

Series	Description
NIMAX-CBX	Hard Chrome Plated Stainless Steel Bars for High Corrosion Resistance steel grade: W1.4021 (AISI 420), W1.4057 (AISI 431), W1.4301 (AISI 304), W1.4401 (AISI 316) /Ø6 - 80 mm / Ø1/4" - 3"

Steel grades correspondents

Werkstoff	EN	DIN	B.S.	UNI	JIS	GOST	AISI SAE ASTM
1.4021	X20Cr13	X20Cr13	420S37	X20Cr13	SUS420F	20Ch13	420
1.4057	X17CrNi16-2	X17CrNi16-2	431S29	X16CrNi16	SUS431	20Ch17N2	431
1.4301	X5CrNi18-10	X5CrNi18-10	304S17	X5CrNi18-10	SUS304	08Ch18N10	304
1.4401	X5CrNiMo17-12-2	X5CrNiMo17-12-2	316S19	X5CrNiMo17-12-2	SUS316	08X17H13M2	316

Chemical composition - in % by weight

Steel grade	C	Si max.	Mn max.	P max.	S max.	Cr	Mo	Ni	N
W1.4021	0.16 - 0.25	1.00	1.50	0.040	0.03	12.00 - 14.00	-	-	-
W1.4057	0.12 - 0.22	1.00	1.50	0.040	0.03	15.00 - 17.00	-	1.50 - 2.50	-
W1.4301	max. 0.07	1.00	2.00	0.045	0.03	17.00 - 19.50	-	8.00 - 10.50	max. 0.11
W1.4401	max. 0.07	1.00	2.00	0.045	0.03	16.50 - 18.50	2.00 - 2.50	10.00 - 13.00	max. 0.11

Mechanical properties

Steel grade	Delivery condition	Diameter Ø mm	Tensile strength R _m		Yield point R _{p0.2} N/mm ²	Elongation A ₅ * %	Hardness Brinell N/mm ²	Norm
			N/mm ²	N/mm ²				
W1.4021	A	6 ≤ Ø ≤ 80	-	max. 760 **	-	-	max. 230 **	EN 10088-3
	QT700	Ø ≤ 160	min. 700	max. 850	min. 500	min. 13	-	
	QT800	Ø ≤ 160	min. 800	max. 950	min. 600	min. 12	-	
W1.4057	A	6 ≤ Ø ≤ 80	-	max. 950**	-	-	max. 295 **	EN 10088-3
	QT800	Ø ≤ 60	min. 800	max. 950	min. 600	min. 14	-	
		60 < Ø ≤ 160	min. 800	max. 950	min. 600	min. 12	-	
QT900	Ø ≤ 60	min. 900	max. 1050	min. 700	min. 12	-		
		60 < Ø ≤ 160	min. 900	max. 1050	min. 700	min. 10	-	
W1.4301	A	Ø ≤ 160	min. 500	max. 700 ***	min. 190	min. 40 ***	max. 215 ***	EN 10088-3
W1.4401	A	Ø ≤ 160	min. 500	max. 700 ***	min. 200	min. 40 ***	max. 215 ***	EN 10088-3

A = Annealed

QT = Quenched and tempered

* longitudinal

** The maximum HB values may be raised with 60 HB or the maximum tensile strength with 150 N/mm² for bars of up to 35 mm thick, having undergone final cold working

*** The maximum HB values may be raised with 100 HB or the tensile strength with 200 N/mm² and the minimum elongation value be lowered to 20 % for bars of up to 35 mm thick, having undergone final cold working

Hard Chrome Plated Stainless Steel Bars

steel grade: W1.4021 / W1.4057 / W1.4301 / W1.4401



Series **NIMAX-CBX** - W1.4021 (AISI 420) / W1.4057 (AISI 431) / W1.4301 (AISI 304) / W1.4401 (AISI 316)

Dimensions	Ø6 - 80 mm / Ø1/4" - 3"
Diameter tolerance	ISO f7 / other, on request
Roundness	max. 1/2 from diameter tolerance
Standard length	3000 - 6000 mm / on request: cut lengths
Surface roughness	Ra: max. 0.20 µm
Chrome layer thickness	Ø < 20 mm: min. 15 µm Ø ≥ 20 mm: min. 20 µm
Chrome layer microhardness	min. 900HV0.1
Straightness	Ø ≤ 16 mm: max. 0.3 mm/1000 mm Ø > 16 mm: max. 0.2 mm/1000 mm



✓ As an alternative with high corrosion resistance we offer NIMAX-CBX series. Obtained through a chrome plating process over a stainless steel base material, this product not only satisfies certain oxidation resistance requirements, given by the type of stainless steel used, but also different mechanical demands.

✓ Granting higher corrosion resistance, generally used in automotive, food and pharmaceutical industry.
✓ The stainless steel grades with higher Nickel content provide a good impact resistance even at lower temperatures (-20°C).

Table of dimensions - tolerance

Diameter mm	ISO f7 µm
Ø = 6	-10 / -22
6 < Ø ≤ 10	-13 / -28
10 < Ø ≤ 18	-16 / -34
18 < Ø ≤ 30	-20 / -41
30 < Ø ≤ 50	-25 / -50
50 < Ø ≤ 80	-30 / -60

Corrosion resistance

	NIMAX CBX-W1.4021	NIMAX CBX-W1.4057	NIMAX CBX-W1.4301	NIMAX CBX-W1.4401
Rating	9 after 200 h in NSS	9 after 500 h in NSS	9 after 1200 h in NSS	9 after 1450 h in NSS

* for information only