STAR WV Induction Hardened and Hard Chrome Plated Ground Linear Shafts

DIAMETER 5 - 120 mm

STEEL GRADES

Steel Grade	DIN	B.S	UNI	JIS	GOST	ASI/SAE/ASTM	Werkstoff
Cf53	Cf53(C53G)	070M55	C53	S50C	50	1050	1,1213

CHEMICAL COMPOSITION - IN % BY WEIGHT

Steel Grade	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	N
Cf53	0.50-0.57	0.15-0.35	0.40-0.70	≤0.025	≤0.035	–	–	–	–	–	–

MECHNICAL PROPERTIES

Steel Grade	Diameter	Tensile Strength N/mm²	Yield Strength N/mm2	Elongation A%	Hardness Brinell N/mm2	Norm	Tristar Steel Product Code
Cf53+N	Ø≤16 16<Ø≤120	610-760 610-760	Min. 340 Min. 340	Min. 16 Min. 16	Min. 183 –	DIN 17212	STAR WV

STRAIGHTNESS
5 ≤ Ø ≤ 10mm: max. 0.3 mm/1000 mm
12 ≤ Ø ≤ 18mm: max. 0.25 mm/1000 mm
20 ≤ Ø ≤ 50mm: max. 0.20 mm/1000 mm
50 < Ø ≤ 120mm: max. 0.15 mm/1000 mm

ROUNDNESS
5 ≤ Ø ≤ 10mm: max. 4 um
12 ≤ Ø ≤ 18mm: max. 5 um
20 ≤ Ø ≤ 30mm: max. 6um
30 < Ø ≤ 50mm: max. 7 um
50 < Ø ≤ 80mm: max. 8 um
80 < Ø ≤ 120mm: max. 10 um

SURFACE HARDNESS
Surface hardness beneath the chrome layer
Cf53 62±2 HRC

TOLERANCE
h7, other on request

CHROME LAYER THICKNESS
12 ± 5 µm

SURFACE ROUGHNESS
Ra: max. 0.15 µm

CHROME LAYER MICROHARDNESS
900 HV0.1

Diameter (mm)	Hardening Depth (mm)
5 - 10	min. 0.4
12 - 18	min. 0.6
20 - 30	min. 0.9
32 - 50	min. 1.5
60 - 90	min. 2.2
100 - 120	min. 3.2