

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 12k (12K).

Grade :	12k (12K)
Classification :	High quality structural carbon steel
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Chemical composition in % for grade 12k (12K)

C	Si	Mn	Ni	S	P	Cr	Cu	As
0.08 - 0.16	0.17 - 0.37	0.4 - 0.7	max 0.3	max 0.04	max 0.04	max 0.3	max 0.3	max 0.08

Mechanical properties under T=20°C for grade 12k (12K)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Sheet	to 20		350-440	225	24		780	As-delivered state
Sheet	21 - 40		350-440	215	24		780	As-delivered state
Sheet	41 - 60		350-440	205	24		780	As-delivered state

Technological properties for grade 12k (12K)

Weldability:	without limitations.
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Equivalent steels for grade 12k (12K)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Sweden	Poland	Czechia	Finland	Austria
-	DIN,WNr	JIS	AFNOR	BS	EN	UNI	SS	PN	CSN	SFS	ONORM
A285 Gr.55 Gr.A	1.0345 ASt35 H1	SGV410 SPV450	A37AP A37CP	141-360	1.0345 5235GH P235GH	Fe360-1KG Fe360-1KW FeE235	1330	St36K	11364 11366	Fe37BP	St35KW

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 / m²]
- 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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