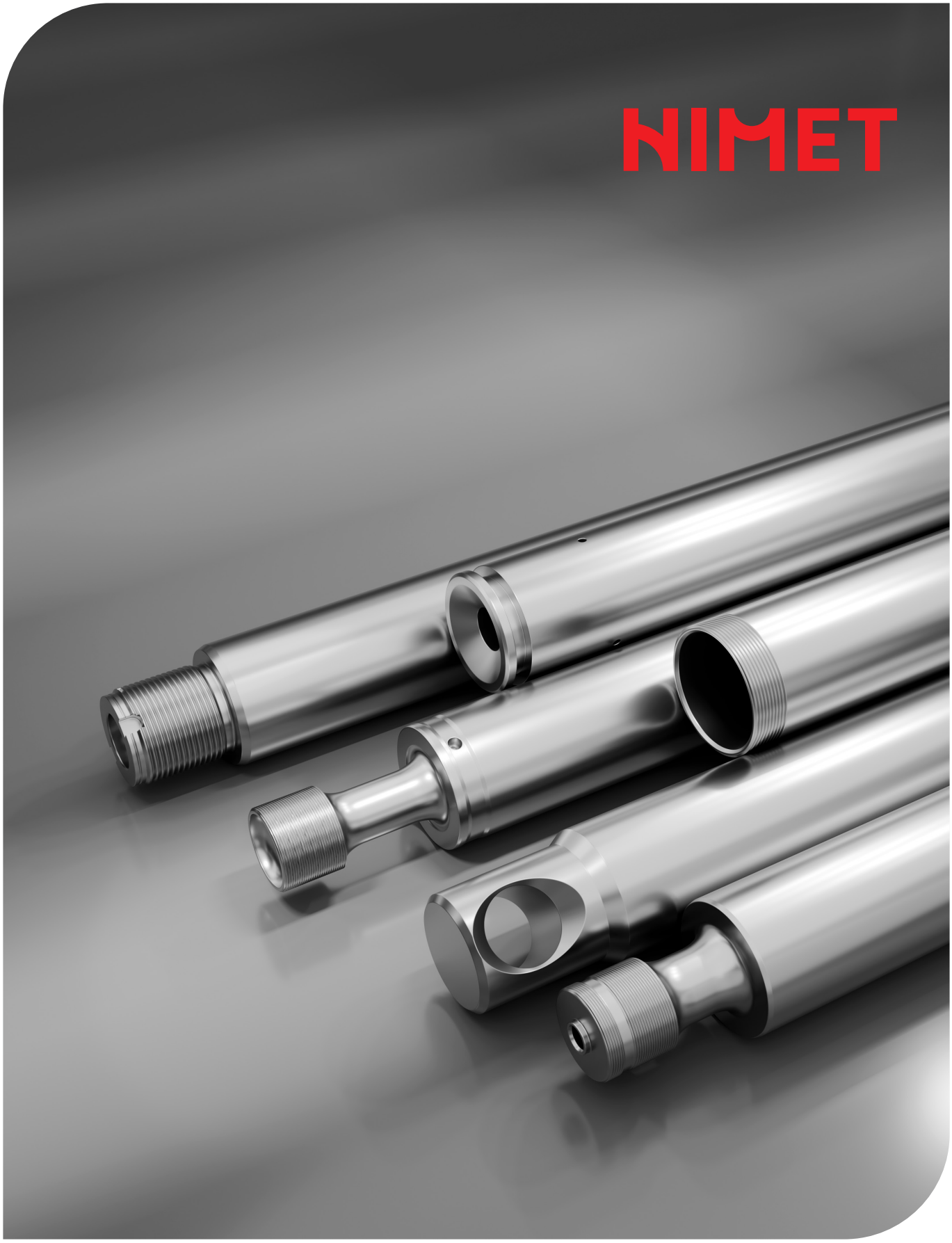
NIMET



CHROME PLATED STEEL BARS AND TUBES

for North America

CB

Chrome plated steel bars

NIMAX CB / ICB
50KSI / 75KSI / 100 KSI - C45E

NIMAX CBM / ICBM
75KSI - 38MnVS6

NIMAX CBV / ICBV
100KSI - 42CrMo4

Dimensions
0.25" - 6.25"

Diameter tolerance
ISO h8
other, on request

Roundness
max. 1/2 from diameter tolerance

Chrome layer thickness
min. 0.0005" or min. 0.001" as per customer request

Chrome layer microhardness
min. 900 HV0.1

Surface roughness
Ra: max. 8 µinch

Standard lengths
21 / 24 ft
on request, cut lengths and special lengths

Straightness
Ø < 0.625": max. 0.0035 inch/ft
Ø ≥ 0.625": max. 0.0024 inch/ft

Induction hardening on request
min. 50 HRC @0.05"

