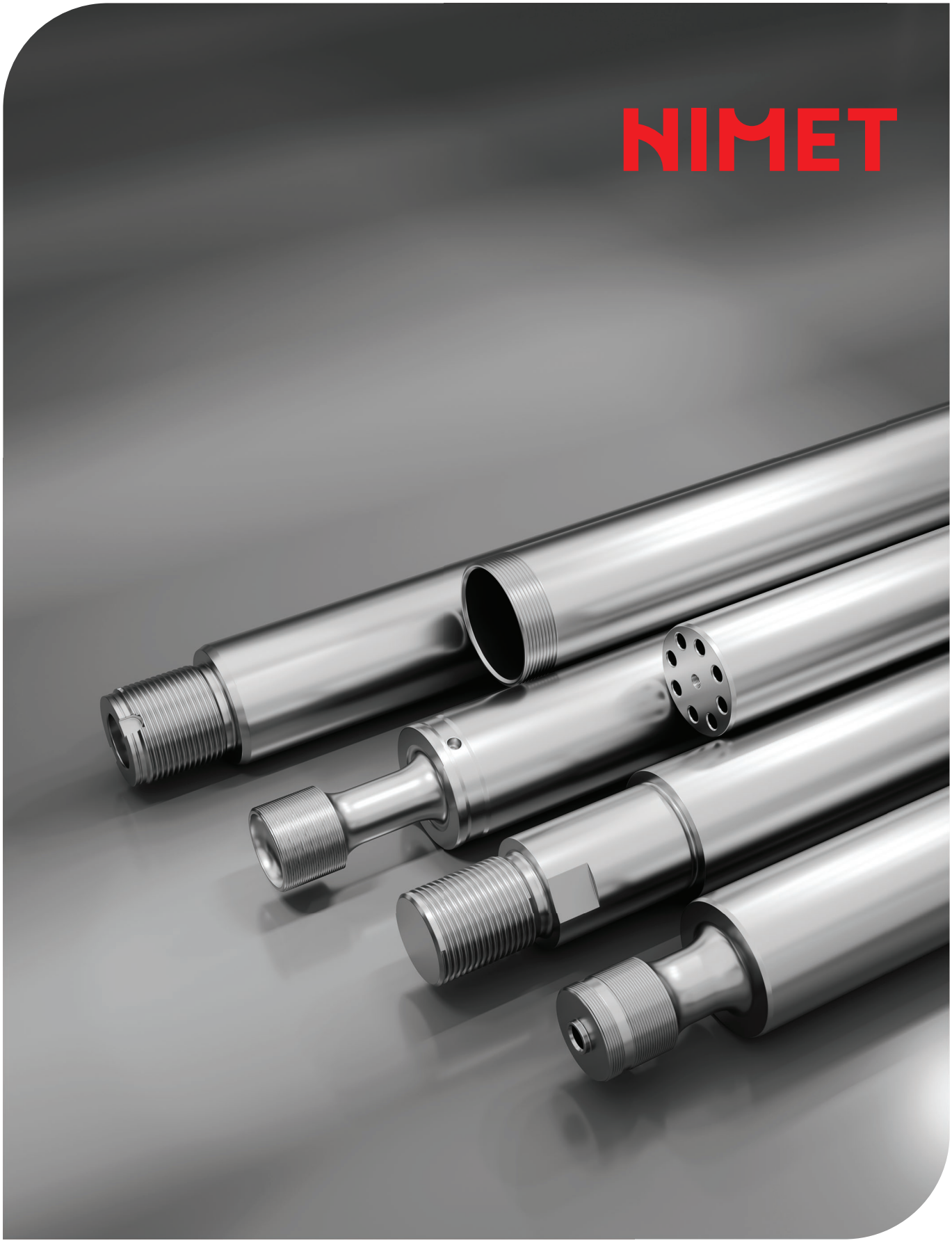
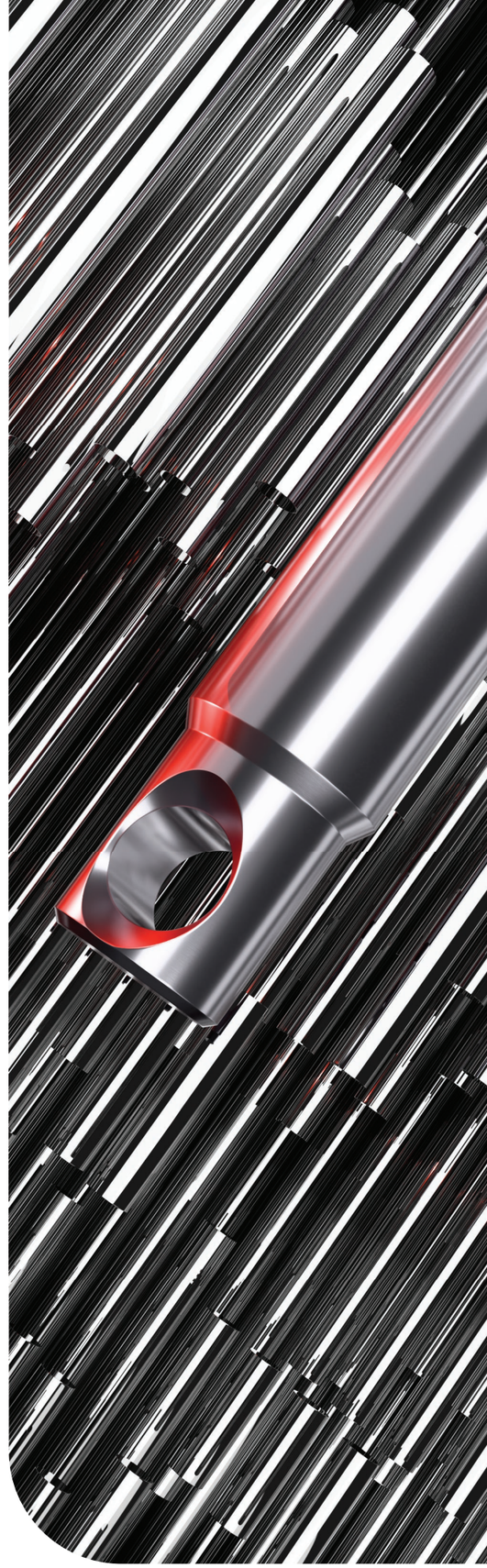
NIMET



