



Induction Hardened and Ground Stainless Steel Linear Shafts

DIAMETER 20 - 60 mm

STEEL GRADES

Steel Grade	DIN	B.S	UNI	JIS	GOST	ASI/SAE/ASTM	Werkstoff
X90CrMoV18	X90CrMoV18	(420S45)	–	–	–	440B	1,4112

CHEMICAL COMPOSITION - IN % BY WEIGHT

Steel Grade	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	N
X90CrMoV18	0.85-0.95	≤1.00	≤1.00	≤0.040	≤0.030	17.0-19.0	0.90-1.30	–	–	0.07-0.12	–

MECHANICAL PROPERTIES

Steel Grade	Diameter	Tensile Strength N/mm ²	Yield Strength N/mm ²	Elongation A%	Hardness Brinell N/mm ²	Norm	Tristar Steel Product Code
X90CrMoV18	5 ≤ Ø ≤ 60	min.738	min.427	min.9	max.285	EN 10088-3	STAR WRA

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 ≤ 60mm: max. 0.15 mm/1000 mm

ROUNDNESS

5 ≤ Ø ≤ 10mm: max. 4 μm
 12 ≤ Ø ≤ 18mm: max. 5 μm
 20 ≤ Ø ≤ 30mm: max. 6 μm
 30 < Ø ≤ 50mm: max. 7 μm
 30 < Ø ≤ 50mm: max. 8 μm

SURFACE HARDNESS

Surface hardness beneath the chrome layer
 X90CrMoV18 min. 55 HRC

OD TOLERANCE

h6, other on request

SURFACE ROUGHNESS

Ra: max. 0.15 μm

STANDARD LENGTH

5800- 7500 mm, other on request

Diameter (mm)	Hardening Depth (mm)
20 - 30	min. 0.9
32 - 50	min. 1.5
55 - 60	min. 2.2