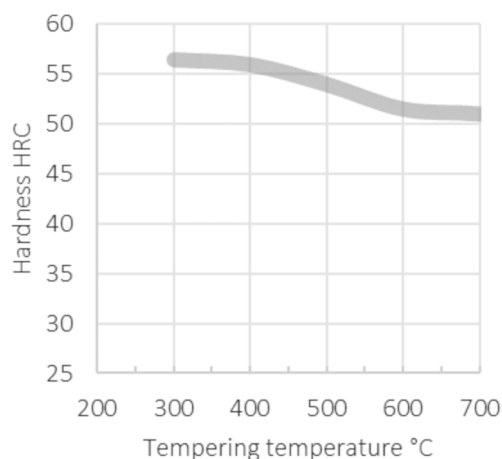
- annealed (+A)

## Typical Applications

- Surgical instruments
- Fuel injections systems
- Cutting tools
- Ball and roller bearings

## Heat Treatment Guideline Values

	Temperature [°C]	Cooling medium
Annealing (+A)	850 - 880	Furnace, Air
Quenching and tempering (+QT)	950 - 1050 (Hardening)	Oil, gas, air, subzero treatment
	Tempering to required hardness according to tempering graph <sup>1</sup>	Air



<sup>1</sup>Tempering graph: Hardening temperature 1038 °C, oil. Risk for temperature embrittlement for tempering temperatures between 400 - 580 °C