CHROME PLATED STEEL BARS AND TUBES

2026 - 2027

NIMET
YOUR PARTNER
IN PERFORMANCE



WE CONTRIBUTE TO THE WORLD'S MOVEMENT

In today's industrial landscape, the need to move, lift, or drive something is universal. Behind the scenes of these essential operations, **NIMET** delivers the components that make them possible: chrome-plated bars, tubes for hydraulic systems, and linear shafts for motion control.

At **NIMET**, precision steel bars and tubes are engineered with purpose. Each chrome-plated bar and linear shaft reflects deep metallurgical expertise and a relentless focus on real-world performance.

Our products are highly technical, yet our approach remains fundamentally human. Every client presents a distinct challenge, and every market brings its own demands.
We meet them through adaptability, customization, and fast, reliable delivery.

Quality is rooted in understanding - of workflows, timelines, and expectations. For this reason, our processes extend beyond production and are built around long-term partnership.

What you will find in this catalog goes beyond technical specifications. It reflects our belief that true value comes from combining top-tier products with responsive service, and delivering both with consistency and care.

Behind every product is a promise - to stand by what we make and to be there when you need us.

We believe that earning your trust means more than delivering quality - it means showing up with integrity, every time.

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HISTORY

20 years of history and expertise in chrome plating

2006
Founded by Samy Numan

2008
Production start-up
of chrome plated bars and tubes

2010
First endless chrome plating line
First nickel-chrome plating line

2012
Strategic joint venture with Palfinger,
global leader in crane systems

2013
Global market expansion

2018
Start-up of NIMET 2 factory

2025
Start-up of NIMET 3 factory

2026
And future-ready, always.

3	50.000 sqm	700	5.000
factories	production area	employees	tons/month

INVESTING IN THE FUTURE

QUALITY YOU CAN RELY ON

from source to final product

At **NIMET**, quality starts with responsible sourcing and continues through every stage of production. We work exclusively with certified steel mills, ensuring full traceability and compliance with rigorous environmental and ethical standards.