Chemical composition - in % by weight according to European Norm

Steel grade	European Norm EN	C	Si	Mn	P max.	S	Cr	Mo	Ni max.	Cu max.	V	N	Steel grade ASTM equivalent
C45E	EN ISO 683-1	0.42 ÷ 0.50	0.10 ÷ 0.40	0.50 ÷ 0.80	0.025	max. 0.035	max. 0.40	max. 0.10	0.40	0.30	-	-	1045
38MnVS6	EN 10267	0.34 ÷ 0.41	0.15 ÷ 0.80	1.20 ÷ 1.60	0.025	0.020 ÷ 0.060	max. 0.30	max. 0.08	-	-	0.08 ÷ 0.20	0.010 ÷ 0.020	10V45
42CrMo4	EN ISO 683-2	0.38 ÷ 0.45	0.10 ÷ 0.40	0.60 ÷ 0.90	0.025	max. 0.035	0.90 ÷ 1.20	0.15 ÷ 0.30	-	0.40	-	-	4140

Mechanical properties / Standard dimensions range

Yield point $R_{p0.2}$ KSI min.	Yield point $R_{p0.2}$ N/mm² min.	Steel grade ASTM	Steel grade EN equivalent	Dimension Ø inch
50	345	1045	C45E	0.25" - 6.25"
75	517	1045/1045+QT	C45E	0.25" - 6.25"
		10V45	38MnVS6	0.75" - 6.25"
100	689	1045/1045+QT	C45E	0.25" - 6.25"
		4140	42CrMo4	0.625" - 6.25"

Corrosion resistance levels

Medium corrosion resistance ASTM B117 ISO 9227 NSS	High corrosion resistance ASTM B117 ISO 9227 NSS	Extreme corrosion resistance ASTM B117 ISO 9227 NSS
Rating 10 after 120 h no corrosion	Rating 10 after 500 h no corrosion	Rating 10 after 1000 h no corrosion

Tested in our own laboratory according to ISO 9227 (ASTM B117), evaluated according to ISO 10289.

Table of dimensions tolerance

Diameter mm	ISO h8 µm
6 < Ø ≤ 10	0 / -22
10 < Ø ≤ 18	0 / -27
18 < Ø ≤ 30	0 / -33
30 < Ø ≤ 50	0 / -39
50 < Ø ≤ 80	0 / -46
80 < Ø ≤ 120	0 / -54
120 < Ø ≤ 160	0 / -63

NCB

Nickel-chrome plated steel bars

NiCro NCB / INCB 50KSI / 75KSI / 100 KSI - C45E

NiCro NCBM / INCBM 75KSI - 38MnVS6

NiCro NCBV / INCBV 100 KSI - 42CrMo4

Dimensions
0.75" - 6.25"

Diameter tolerance
ISO h8
other, on request

Roundness
max. 1/2 from diameter tolerance

Nickel layer thickness
min. 0.001"

Chrome layer thickness
min. 0.008"

Chrome layer microhardness
min. 900 HV0.1

Nickel layer microhardness
ca. 300 HV0.1

Surface roughness
Ra: max. 8 µinch

Standard lengths
21 / 24 ft
on request, cut lengths and special lengths

Straightness
max. 0.0024 inch/ft

Induction hardening on request
min. 50 HRC @0.05"

Chemical composition - in % by weight according to European Norm

Steel grade	European Norm EN	C	Si	Mn	P max.	S	Cr	Mo	Ni max.	Cu max.	V	N	Steel grade ASTM equivalent
C45E	EN ISO 683-1	0.42 ÷ 0.50	0.10 ÷ 0.40	0.50 ÷ 0.80	0.025	max. 0.035	max. 0.40	max. 0.10	0.40	0.30	-	-	1045
38MnVS6	EN 10267	0.34 ÷ 0.41	0.15 ÷ 0.80	1.20 ÷ 1.60	0.025	0.020 ÷ 0.060	max. 0.30	max. 0.08	-	-	0.08 ÷ 0.20	0.010 ÷ 0.020	10V45
42CrMo4	EN ISO 683-2	0.38 ÷ 0.45	0.10 ÷ 0.40	0.60 ÷ 0.90	0.025	max. 0.035	0.90 ÷ 1.20	0.15 ÷ 0.30	-	0.40	-	-	4140

