

# Thalachrome SIE 500

HIGH CORROSION RESISTANCE  
DIAMETER 20 - 125 MM

## STEEL GRADES

C45E | C35E | 20MnV6 | 20MnV6X | 38MnVS6 | 38MnVS6X | 42CrMo4V

## 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
C35E	0.32-0.39	≤ 0.40	0.50-0.80	≤ 0.035	≤ 0.035	-	≤ 0.40	≤ 0.10	≤ 0.40	-	1.1181
20MnV6-20MnV6X	0.16-0.22	0.10-0.50	1.30-1.70	≤ 0.035	≤ 0.035	0.08-0.20	-	-	-	-	1.5217
38MnVS6-38MnVS6X	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
42CrMo4V	0.38-0.45	≤ 0.40	0.60-0.90	≤ 0.035	≤ 0.035	-	0.90-1.20	0.15-0.30	-	-	1.7225

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

## MECHANICAL PROPERTIES

Steel grade	Range $\phi$ (mm)	Yield point (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation %	PSI
C45E	20 ≤ $\phi$ ≤ 95	≥ 305	580 - 850	≥ 16	45 000
	95 < $\phi$ ≤ 125	≥ 275	560 - 800	≥ 16	40 000
C35E	20 ≤ $\phi$ ≤ 36	≥ 315	560 - 750	≥ 18	45 000
	36 < $\phi$ ≤ 125	≥ 275	560 - 760	≥ 19	40 000
20MnV6	20 < $\phi$ ≤ 65	≥ 450	550 - 850	≥ 18	65 000
	65 < $\phi$ ≤ 125	≥ 390	530 - 850	≥ 21	55 000
20MnV6X	20 ≤ $\phi$ ≤ 70	≥ 520	650 - 800	≥ 19	75 000
	71 ≤ $\phi$ ≤ 90	≥ 520	650 - 800	≥ 21	75 000
	91 ≤ $\phi$ ≤ 125	≥ 440	550 - 750	≥ 21	64 000
38MnVS6	20 ≤ $\phi$ ≤ 125	≥ 520	800 - 950	≥ 12	75 000
38MnVS6X	25 ≤ $\phi$ ≤ 125	≥ 580	850 - 1000	≥ 14	84 000
42CrMo4V	20 ≤ $\phi$ ≤ 40	≥ 750	1000 - 1200	≥ 11	100 000
	41 ≤ $\phi$ ≤ 100	≥ 650	900 - 1100	≥ 12	95 000
	101 ≤ $\phi$ ≤ 125	≥ 550	800 - 950	≥ 13	80 000

## INDUCTION HARDENING

### Depth:

• $\phi$ 20 to 40 mm :	1.0 to 2.0 mm
• $\phi$ 42 to 80 mm :	1.25 to 2.5 mm
• $\phi$ 82.55 to 125 mm :	2.0 to 3.0 mm

### Hardness:

• C45E :	55 to 60 HRC
• C35E :	52 to 57 HRC
• 20MnV6-20MnV6X :	42 to 52 HRC
• 38MnVS6-38MnVS6X :	55 to 60 HRC
• 42CrMo4V :	55 to 60 HRC

## TOLERANCE

- $\phi$  20 to 28,575 mm : f8
- $\phi$  30 to 125 mm : f7

## CHROME THICKNESS

- $\phi$  20 to 125 mm : 30  $\mu$ m mini

## CHROMIUM PLATING

- Hardness : 900 Hv<sub>0.1</sub> min
- Microcracking : 5000 microcracks /mm<sup>2</sup> mini

## SURFACE ROUGHNESS

- Ra : 0.15  $\mu$ m maxi
- Rt : 1.5  $\mu$ m maxi

## STRAIGHTNESS

- 0.2 mm/m maxi

## STANDARD LENGTH

- 4.5 - 7.8 m

## CORROSION RESISTANCE

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

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

Rating 10 (no point of rust)

500h00 mini NSS rating 10

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

1008h00 mini NSS rating 9

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

200h00 ASS