The raw materials undergo ultrasonic and anti-mix testing, guaranteeing flawless input for our manufacturing process.

Our production lines are equipped with advanced, automated, and laser-controlled measurement systems to ensure precision. Internationally certified management systems support stable, repeatable results at the highest standards.

Since 2017, we have applied Lean Kaizen principles across our operations, driving continuous improvement, efficiency, and quality throughout the company.

QUALITY ASSURANCE

Metallography

Vickers micro hardness, metallography, structural characteristics of hardened layer

Chrome layer measurements

Thickness, number of microcracks and chrome micro hardness performed in our laboratories

Corrosion testing

NSS, AASS, and CASS tests following ISO 9227 standards, with evaluations performed according to ISO 10289.
Simultaneous testing capability using spray chambers with automatic testing cycle setting

Chemical composition control

Portable spectrometer for chemical composition screening

In-line hardness testing

Real-time hardness parameter monitoring with the Magnatest system

Engineering and design

In accordance with customers' specific requirements

EN ISO 9001:2015

TÜV AUSTRIA

EN ISO 14001:2015

TÜV AUSTRIA

ISO 45001:2018

TÜV AUSTRIA

RESEARCH & DEVELOPMENT

Continuous improvement and innovation are at the core of **NIMET**'s philosophy. Our R&D efforts focus on pushing boundaries through:

- Developing advanced, tailor-made solutions that adapt to ever-changing market demands
- Investing in cutting-edge facilities and installations to maintain the highest quality and performance

Just like our strategic partners, we believe collaboration, responsiveness, and ongoing learning fuel our growth.

Our R&D team works closely across departments, combining engineering excellence with practical insights to create next-generation products that deliver real-world value.

At **NIMET**, innovation isn't just about technology - it's about the people, processes, and passion behind every breakthrough.

PRODUCT APPLICATIONS

NIMET's product portfolio serves both the hydraulic & pneumatic and the linear motion systems sectors.

The main product remains the chromed plated rod for hydraulic cylinders used in various applications from industrial equipment (agricultural, construction, mining, offshore, automotive, railways, oil extraction, cranes) to those that we find useful in our daily lives, such as fitness equipment.

Heavy industries use about 80% of our production and the rest go to the automation and IT accessories.

- Lifting and handling equipment
- Construction machinery
- Earth-moving machinery
- Mining equipment
- Agricultural machinery
- Logging and forest control machinery
- Marine and offshore industry
- Bodybuilding and fitness equipment
- Printing and sorting machinery
- Windmills and renewable energy systems
- Steel manufacturing industry equipment
- Automotive manufacturing industry equipment
- Shock absorbers and gas springs
- Pneumatic cylinders for medical equipment

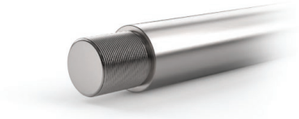
PRECISION
IN EVERY DETAIL

We work with the latest technology and our CNC machines
can perform high quality turning, milling, threading and drilling.

CUSTOMIZED MACHINING

We provide precision CNC machining services based on your drawings and technical requirements.
Our solutions deliver ready-to-install components with high dimensional accuracy and consistent quality.

Machining operations include cutting, drilling, threading, milling.
All processes preserve the integrity of the material surface and meet strict quality standards.

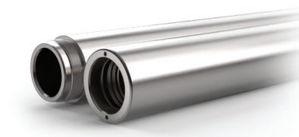


Outside diameter thread

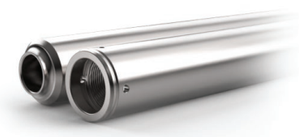
Reduced diameter
with/without feather keyway

End for moun with clevis clamp

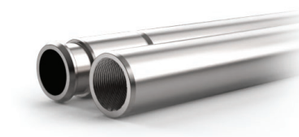
Reduced diameter
with threaded ends



Tube with external thread
and internal grooves



Tube with internal thread
and welding chamfer



Tube with external groove
and internal thread

Tube with external groove
and front holes

LEADING WITH TECHNOLOGY

Innovation drives everything we do. That's why **NIMET** employs cutting-edge, fully automated chrome plating systems designed for precision, consistency, and high-volume output.