Corrosion resistance levels

Diameter inch	NiCro 150		NiCro 500	
	ASTM B117 ISO 9227 NSS	ASTM B287 ISO 9227 AASS	ASTM B117 ISO 9227 NSS	ASTM B287 ISO 9227 AASS
Ø 0.75" - 6.25"	rating 10 after 500h no corrosion	rating 10 after 150h no corrosion	rating 10 after 1500h no corrosion	rating 10 after 500h no corrosion

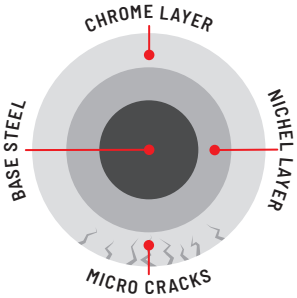
Tested in our own laboratory according to ISO 9227 (ASTM B117 and ASTM B287), evaluated according to ISO 10289.

Mechanical properties / Standard dimensions range

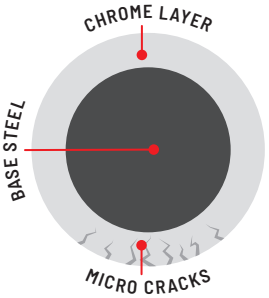
Yield point $R_{p0.2}$ KSI min.	Yield point $R_{p0.2}$ N/mm² min.	Steel grade ASTM	Steel grade EN equivalent	Dimension Ø inch
50	345	1045	C45E	0.75" - 6.25"
75	517	1045/1045+QT	C45E	0.75" - 6.25"
		10V45	38MnVS6	0.75" - 6.25"
100	689	1045/1045+QT	C45E	0.75" - 6.25"
		4140	42CrMo4	0.75" - 6.25"

Nickel layer free from cracks and pores isolates the base material from atmospheric corrosion; chrome layer provides further corrosion resistance and excellent wear resistance.

Nickel and chrome plated steel



Chrome plated steel



The nickel and chrome plating technology is the solution to extreme environments with intense corrosion:

- offshore, marine conditions;
- wind, solar and aerospace sector;
- agriculture, mining industry, oil and gas industry.

On request, we can produce Nickel-Chrome plated steel tubes.

CT

Chrome plated steel tubes

NIMAX CT / ICT
E355+SR

Outside diameter - OD
Ø0.5"-5.5"

Inside diameter - ID
according to standard dimensions range

Outside tolerance - OD
ISO h8
other, on request

Roundness - OD
max. 1/2 from diameter tolerance

Chrome layer thickness
min. 0.0005" or min. 0.001" as per customer request

Chrome layer microhardness
min. 900 HV0.1

Surface roughness - OD
Ra: max. 8 µinch

Standard lengths
21 / 24 ft
on request, cut lengths and special lengths

Straightness
max. 0.003 inch/ft

Induction hardening on request
min. 50 HRC @0.05"

Chemical composition - in % by weight according to European Norm

Steel grade	European Norm EN	C	Si	Mn	P	S	Cr	Mo	Ni	V	Cu	N	Steel grade ASTM equivalent
E355	EN 10305-1	max. 0.22	max. 0.55	max. 1.60	max. 0.025	max. 0.025	-	-	-	-	-	-	1024

Mechanical properties

Steel grade	Tensile strength R_m		Yield point $R_{p0.2}$		Elongation (longitudinal) A_5	Impact energy (longitudinal direction) KV_2	Hardness ** Brinell	Norm
	KSI min.	N/mm² min.	KSI min.	N/mm² min.	%	J	N/mm²	
E355+SR	85	590	65	450 ***	min. 10	(min. 27J / -20°C) *	min. 175	EN 10305-1

SR = stress-relieved
* On request

** The hardness values is for information only
*** On request: min 517 N/ mm² - 75KSI

Corrosion resistance levels

Medium corrosion resistance	High corrosion resistance	Extreme corrosion resistance
ASTM B117 ISO 9227 NSS	ASTM B117 ISO 9227 NSS	ASTM B117 ISO 9227 NSS
Rating 10 after 120 h no corrosion	Rating 10 after 500 h no corrosion	Rating 10 after 1000 h no corrosion

Tested in our own laboratory according to ISO 9227 (ASTM B117), evaluated according to ISO 10289.

Conversion table

for units of measurement - length

in / inch	x	25.399	=	millimeters / mm
ft / feet	x	304.799	=	millimeters/ mm

Conversion table

for units of measurement - weigth/presure

lb / pound	x	0.453	=	kilogram / kg
ksi / pound-force / inch²	x	6.896	=	Mpa = N / mm²

WE CONTRIBUTE TO THE WORLD'S MOVEMENT

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