

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 09G2 (09Г2).

Grade :	09G2 (09Г2)
Substitute:	10Г2, 09Г2С, 09Г2Д, 09Г2Т
Classification :	Low alloy structural steel for welding construct
Equivalent grades:	Go here

Chemical composition in % for grade 09G2 (09Г2)

C	Si	Mn	Ni	S	P	Cr	N	Cu	As
max 0.12	0.17 - 0.37	1.4 - 1.8	max 0.3	max 0.04	max 0.035	max 0.3	max 0.008	max 0.3	max 0.08

Temperature of critical points for grade 09G2 (09Г2).

$Ac_1 = 720$, $Ac_3(Ac_m) = 830$, $Ar_3(Arc_m) = 710$, $Ar_1 = 620$, $Mn = 320$

Mechanical properties under $T=20^{\circ}C$ for grade 09G2 (09Г2)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m^2	-
Sheet, GOST 19282-73	4		450	310	21			

Technological properties for grade 09G2 (09Г2)

Weldability:	without limitations.
Flakes :	not predisposed
Temper brittleness:	not predisposed

Equivalent steels for grade 09G2 (09Г2)

Warning! Indicated both exact and nearest equivalents.

Germany	England	China	Bulgaria	Poland
DIN, WNr	BS	GB	BDS	PN
7Mn6 G8Mn7	68F62H5	09Mn2	09G2	09G2

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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