

Material Data Sheet X90CrMoV18-1.4112

Stainless Guide material with:

- Good hardening properties
- Excellent Ground Finish
- Excellent Corrosion resistance

Selected for use in High Quality Linear Bearing Guide-way systems where Induction Hardened, Corrosion Resistant materials are required.

// Chemical Analysis %

Material	C	Si	Mn	P	S	Cr	Mo	V
X90CrMoV18	0,85	<=	<=	<=	<=	17,0	0,9	0,07
	0,95	1,0	1,0	0,04	0,03	19,0	1,3	0,12

Specification to DIN EN 10088-3

// Mechanical Properties

This material has no standard yield or tensile strength values. Test certification can be provided at cost.

Values according to EN 10088-1:

E-Modulus at 20°C = 215.000 N/mm²

E-Modulus at 100°C = 212.000 N/mm²

Thermal Expansion:

20 - 100°C = 10,4 x 10⁻⁶ K⁻¹

20 - 200°C = 10,8 x 10⁻⁶ K⁻¹

20 - 300°C = 11,2 x 10⁻⁶ K⁻¹

The material is magnetic and not weldable.

Density: 7,7 kg/dm³

Roundness: ½ Diameter tolerance

Surface: Polished, surface finish Ra < = 0,30 µm

Straightness: < Ø 10
< 0,30 mm/m (TIR max. 0,60 mm/m)
= > Ø 10 - < Ø 20 mm
0,20 mm/m (TIR max. 0,40 mm/m)
= > Ø 20 - Ø 50 mm
0,10 mm/m (TIR max. 0,20 mm/m)

Induction hardened: Surface Hardness 53 - 59 HRC

Diameter (mm)	Depth of Hardness Rht 450 HV1 DIN EN 10328
3 - 6	> = 0,60 mm
> 6 - 8	0,80 mm + 0,50 mm
> 8 - 18	1,00 mm + 1,00 mm
> 18 - 28	1,50 mm + 1,00 mm
> 28 - 80	2,00 mm + 2,00 mm

// Standard Diameters

Standard Ø (mm)	Tolerance (µm)		* Production Length (mm)
	h 6	h 7	
6	0 - 8	0 - 12	3.000
8	0 - 9	0 - 15	
10			
12	0 - 11	0 - 18	6.100
16			
20			
25	0 - 13	0 - 21	
30			
40	0 - 16	0 - 25	
50			
60			
80	0 - 19	0 - 30	

* When ordering stock, as opposed to fixed length bars, please be aware that up to 10% of the delivery may be out of tolerance. Stock bars do not have their ends cut which means that up to 75 mm of each end may not be fully hardened and up to 150 mm of each end may not be within geometrical tolerance. Length tolerance ± 100 mm.

Specials:

Other hardness depths and tolerances are available. Please contact us for detailed information, dimensions and minimum order quantities.



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