The result is a uniform chrome coating that enhances surface quality, improves corrosion resistance, and extends product lifespan, all essential for high-performance industrial applications.

All plating installations are environmentally controlled, ensuring safe and eco-friendly operations in line with international standards.

As part of our ongoing commitment to sustainability and innovation, **NIMET** continues to push the boundaries of chrome plating technology, reinforcing our role as a technology-driven and environmentally responsible industry leader.

PRECISION ENGINEERED CHROME PLATED BARS AND TUBES

At **NIMET**, we specialize in manufacturing precision-engineered hard chrome-plated steel rods designed to meet the rigorous demands of hydraulic and pneumatic systems.

These bars are purpose-built for applications where high mechanical loads, abrasion, and corrosion are part of daily operation, making them a trusted choice for piston rods in challenging industrial environments.

Our products are known not only for their durability but also for their manufacturing integrity.

Key performance features include:

- Consistent performance and extended service life
- Exceptional resistance to wear and corrosion
- Excellent strength under mechanical stress
- Tight dimensional tolerances and uniform surface finish
- Optimal surface quality for critical sealing applications

These characteristics make **NIMET** bars a reliable component in fluid power systems where performance and longevity are non-negotiable.

NIMAX SERIES

Chrome plated
steel bars and tubes

NIMAX CB
Chrome plated steel bars

The hard chromed surface ensures corrosion and wear resistance while improving durability. Commonly used in non-aggressive environments, for rods not exposed to mechanical strokes or high-impact loads.

NIMAX NCB
Nickel-chrome plated steel bars

While standard chrome plating provides good corrosion resistance, it can be insufficient in highly aggressive environments.

Nickel-chrome plating offers enhanced durability and premium corrosion protection in conditions of high salinity and humidity, making it ideal for use in marine and offshore applications.

Low-carbon, weldable grades like 20MnV6 and 38MnVS6 are ideal substrates, providing high strength, corrosion resistance, and good machinability.

Typical applications: offshore, marine, wind and solar energy, aerospace, agriculture, mining, and oil & gas industries.

NIMAX CBX
Chrome plated stainless steel bars

Produced by hard chrome plating over stainless steel, these bars offer excellent corrosion resistance combined with strong mechanical properties.

Suitable for use in humid or moderately corrosive environments such as marine or pharmaceutical settings. Particularly effective for hydraulic cylinders exposed to frequent washing, cleaning agents, or variable climate conditions, where both wear resistance and corrosion protection are critical.

NIMAX CT
Chrome plated steel tubes

Designed for hydraulic systems where weight reduction is important, chrome plated tubes provide wear and corrosion resistance in applications with moderate environmental exposure.

NIMAX CTI
Internal chrome plated steel tubes

Developed for specific sectors such as concrete pumps and renewable energy, where internal wear and corrosion resistance are critical for performance and service life.

NIMAX NCT
Nickel-chrome plated steel tubes

Tube version of the nickel-chrome plating technology, designed for aggressive or highly corrosive environments.

Providing extended lifespan, corrosion resistance superior to standard chrome plating, and a weight-optimized alternative to solid piston rods, this solution is recommended for offshore, marine, oil & gas, and industrial applications.

