

Database of Steel and Alloy (Marochnik)

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Characteristics for grade A40G (A40Г).

Grade :	A40G (A40Г)
Classification :	Rolled steel of improved and high cutting machinability
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Chemical composition in % for grade A40G (A40Г)

C	Si	Mn	S	P	Cu
0.37 - 0.45	0.15 - 0.35	1.2 - 1.55	0.18 - 0.3	max 0.05	max 0.25

Temperature of critical points for grade A40G (A40Г).

$Ac_1 = 730$, $Ac_3(Ac_m) = 830$

Mechanical properties under T=20°C for grade A40G (A40Г)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Rolled stock hotrolled, GOST 1414-75			590		14	20		
Rolled stock cold-drawn, GOST 1414-75			590		17			Annealing

Brinell hardness for A40G (A40Г) , Rolled stock GOST 1414-75	HB 10 ⁻¹ = 207 MPa
Brinell hardness for A40G (A40Г) (annealing) , Rolled stock GOST 1414-75	HB 10 ⁻¹ = 229 MPa

Technological properties for grade A40G (A40Г)

Flakes :	predisposed
Temper brittleness:	predisposed

Equivalent steels for grade A40G (A40Г)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Spain	China	Bulgaria	Hungary	Poland	Romania	Czechia
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	UNE	GB	BDS	MSZ	PN	STAS	CSN
1141	44SMn28	SUM42	45MF6	216M36	1.0762	CF44SMn28	45MnS6	Y40Mn	44SMn28	ANS2	A35G2	AUT40Mn	11140
1144	45S20	SUM43		226M44	44SMn28				A45		A45		
C1144	46S20			44SMn28									
G11410													
G11440													
G11444													
G11460													

Specification :
Mechanical properties :

σ_B	- Tensile strength , [MPa]
σ_T	- Yield stress , [MPa]
δ_5	- Specific elongation at fracture , [%]
ψ	- Reduction of area , [%]
KCU	- Impact strength , [kJ / m ²]
HB	- Brinell hardness , [MPa]

Weldability :

without limitations	- welding is done without heating and subsequent heat treating
limited weldability	- welding is possible under heating up to 100-120 grade and subsequent heat treating
hard weldability	- obtaining the quality welding needs the additional operations: heating up to 200-300 grade; the heat treating ia annealing

Database of steels and alloys (Marochnik) contains information about chemical composition and properties more then 2500 steels and alloys (stainless steel, alloy steel, carbone steel, structural steel, tool steel, cast iron, aluminum alloy, titanium alloy, copper alloy, nickel alloy, magnesium alloy and others).
Helpfull for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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