

NIMET

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NCT

NICKEL-CHROME PLATED STEEL TUBES

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NCT

NiCro NCT - E355+SR
NiCro NCT - P460N+N
NiCro NCT - 20MnV6

In spite of the well known oxidation resistance, chrome plating has its limitations when exposed to aggressive environments.

Our solution in this case is nickel-chrome plating, a process meant to give products more durability even in high salinity, high humidity and heavy polluted environments.

The tubes are replacing the solid piston rods in systems where the total weight needs to be minimized.

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	-
-	1.5217	20MnV6	55M	-	-	-	A572

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. 0.025	-	-	-	-	-	-
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
20MnV6	0.16 ÷ 0.22	0.10 ÷ 0.50	1.30 ÷ 1.70	max. 0.035	max. 0.035	-	-	-	0.08 ÷ 0.20	-	-

*Cr+Mo+Ni = max. 0.63

MECHANICAL PROPERTIES

Steel grade	Tensile strength	Yield point	Elongation (longitudinal)	Impact energy (longitudinal direction)	Hardness ***	Norm
	R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %	KV ₂ J	Brinell N/mm ²	
E355+SR	min. 580	min. 450	min. 10	(min. 27J) / -20°C **	min. 175	EN 10305-1
P460N+N	560 - 730	min. 460 *	min. 19	min. 40J / -20°C	170 - 220	EN 10216-3
20MnV6+N	550 - 800	min. 450	min. 22	min. 27J / -20°C	165 - 240	Technical data according to internal norm

SR = stress-relieved, N = normalized

* Wall thickness ≤ 12 mm

** On request

*** The hardness values is for information only

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- Outside diameter - OD Ø30 - 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 lengths 5.000 - 6.400 mm
 - Special lengths On request we can offer cut to fix lengths pieces and special lengths up to max. 6.400 mm
 - Surface roughness - OD Ra: max. 0.20 µm
- | | NiCro 150 | NiCro 350 | NiCro 500 |
|----------------------------|------------------------|------------|------------|
| Nickel layer thickness | min. 10 µm | min. 30 µm | min. 35 µm |
| Chrome layer thickness | min. 20 µm | min. 20 µm | min. 25 µm |
| Nickel layer microhardness | min. 300 HV0.1 | | |
| Chrome layer microhardness | min. 900 HV0.1 | | |
| Straightness | max. 0.25 mm / 1000 mm | | |

TABLE OF DIMENSIONS OD TOLERANCE

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

STANDARD DIMENSIONS RANGE

Outside Diameter mm	30	32	35	40	45	50	55	60	63	65	70	75	80	85	90	100	110	120	140
Inside Diameter mm	15	16	25	20	25	30	35	40	43	45	50	55	60	65	70	80	90	100	120
	20	20	20	25	30	35	40	45	53	50	55	60	65	75	75	85	95	-	-
	-	-	-	30	35	40	45	50	-	55	60	65	70	-	80	90	-	-	-
Wall thickness mm	7.5	8	5	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	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	-	-
	-	-	-	5	5	5	5	5	-	5	5	5	5	-	5	5	-	-	-

CORROSION RESISTANCE LEVELS

Diameter mm	NiCro 150		NiCro 350		NiCro 500	
	NSS	AASS	NSS	AASS	NSS	AASS
Ø30 - 140	rating 10 after 500 h	rating 10 after 150h	rating 10 after 1000 h	rating 10 after 350h	rating 10 after 1500h	rating 10 after 500h

Tested in our own laboratory according to ISO 9227, evaluated according to ISO 10289.

NiCRO

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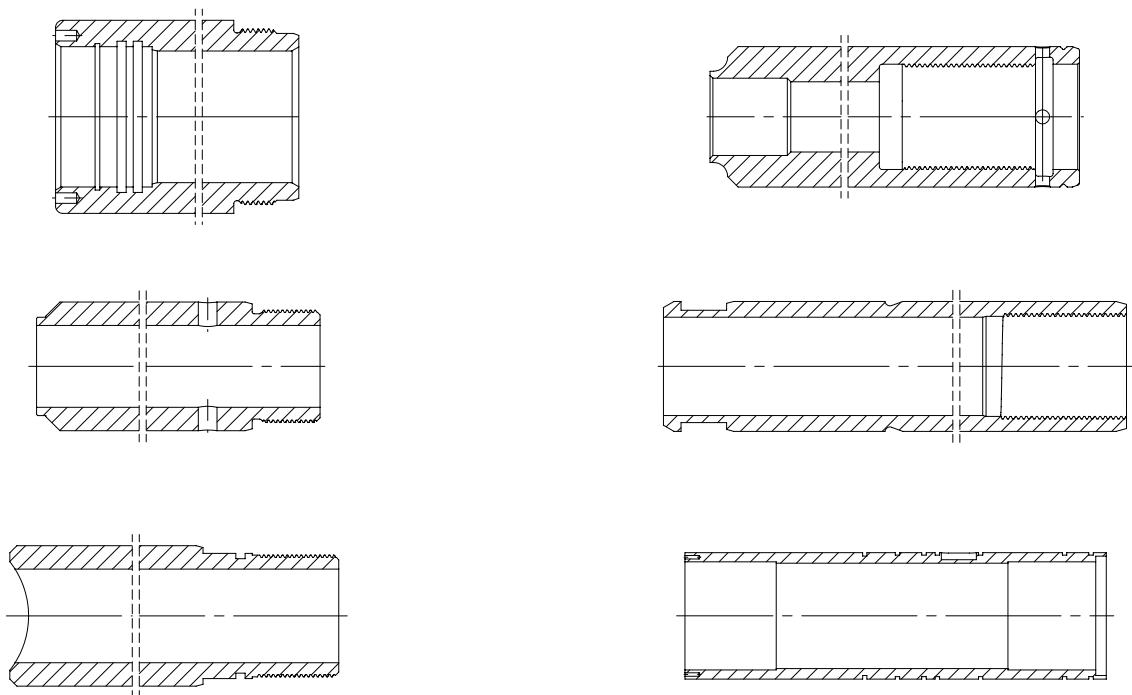
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CUSTOMIZED MACHINING



STORAGE AND HANDLING RECOMMENDATIONS

- Keep the products stored in dry and covered spaces.
- Do not expose for a long time the bars or tubes to the sunlight or to very low temperatures.
- For storage, preferable to use rubber supports or wood lined supports; direct contact with the floor and steel supports that are not lined with soft materials must be avoided.
- Whenever possible, please use the crane to load or unload the bundles; when you use the fork lifts please avoid the direct contact of the forks with the products.
- Always lift the bundles using textile slings. Don't use metal slings during handling of bundles.
- Always keep dry the cardboard tubes that protect the chromed products.



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