CHROME PLATED STEEL BARS

CB — Chrome plated steel bars

ICB — Induction hardened and chrome plated steel bars

NCB — Nickel-chrome plated steel bars

INCB — Induction hardened and nickel-chrome plated steel bars

CBX — Chrome plated stainless steel bars

CB

Chrome plated steel bars

NIMAX CB C45E, C35E
NIMAX CBM 20MnV6, 38MnVS6
NIMAX CBV 42CrMo4+QT

Dimensions
Ø6 - 160 mm / Ø1/4" - 6.25"

Diameter tolerance
ISO f7
other, on request

Roundness
max. 1/2 from diameter tolerance

Chrome layer thickness
Ø < 14 mm: min. 15 µm
Ø ≥ 14 mm: min. 20 µm
Ø ≥ 25 mm: min. 50 µm, on request

Chrome layer microhardness
min. 900 HV0.1

Surface roughness
Ra: max. 0.20 µm

Standard indicative length
6400 / 7400 (-0/+100) mm
other, on request

Straightness
Ø ≤ 16 mm: max. 0.3 mm/1000 mm
Ø > 16 mm: max. 0.2 mm/1000 mm

Standard corrosion resistance
Ø < 14 mm & Cr layer min. 15 µm:
NSS rating 10 after 120h, rating 9 after 200h
Ø ≥ 14 mm & Cr layer min. 20 µm:
NSS rating 10 after 120h, rating 9 after 200h

High corrosion resistance
Ø ≥ 14 mm & Cr layer min. 20 µm:
NSS rating 10 after 250h, rating 9 after 500h
Ø ≥ 25 mm & Cr layer min. 50 µm:
NSS rating 10 after 500h, rating 9 after 1000h

Salt spray test NSS / AASS: ISO 9227
Evaluation: ISO 10289

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	N
C45E (1)	0.42 ÷ 0.50	0.10 ÷ 0.40	0.50 ÷ 0.80	max. 0.025	max. 0.035	max. 0.40	max. 0.10	max. 0.40	max. 0.30	-	-
C35E (1)	0.32 ÷ 0.39	0.10 ÷ 0.40	0.50 ÷ 0.80	max. 0.025	max. 0.035	max. 0.40	max. 0.10	max. 0.40	max. 0.30	-	-
20MnV6	0.16 ÷ 0.22	0.10 ÷ 0.50	1.30 ÷ 1.70	max. 0.035	max. 0.035	-	-	-	-	0.08 ÷ 0.20	-
38MnVS6	0.34 ÷ 0.41	0.15 ÷ 0.80	1.20 ÷ 1.60	max. 0.025	0.020 ÷ 0.060	max. 0.30	max. 0.08	-	-	0.08 ÷ 0.20	0.010 ÷ 0.020
42CrMo4	0.38 ÷ 0.45	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	0.90 ÷ 1.20	0.15 ÷ 0.30	-	max. 0.40	-	-

(1) Cr+Mo+Ni = max. 0.63

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength R_m N/mm²	Yield point $R_{p0.2}$ N/mm²	Elongation A_5 %	Impact energy KV_2 J	Hardness (1) Brinell N/mm²
C45E	6 < Ø ≤ 10	750 - 1050	min. 565	min. 5	-	225 - 320
	10 < Ø ≤ 16	710 - 1030	min. 500	min. 6		210 - 315
	16 < Ø ≤ 40	650 - 1000	min. 410	min. 7		200 - 298
	40< Ø ≤ 63	630 - 900	min. 360	min. 8		200 - 298
	18 ≤ Ø ≤ 100	min. 580	min. 305	min. 14	-	172 - 242
	100 < Ø ≤ 160	min. 560	min. 275	min. 14		172 - 242
C45E+QT	20 ≤ Ø ≤ 40	650 - 800	min. 430	min. 16	-	195 - 240
	40 < Ø ≤ 100	630 - 780	min. 370	min. 17		190 - 270
	100 < Ø ≤ 160	The values of R_m, $R_{p0.2}$ and A_5 must be agreed				-
C35E	6 < Ø ≤ 10	650 - 1000	min. 510	min. 6	-	190 - 298
	10 < Ø ≤ 16	600 - 950	min. 420	min. 7		180 - 285
	16 < Ø ≤ 40	580 - 880	min. 320	min. 8		172 - 263
	18 ≤ Ø ≤ 100	min. 520	min. 270	min. 19	-	154 - 207
	100 < Ø ≤ 160	min. 500	min. 245	min. 19		154 - 207
20MnV6	6 < Ø ≤ 25	min. 700	min. 620	min. 10	min. 27J / - 20°C	213 - 260
	19 < Ø ≤ 80	min. 600	min. 460	min. 18		159 - 220
	80 < Ø ≤ 160	min. 550	min. 420	min. 18		155- 220
20MnV6 M	20 < Ø ≤ 90	min. 600	min. 520	min. 19	min. 27J / - 20°C	165 - 225
38MnVS6	20 < Ø ≤ 120	800 - 950	min. 520	min. 12	-	240 - 290
	120 < Ø ≤ 160	700 - 950	min. 520	min. 12	-	210 - 300
38MnV6X	20 < Ø ≤ 90	850 - 1000	min. 580	min. 14	-	240 - 290
42CrMo4+QT	6 < Ø ≤ 16	1100 - 1300	min. 900	min. 10	-	298 - 359
	16 < Ø ≤ 40	1000 - 1200	min. 750	min. 11		298 - 359
	40 < Ø ≤ 100	900 - 1100	min. 650	min. 12	min. 35J / 20°C	271 - 331
	100 < Ø ≤ 160	800 - 950	min. 550	min. 13		240 - 290

