

Database of Steel and Alloy (Marochnik)

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Characteristics for grade A30 (A30).

Grade :	A30 (A30)
Substitute:	A40, A40Г
Classification :	Rolled steel of improved and high cutting machinability
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Chemical composition in % for grade A30 (A30)

C	Si	Mn	S	P	Cu
0.26 - 0.35	0.15 - 0.35	0.7 - 1	0.08 - 0.15	max 0.06	max 0.25

Temperature of critical points for grade A30 (A30).

$A_{c1} = 735$, $A_{c3}(A_{cm}) = 845$, $A_{r3}(A_{rcm}) = 820$, $A_{r1} = 680$

Mechanical properties under T=20°C for grade A30 (A30)

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			510		15	25		
Rolled stock, GOST 1414-75			540		6			

Brinell hardness for A30 (A30) , Rolled stock GOST 1414-75	HB 10⁻¹ = 185 MPa
Brinell hardness for A30 (A30) , Rolled stock GOST 1414-75	HB 10⁻¹ = 223 MPa

Technological properties for grade A30 (A30)

Weldability:	is not used.
Flakes :	predisposed
Temper brittleness:	not predisposed

Equivalent steels for grade A30 (A30)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Spain	China	Sweden	Poland	Romania	Czechia
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	UNE	GB	SS	PN	STAS	CSN
1126 1140	1.0726 35S20	SUM4	35MF4 35MF6	212M36	1.0726 35S20	CF35SMn10	F.210G	Y30 Y35	1957 1957-03	A35	AUT30	11140

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 is annealing

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

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