

Material Data Sheet Cf 53/C55E – 1.1213/1.1203

Linear Bearing Shaft with:

- Good hardening properties
- Excellent Ground Finish

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

// Chemical Analysis %

Material	C	Si	Mn	P	S	Al
Cf 53/C55E	0,50	max.	0,40	max.	max.	0,02
	0,60	0,40	0,90	0,03	0,035	0,05

// Mechanical Properties, untreated

Diameter (mm)	Re (N/mm ²)	Rm (N/mm ²)	A (%)
bis 17	= > 325	= > 610	= > 6
> 17 - 41	= > 325	= > 610	= > 6
> 41 - 110	= > 325	= > 610	= > 6

Density: 7,85 kg/dm³

Roundness: ½ Diameter tolerance

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

Straightness: < Ø 10 mm =
 < 0,30 mm/m (TIR max. 0,60 mm/m)
 = > Ø 10 mm - < Ø 20 mm =
 0,20 mm/m (TIR max. 0,40 mm/m)
 = > Ø 20 mm - Ø 110 mm =
 0,10 mm/m (TIR max. 0,20 mm/m)

Induction hardened: Surface Hardness 60 - 66 HRC

Diameter (mm)	Depth of Hardness Rht 550 HV1 DIN EN 10328
= < 5	> = 0,50 mm
> 5 - 10	0,50 mm + 0,50 mm
> 10 - 18	0,80 mm + 0,50 mm
> 18 - 30	1,20 mm + 0,80 mm
> 31 - 50	1,50 mm + 1,00 mm
> 50 - 80	2,20 mm + 1,00 mm
> 80	3,20 mm + 1,50 mm

// Standard Diameters

Standard Ø (mm)	Tolerance (µm)		* Production Length (mm)
	h 6	h 7	
5			5.800
6	0 - 8	0 - 12	
8			6.100
10	0 - 9	0 - 15	
12			
14			
15	0 - 11	0 - 18	7.000 / 7.200 / 6.100
16			
18			
20			
22			7.700 / 6.100
25	0 - 13	0 - 21	
30			
32			
35			7.700 / 6.100
36	0 - 16	0 - 25	
40			
45			
50			7.700 / 6.100
60			
70	0 - 19	0 - 30	
80			
100	0 - 22	0 - 35	6.100

* 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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