(1) The hardness values are for information only

NIMAX ICB C45E, C35E
NIMAX ICBM 20MnV6, 38MnVS6
NIMAX ICBV 42CrMo4+QT

Induction hardened and chrome plated steel bars

ICB

Dimensions
Ø6 - 160 mm / Ø1/4" - 6.25"

Diameter tolerance
ISO f7
other, on request

Roundness
max. 1/2 from diameter tolerance

Chrome layer thickness
Ø < 14 mm: min. 15 µm
Ø ≥ 14 mm: min. 20 µm
Ø ≥ 25 mm: min. 50 µm, on request

Chrome layer microhardness
min. 900 HV0.1

Surface roughness
Ra: max. 0.20 µm

Standard indicative length
6400 / 7400 (-0/+100) mm
other, on request

Straightness
Ø ≤ 16 mm: max. 0.3 mm/1000 mm
Ø > 16 mm: max. 0.2 mm/1000 mm

Standard corrosion resistance
Ø < 14 mm & Cr layer min. 15 µm:
NSS rating 10 after 120h, rating 9 after 200h
Ø ≥ 14 mm & Cr layer min. 20 µm:
NSS rating 10 after 120h, rating 9 after 200h

High corrosion resistance
Ø ≥ 14 mm & Cr layer min. 20 µm:
NSS rating 10 after 250h, rating 9 after 500h
Ø ≥ 25 mm & Cr layer min. 50 µm:
NSS rating 10 after 500h, rating 9 after 1000h

Salt spray test NSS / AASS: ISO 9227
Evaluation: ISO 10289

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	N
C45E (1)	0.42 ÷ 0.50	0.10 ÷ 0.40	0.50 ÷ 0.80	max. 0.025	max. 0.035	max. 0.40	max. 0.10	max. 0.40	max. 0.30	-	-
C35E (1)	0.32 ÷ 0.39	0.10 ÷ 0.40	0.50 ÷ 0.80	max. 0.025	max. 0.035	max. 0.40	max. 0.10	max. 0.40	max. 0.30	-	-
20MnV6	0.16 ÷ 0.22	0.10 ÷ 0.50	1.30 ÷ 1.70	max. 0.035	max. 0.035	-	-	-	-	0.08 ÷ 0.20	-
38MnVS6	0.34 ÷ 0.41	0.15 ÷ 0.80	1.20 ÷ 1.60	max. 0.025	0.020 ÷ 0.060	max. 0.30	max. 0.08	-	-	0.08 ÷ 0.20	0.010 ÷ 0.020
42CrMo4	0.38 ÷ 0.45	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	0.90 ÷ 1.20	0.15 ÷ 0.30	-	max. 0.40	-	-

