

Database of Steel and Alloy (Marochnik)

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Characteristics for grade KH6VF (X6BΦ).

Grade :	KH6VF (X6BΦ)
Substitute:	X12Φ1, X12M, 9X5Φ
Classification :	Die tool steel
Equivalent grades:	Go here

Chemical composition in % for grade KH6VF (X6BΦ)

C	Si	Mn	Ni	S	P	Cr	W	V	Cu
1.05 - 1.15	0.1 - 0.4	0.15 - 0.45	max 0.4	max 0.03	max 0.03	5.5 - 6.5	1.1 - 1.5	0.5 - 0.8	max 0.3

Temperature of critical points for grade KH6VF (X6BΦ).

$Ac_1 = 815$, $Ac_3(Ac_m) = 845$, $Ar_3(Arc_m) = 775$, $Ar_1 = 625$, $Mn = 150$

Mechanical properties under T=20°C for grade KH6VF (X6BΦ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band annealed , GOST 2283-79	0.1 - 4		880					

Brinell hardness for KH6VF (X6BΦ) (annealing), GOST 5950-2000

HB 10⁻¹ = 241 MPa

Technological properties for grade KH6VF (X6BΦ)

Weldability:	is not used.
Temper brittleness:	not predisposed

Equivalent steels for grade KH6VF (X6BΦ)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	Spain
-	DIN, WNr	JIS	AFNOR	BS	UNE
A2 T30102	1.2363 X100CrMoV5-1	SKD12	Z100CDV5	BA2	X100CrMoV5

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 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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