

Database of Steel and Alloy (Marochnik)

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Characteristics for grade KH12MF (X12MΦ).

Grade :	KH12MF (X12MΦ)
Substitute:	X6BΦ, X12Φ1, X12BM
Classification :	Die tool steel
Equivalent grades:	Go here

Chemical composition in % for grade KH12MF (X12MΦ)

C	Si	Mn	Ni	S	P	Cr	Mo	V	Cu
1.45 - 1.65	0.1 - 0.4	0.15 - 0.45	max 0.4	max 0.03	max 0.03	11 - 12.5	0.4 - 0.6	0.15 - 0.3	max 0.3

Temperature of critical points for grade KH12MF (X12MΦ).

$A_{c1} = 810$, $A_{c3}(A_{cm}) = 860$, $A_{r3}(A_{rcm}) = 780$, $A_{r1} = 760$, $Mn = 225$

Brinell hardness for KH12MF (X12MΦ) (annealing), GOST 5950-2000	HB 10⁻¹ = 255 MPa
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Technological properties for grade KH12MF (X12MΦ)

Weldability:	is not used.
Temper brittleness:	predisposed

Equivalent steels for grade KH12MF (X12MΦ)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Spain	Sweden	Bulgaria	Hungary	Poland	Czechia	Austria
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	UNE	SS	BDS	MSZ	PN	CSN	ONORM
D2 T30402	1.2379 1.2601 X162CrMoV12 X165CrMoV12 X155CrVMo12-1	SKD11	X160CrMoV12 Z160CDV12	BD2	X160CrMoV12-1	C165CrMoV12KU X155CrVMo12-1KU	X160CrMoV12	2310	Ch12MF	K8	NC11LV	19572	K105

Specification :

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 ia 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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