Steel grade

Material No.	PREMIUM 420 mod.
AISI	420 mod.
Search for alternatives in the ABRAMS STEEL GUIDE	**www.abrams-steelguide.com/alternatives/420mod**

Shapes

$mart Flat Stock [$mart]
Standardized Precision Blanks
L: 12"
L: 24"

$mart Flat Stock Metric [$martM]
Standardized Precision Blanks Metric
L: 300 mm
L: 600 mm

Cold Finished Rounds Metric (CFM)
Precision Round Bars Metric
L: 914 mm (36")

Chemical composition AISI 420 mod. (reference value %)

C	Si	Mn	P	S	Cr
0.16 - 0.25	0 - 1.0	0 - 1.5	0 - 0.04	0 - 0.015	12.0– 14.0

Physical properties

Hardness (delivery condition)	max. 252 HB.tempered			
Tensile strength R_m (as received condition)	approx. 123.2 KSI			
Working hardness	max. 47 HRC			
Thermal expansion coefficient 10^{-6}m/(m • K)	68 - 212°F	68 - 392°F	68 - 572°F	68 - 752°F
	10.5	11.0	11.5	12.0
Thermal conductivity W/(m • K)	68°F			
	30.0			

Technical properties

Martensitic chromium steel with good mechanical properties (tempered condition). With the ability to polish this material to a high gloss finish, it is ideally suited as knife steel. Good forgeability, medium weldability and is conditionally acid resistant.

Applications

Automotive industry, power engineering, turbine and power plant construction, medical technology, mechanical engineering, petrochemical industry, cutting tool industry, knives, fasteners, architecture and decoration.

Heat treatment

Soft annealing	**Temperature**	**Cooling**	**Hardness**
	1373 - 1517°F	Furnace, air	max. 228 HB
Hardening	**Temperature**	**Quenching in**	
	1742 - 1922°F	Air, Oil, Polymer	

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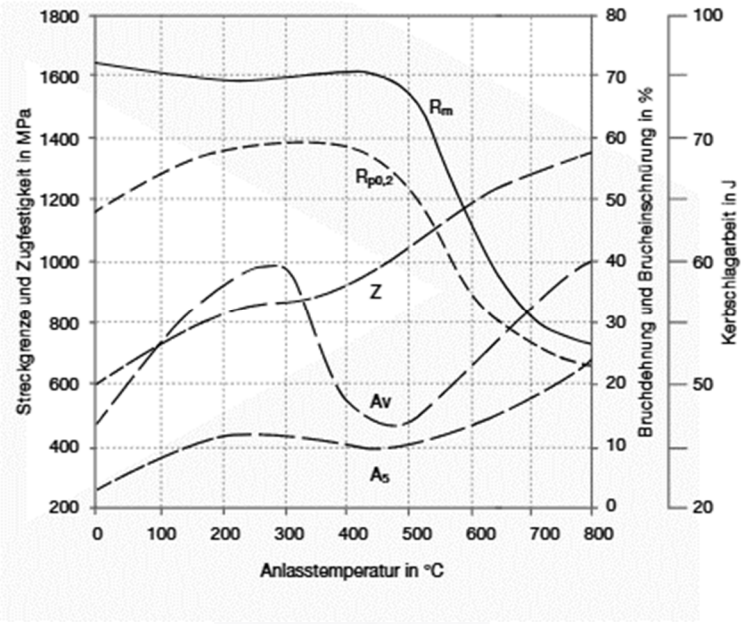
Tempering diagram



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