

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 80S (80C).

Grade :	80S (80C)
Classification :	Low alloy structural steel for welding construct
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Chemical composition in % for grade 80S (80C)

C	Si	Mn	Ni	S	P	Cr	Ti	Cu
0.74 - 0.82	0.6 - 1.1	0.5 - 0.9	max 0.3	max 0.045	max 0.04	max 0.3	0.015 - 0.04	max 0.3

Mechanical properties under T=20°C for grade 80S (80C)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Rebar, GOST 5781-82	Ø 10 - 18		883	590	6			

Technological properties for grade 80S (80C)

Weldability:	without limitations.
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Equivalent steels for grade 80S (80C)

Warning! Indicated both exact and nearest equivalents.

Bulgaria	Czechia
BDS	CSN
55GS2	10607

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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