

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 36KH2N2MFA (36X2H2MΦA).

Grade :	36KH2N2MFA (36X2H2MΦA)(36XH1MΦA)
Substitute:	37XH3MΦA
Classification :	Alloy structural steel
Equivalent grades:	Go here

Chemical composition in % for grade 36KH2N2MFA (36X2H2MΦA)

C	Si	Mn	Ni	S	P	Cr	Mo	V	Cu
0.33 - 0.4	0.17 - 0.37	0.25 - 0.5	1.3 - 1.7	max 0.025	max 0.025	1.3 - 1.7	0.3 - 0.4	0.1 - 0.18	max 0.3

Temperature of critical points for grade 36KH2N2MFA (36X2H2MΦA).

$A_{c1} = 740$, $A_{c3}(A_{cm}) = 780$, $A_{r3}(A_{rcm}) = 400$, $A_{r1} = 300$

Mechanical properties under T=20°C for grade 36KH2N2MFA (36X2H2MΦA)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 4543-71	Ø 25		1180	1080	12	50	780	Guenching and drawing

Brinell hardness for 36KH2N2MFA (36X2H2MΦA) (annealing), GOST 4543-71

HB 10⁻¹ = 269 MPa

Technological properties for grade 36KH2N2MFA (36X2H2MΦA)

Weldability:	hard weldability.
Flakes :	predisposed
Temper brittleness:	not predisposed

Physical properties for grade 36KH2N2MFA (36X2H2MΦA)

T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹
Grade	MPa	1/Grade	Watt/(m·Grade)	kg/m ³	J/(kg·Grade)	Ohm·m
20	2.12		36			278
100	2.04	12.5	36		496	335
200	1.98	12.8	35		508	432
300	1.86	13.3	35		525	517

400	1.73	13.5	34		538	613
500	1.66	14	33		567	720
600	1.56	14.3	31		601	825
700	1.39	14.5	30		672	940
800	1.27	11	29		697	
T	$E 10^{-5}$	$\alpha 10^6$	λ	ρ	C	$R 10^9$

Equivalent steels for grade 36KH2N2MFA (36X2H2MΦA)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Sweden	Poland	Czechia
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	SS	PN	CSN
4340	34CrNiMo6	SNM447	35NCD6	817M40	1.6582 34CrNiMo6	35NiCrMo6KB	2541	34HNM	16444

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 / m²]
- HB - Brinell hardness , [MPa]

Physical properties :

- T - Test temperature , [Grade]
- E - Young modulus , [MPa]
- α - Coefficient of linear expansion (range 20° - T) , [1/Grade]
- λ - Thermal (heat) condition coefficient , [Watt/(m·Grade)]
- ρ - Density , [kg/m³]
- C - Specific heat (range 20° - T) , [J/(kg·Grade)]
- R - Electrical resistance , [Ohm·m]

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, carbene 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

