STAR ICBB Induction Hardened and Chrome Plated Steel Bar

DIAMETER 5 - 130 mm

STEEL GRADES

Steel Grade	DIN	B.S	UNI	JIS	GOST	ASI/SAE/ASTM	Werkstoff
38MnVS6	**38MnSiVS5**		–	– –	–	(15V41)*	1,1303

CHEMICAL COMPOSITION - IN % BY WEIGHT

Steel Grade	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	N
38MnVS6	0.34-0.41	0.15-0.80	1.20-1.60	≤0.025	0.20-0.60	≤0.30	≤0.08	–	–	0.08-0.20	0.01-0.02
38MnVS6x	0.34-0.41	0.15-0.80	1.20-1.60	≤0.025	≤0.060	≤0.30	≤0.08	–	–	0.08-0.20	0.01-0.02

MECHNICAL PROPERTIES

Steel Grade	Diameter	Tensile Strength N/mm²	Yield Strength N/mm2	Elongation A%	Impact Energy J/Min.	Hardness Brinell N/mm2	Norm	Tristar Steel Product Code
38MnVS6	20<Ø≤120 120<Ø≤200	800-950	Min. 520	Min. 19	–	240-290	EN 10267 EN 10267	STAR ICBB
38MnVS6x	20<Ø≤90	850-1000	Min. 580	Min. 14	–	240-290	Internal Norm	STAR ICBBX

STRAIGHTNESS
6 ≤ Ø ≤ 10mm: Max. 0.3 mm/1000 mm
12 ≤ Ø ≤ 18mm: Max. 0.25 mm/1000 mm
20 ≤ Ø ≤ 130 mm: Max. 0.20 mm/1000 mm

ROUNDNESS
Max. ½ from Dia. Tolerance

CHROME LAYER THICKNESS
Ø < 20 mm: min. 15 µm
Ø ≥ 20 mm: min. 20 µm

STANDARD LENGTH
5000 - 7500 mm
(Available on request)

SURFACE ROUGHNESS
Ra: max. 0.15 µm; Rt: max. 1.2 µm

CHROME LAYER MICROHARDNESS
900 HV0.1

Diameter (mm)	Hardening Depth (mm)
6	1.1 - 1.4
6.35 - 12	1.1 - 1.4
12.7 - 15	1.1 - 1.4
15.875 - 18	1.1 - 1.4
19 - 19.05	1.1 - 1.4
20	1.1 - 1.4
22 - 25.4	1.1 - 1.4
28	1.1 - 1.4
28,575	1.3 - 1.7
30 - 36	1.3 - 1.7
38 - 40	1.3 - 1.7
42 - 45	1.7 - 2.3
48 - 80	1.7 - 2.3
82 - 101.6	1.7 - 2.3
105 - 120	1.7 - 2.3
125 - 130	1.7 - 2.3

TOLERANCE
f7, other on request

SURFACE HARDNESS
Surface hardness beneath the chrome layer

38MnVS6	58±3 HRC
38MnVS6x	58±3 HRC

CORROSION RESISTANCE
Neutral salt spray test according to ISO 9227 - Evaluation according to ISO 10289 :

RATING 10 (NO RUST)

Ø < 20 mm: 144 hours min.
Ø ≥ 20 mm: 200 hours min.