

Steel grade

Material No.	PREMIUM 1018 / A36
AISI	1018 / A36
Search for alternatives in the ABRAMS STEEL GUIDE	www.abrams-steelguide.com/alternatives/1018-A36

Shapes



Precision Ground Flat Stock [GFS reg]
regular
L: 24"



Cold Finished Rounds [CF]
Precision Rounds Bars
L: 18"
L: 36"

Chemical composition AISI 1018 (reference value %)

C	Si	Mn	P	S
0 - 0.29	0 - 0.4	0.6 - 1.2	0 - 0.04	0 - 0.05

Physical properties

Hardness (delivery condition)	max. 162 HB		
Tensile strength R_m (as received condition)	approx. 72.5 KSI		
Working hardness	max. 60 HRC		
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	68 - 212°F	68 - 752°F	68 - 1112°F
	12.0	13.5	14.5
Thermal conductivity $W/(m \cdot K)$	68°F	212°F	392°F
	51.9	50.8	48.9

Technical properties

This steel grade is one of the most commonly used low carbon steels. It has good weldability and surface hardening quality, as well as higher mechanical properties and very good machinability.

Applications

Gears, pinions, ratchets, worms, pins, chain pins, machine parts, tools and mold components.

Heat treatment

	Temperature	Cooling	Hardness
Soft annealing	1571 - 1652°F	Furnace	max. 150 HB
Stress relief annealing	Temperature	Cooling	
	approx. 932 - 1292°F	Furnace, air	
Hardening	Temperature	Quenching in	Hardness after quenching
	1436 - 1508°F	Water	57 HRC

