

THALACHROME SIE 120

Induction hardening

BETTER CORROSION RESISTANCE

Diameter 20 - 125 mm



STEEL GRADES

C45E, 20MnV6, 38MnVS6, C35E

CHEMICAL ANALYSIS

Elements	C (%)	Si (%)	Mn (%)	S (%)	P (%)	V (%)	Cr (%)	Mo (%)	Ni (%)	N (%)	WERKSTOFF
C45E	0.42-0.50	≤ 0.40	0.50-0.80	≤ 0.035	≤ 0.035	-	≤ 0.40	≤ 0.10	≤ 0.40	-	1.1191
20MnV6	0.16-0.22	0.10-0.50	1.30-1.70	≤ 0.035	≤ 0.035	0.08-0.20	-	-	-	-	1.5217
38MnVS6	0.34-0.41	0.15-0.80	1.20-1.60	≤ 0.035	≤ 0.025	0.08-0.20	≤ 0.30	≤ 0.08	-	0.010-0.020	1.1303
C35E	0.32-0.39	≤ 0.40	0.50-0.80	≤ 0.035	≤ 0.035	-	≤ 0.40	≤ 0.10	≤ 0.40	-	1.1181

For steel grades C45E and C35E : Cr + Mo + Ni ≤ 0.63%

MECHANICAL PROPERTIES

Steel grade	Range Ø	Yield point (N/mm ²)	Tensile strength (N/mm ²)	Elongation %	PSI
C45E	20 ≤ Ø ≤ 95 mm	≥ 305	580 - 850	≥ 16	45.000
	95 < Ø ≤ 125 mm	≥ 275	560 - 800	≥ 16	40.000
20MnV6	20 ≤ Ø ≤ 65 mm	≥ 450	550 - 850	≥ 18	65.000
	65 < Ø ≤ 125 mm	≥ 390	530 - 850	≥ 21	55.000
38MnVS6	20 ≤ Ø ≤ 125 mm	≥ 520	800 - 950	≥ 12	75.000
C35E	20 ≤ Ø ≤ 36 mm	≥ 315	560 - 750	≥ 18	45.000
	36 < Ø ≤ 125 mm	≥ 275	560 - 760	≥ 19	40.000

INDUCTION HARDENING

Depth:

- Ø 20 à 40 mm : 1.0 à 2.0 mm
- Ø 42 à 80 mm : 1.25 à 2.5 mm
- Ø 82.55 à 125 mm : 2.0 à 3.0 mm

Hardness:

- Steel grade C45E : 55 à 60 HRC
- Steel grade 20MnV6 : 42 à 52 HRC
- Steel grade 38MnVS6 : 55 à 60 HRC
- Steel grade C35E : 52 à 57 HRC

TOLERANCE

- Ø 20 à 125 mm : ISO f7

CHROME THICKNESS

- Ø 20 à 125 mm : 25 µm mini

CHROMIUM PLATING

- Hardness : 900 Hv_{0.1} min
- Microcracking : 5000 microcracks /mm² mini

SURFACE ROUGHNESS

- Ra : 0.07 à 0.20 µm
- Ry : 2.5 µm maxi

STRAIGHTNESS

- 0.2 mm/m maxi

STANDARD LENGTH

- 4.5 à 7.8 m

CORROSION RESISTANCE

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

Rating 10
(no point of rust)

120h00 mini NSS rating 10

Rating 9
(less than 0.1 % of the surface corroded)

504h00 mini NSS rating 9

Acetic spray test according to ISO 9227 - Evaluation according to ISO 10289 :

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Rating 9
(less than 0.1 % of the surface corroded)

72h00 ASS