

Database of Steel and Alloy (Marochnik)

splat.kharkov.com/en

[Home](#) [European steel grades](#) [Steel and Alloy](#) [Search](#) [Equivalent grades](#) [Grading](#) [GOST Standard](#) [Contacts](#)

YOU HERE: [Steel and Alloy](#) -> [Structural steel](#)

Characteristics for grade 10G2S1 (10Г2С1).

Grade :	10G2S1 (10Г2С1)
Substitute:	10Г2С1Д
Classification :	Low alloy structural steel for welding construct
Equivalent grades:	Go here

Chemical composition in % for grade 10G2S1 (10Г2С1)

C	Si	Mn	Ni	S	P	Cr	N	Cu	As
max 0.12	0.8 - 1.1	1.3 - 1.65	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 10G2S1 (10Г2С1).

$A_{c1} = 763 - 745$, $A_{c3}(A_{cm}) = 920 - 927$, $A_{r3}(A_{rcm}) = 790 - 820$, $A_{r1} = 640 - 735$
--

Mechanical properties under T=20°C for grade 10G2S1 (10Г2С1)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Sheet, GOST 5520-79			430-490	295-355	21		590-640	

Technological properties for grade 10G2S1 (10Г2С1)

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

Equivalent steels for grade 10G2S1 (10Г2С1)

Warning! Indicated both exact and nearest equivalents.

Germany	European	Bulgaria
DIN, WNr	EN	BDS
10MnSi7 11MnSi6	10MnSi63KE 10MnSi74KE	10G2S1

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).
Helpfull for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

[Top](#)

© 2003 - 2013 All rights reserved. [About program.](#)

The entire risk as to use of the Database of Steel and Alloy (Marochnik) content is assumed by you the user

