

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 15KHSND (15XCHД).

Grade :	15KHSND (15XCHД) (15XCHД-Ш)
Substitute:	16Г2АФ, 15ГФ, 14ХГС, 16ГС, 14CHД
Classification :	Low alloy structural steel for welding construct
Equivalent grades:	Is absent

Chemical composition in % for grade 15KHSND (15XCHД)

C	Si	Mn	Ni	S	P	Cr	N	Cu	As
0.12 - 0.18	0.4 - 0.7	0.4 - 0.7	0.3 - 0.6	max 0.04	max 0.035	0.6 - 0.9	max 0.008	0.2 - 0.4	max 0.08

Temperature of critical points for grade 15KHSND (15XCHД).

$A_{c1} = 730$, $A_{c3}(A_{cm}) = 885$, $A_{r3}(A_{rcm}) = 803$, $A_{r1} = 650$

Mechanical properties under T=20°C for grade 15KHSND (15XCHД)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Sheet, GOST 19282-73	5 - 9		500	350	21			
Roll stock, GOST 6713-91			470-685	335-345	19-21		290	

Technological properties for grade 15KHSND (15XCHД)

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

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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