



Series	Description
NIMAX-TL	Hard Chrome Plated Telescopic Steel Tubes steel grade: E355 / OD: Ø40 - 200 mm, ID: Ø30 - 180 mm

Steel grades correspondents

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI SAE ASTM
E355	1.0580	St52	CFS5	Fe510	STKM19A	St6sp	1524 / 1024
P460N	1.8905	StE460	55C	FeE460KG	-	18G2AF	-
C45E	1.1191	Ck45	080M46	C45	S45C	45	1045

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Mo	Ni	V	Cu	N
E355	max. 0.22	max. 0.55	max. 1.60	max. 0.025	max. 0.040	-	-	-	-	-	-
P460N	max. 0.20	max. 0.60	1.00 - 1.70	max. 0.025	max. 0.020	max. 0.30	max.0.10	max. 0.80	max. 0.20	max. 0.70	max 0.020
C45E	0.42 ÷ 0.55	max. 0.40	0.50 ÷ 0.80	max. 0.035	max. 0.035	max. 0.40	max. 0.10	-	-	-	-

Mechanical properties

Steel grade	Tensile strength R_m N/mm ²	Yield point $R_{p0.2}$ N/mm ²	Impact energy KV J	Elongation A_5 %	Hardness *** Brinell N/mm ²	Norm
E355+SR	min. 580	min. 450	(27 J / -20° C) **	min. 10	min. 175	EN 10305-1
E355+C	min. 640	min. 540	-	min. 4	min. 185	EN 10305-2
P460N+N	560 - 730	min. 460 *	27 J / -20° C	min. 19	170 - 220	EN 10216-3
C45E+N	min. 540	min. 340	-	min. 18	min. 163	EN 10305-1

SR = stress-relieved, N = normalized, C = cold drawn

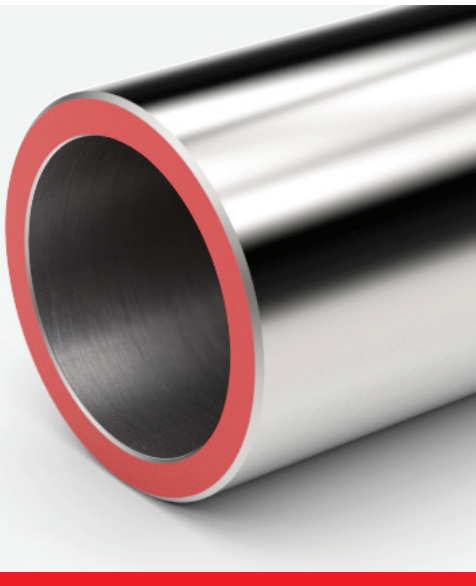
* Wall thickness ≤ 12 mm

** on request

*** The hardness values are for information only

Hard Chrome Plated Telescopic Steel Tubes

steel grade: E355



Series **NIMAX-TL - E355+C**

Outside diameter - OD	Ø40 - 200 mm
Inside diameter - ID	Ø30 - 180 mm
Inside tolerance - ID	ISO H9 / ISO H10
Outside tolerance - OD	ISO f7 / ISO f8
Roundness - ID	within the limits of diameter tolerances
Standard length	only cut lengths
Surface roughness - OD	Ra: max. 0.20 µm
Surface roughness - ID	Ra: max. 0.30 µm for skived and roller burnished surface Ra: 0.40/0.50 µm for honed surface Ra: 0.60/0.90 µm for smooth surface, SSID
Chrome layer thickness	min. 20 µm
Chrome layer microhardness	min. 900 HV0.1
Straightness	max. 0.4 mm/1000 mm

✓ *The hard chrome surface of the tubes confers corrosion and wear resistance, reduces friction, improves durability and through abrasion tolerance ensures good oil holding as well.*

✓ *External chrome plated telescopic tubes are supplied with inside smooth surface as honed, skived and roller burnished or ready to use.*

Table of dimensions - OD tolerance

Diameter mm	ISO f7 µm	ISO f8 µm
30 < Ø ≤ 50	-25 / -50	-25 / -64
50 < Ø ≤ 80	-30 / -60	-30 / -76
80 < Ø ≤ 120	-36 / -71	-36 / -90
120 < Ø ≤ 180	-43 / -83	-43 / -106
180 < Ø ≤ 200	-50 / -96	-50 / -122

Table of dimensions - ID tolerance

Diameter mm	ISO H9 µm	ISO H10 µm
18 < Ø ≤ 30	0 / +52	0 / +84
30 < Ø ≤ 50	0 / +62	0 / +100
50 < Ø ≤ 80	0 / +74	0 / +120
80 < Ø ≤ 120	0 / +87	0 / +140
120 < Ø ≤ 180	0 / +100	0 / +160

