

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 12GN2MFAYU (12ГН2МФАЮ).

Grade :	12GN2MFAYU (12ГН2МФАЮ)
Classification :	Low alloy structural steel for welding construct
Equivalent grades:	Is absent

Chemical composition in % for grade 12GN2MFAYU (12ГН2МФАЮ)

C	Si	Mn	Ni	S	P	Cr	Mo	V	N	Al	Cu
0.09 - 0.16	0.4 - 0.6	0.9 - 1.3	1.4 - 1.7	max 0.035	max 0.035	max 0.5	0.15 - 0.25	0.05 - 0.1	0.02 - 0.03	0.05 - 0.1	max 0.03

Mechanical properties under T=20°C for grade 12GN2MFAYU (12ГН2МФАЮ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
			700-850	600-700	14			Guenching and drawing

Technological properties for grade 12GN2MFAYU (12ГН2МФАЮ)

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