



Series	Description
NIMAX-CT	External Hard Chrome Plated Steel Tubes steel grade: E355, P460N / OD: Ø12 - 140 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

External Hard Chrome Plated Steel Tubes

steel grade: E355 / P460N



Series **NIMAX 120-CT - E355+SR / P460N+N**

Outside diameter - OD	Ø12 - 140 mm
Inside diameter - ID	see Standard dimensions range
Outside tolerance - OD	ISO f7 / ISO f8 / other, on request
Roundness - OD	max. 1/2 from diameter tolerance
Standard length	5000 - 7500 mm / on request cut lengths and special lengths
Surface roughness - OD	Ra: max. 0.20 µm
Chrome layer thickness	OD < 20 mm: min. 15 µm OD ≥ 20 mm: min. 20 µm
Chrome layer microhardness	min. 900 HV0.1
Straightness	max. 0.25 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.
- ✓ Replaces solid piston rods in systems where the total weight is to be minimized.
- ✓ The smooth appearance of the hard chrome surface is conferred by an attentive preparation of the steel tubes before plating.

Table of dimensions - OD tolerance

Diameter mm	ISO f7 µm	ISO f8 µm	Diameter mm	ISO f7 µm	ISO f8 µm
10 < Ø ≤ 18	-16 / -34	-16 / -43	50 < Ø ≤ 80	-30 / -60	-30 / -76
18 < Ø ≤ 30	-20 / -41	-20 / -53	80 < Ø ≤ 120	-36 / -71	-36 / -90
30 < Ø ≤ 50	-25 / -50	-25 / -64	120 < Ø ≤ 140	-43 / -83	-43 / -106

Standard dimensions range

Outside diameter mm	12	16	20	25	28	30	32	35	40	45	50	55	60	63	65	70	75	80	85	90	100	110	120	140
Inside diameter mm	8	10	14	15	16	15	16	25	20	25	30	35	40	43	45	50	55	60	65	70	80	90	100	120
	-	-	15	18	-	20	20	20	25	30	35	40	45	53	50	55	60	65	75	75	85	95	-	-
	-	-	-	20	-	-	-	-	30	35	40	45	50	-	55	60	65	70	-	80	90	-	-	-
Wall thickness mm	2	3	3	5	6	7.5	8	5	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	-	-	2.5	3.5	-	5	6	7.5	7.5	7.5	7.5	7.5	7.5	5	7.5	7.5	7.5	7.5	5	7.5	7.5	7.5	-	-
	-	-	-	2.5	-	-	-	-	5	5	5	5	5	-	5	5	5	5	-	5	5	-	-	-

Upon request we can provide chrome plated tubes with different levels of corrosion resistance

Diameter mm	Standard product NIMAX 120-CT	Medium corrosion resistance NIMAX 200-CT	High corrosion resistance NIMAX 500-CT (only on request)
Ø < 20	rating 9 after 72 h in NSS	-	-
Ø ≥ 20	rating 9 after 120 h in NSS	rating 9 after 200 h in NSS	rating 9 after 500 h in NSS

Tested in our own laboratory according to ISO 9227, evaluated according to ISO 10289. On request we can test our products in AASS fog chamber.