(1) Cr+Mo+Ni = max. 0.63

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength R_m N/mm²	Yield point $R_{p0.2}$ N/mm²	Elongation A_5 %	Impact energy KV_2 J	Hardness (1) Brinell N/mm²
C45E	6 < Ø ≤ 10	750 - 1050	min. 565	min. 5	-	225 - 320
	10 < Ø ≤ 16	710 - 1030	min. 500	min. 6		210 - 315
	16 < Ø ≤ 40	650 - 1000	min. 410	min. 7		200 - 298
	40< Ø ≤ 63	630 - 900	min. 360	min. 8		200 - 298
	18 ≤ Ø ≤ 100	min. 580	min. 305	min. 14	-	172 - 242
	100 < Ø ≤ 160	min. 560	min. 275	min. 14		172 - 242
C45E+QT	20 ≤ Ø ≤ 40	650 - 800	min. 430	min. 16	-	195 - 240
	40 < Ø ≤ 100	630 - 780	min. 370	min. 17		190 - 270
	100 < Ø ≤ 160	The values of R_m, $R_{p0.2}$ and A_5 must be agreed				-
C35E	6 < Ø ≤ 10	650 - 1000	min. 510	min. 6	-	190 - 298
	10 < Ø ≤ 16	600 - 950	min. 420	min. 7		180 - 285
	16 < Ø ≤ 40	580 - 880	min. 320	min. 8		172 - 263
	18 ≤ Ø ≤ 100	min. 520	min. 270	min. 19	-	154 - 207
	100 < Ø ≤ 160	min. 500	min. 245	min. 19		154 - 207
20MnV6	6 < Ø ≤ 25	min. 700	min. 620	min. 10	min. 27J / - 20°C	213 - 260
	19 < Ø ≤ 80	min. 600	min. 460	min. 18		159 - 220
	80 < Ø ≤ 160	min. 550	min. 420	min. 18		155- 220
20MnV6 M	20 < Ø ≤ 90	min. 600	min. 520	min. 19	min. 27J / - 20°C	165 - 225
38MnVS6	20 < Ø ≤ 120	800 - 950	min. 520	min. 12	-	240 - 290
	120 < Ø ≤ 160	700 - 950	min. 520	min. 12	-	210 - 300
38MnV6X	20 < Ø ≤ 90	850 - 1000	min. 580	min. 14	-	240 - 290
42CrMo4+QT	6 < Ø ≤ 16	1100 - 1300	min. 900	min. 10	-	298 - 359
	16 < Ø ≤ 40	1000 - 1200	min. 750	min. 11		298 - 359
	40 < Ø ≤ 100	900 - 1100	min. 650	min. 12	min. 35J / 20°C	271 - 331
	100 < Ø ≤ 160	800 - 950	min. 550	min. 13		240 - 290

(1) The hardness values are for information only

Steel grade surface hardness

	NIMAX ICB C35E	NIMAX ICB C45E	NIMAX ICBM 20MnV6	NIMAX ICBM 38MnVS6	NIMAX ICBV 42CrMo4+QT
Surface hardness beneath the chrome layer	55±3 HRC	58±3 HRC	45±3 HRC	57±3 HRC	59±3 HRC

NCB

Nickel-chrome plated steel bars

NiCro NCB C45E, C35E **NiCro NCBM** 20MnV6, 38MnVS6 **NiCro NCBV** 42CrMo4+QT

Dimensions
Ø18 - 160 mm / Ø3/4" - 6.25"

Diameter tolerance
ISO f7
other, on request

Roundness
max. 1/2 from diameter tolerance

Nickel layer thickness
NiCro 150: min. 15 µm
NiCro 500: min. 25 µm

Chrome layer thickness
NiCro 150: min. 20 µm
NiCro 500: min. 20 µm

Nickel layer microhardness
ca. 300 HV0.1

Chrome layer microhardness
min. 900 HV0.1

Surface roughness
Ra: max. 0.20 µm

Standard indicative length
6400 / 7400 (-0/+100) mm
other, on request

Straightness
Ø ≤ 16 mm: max. 0.3 mm/1000 mm
Ø > 16 mm: max. 0.2 mm/1000 mm

Corrosion resistance
NiCro 150: AASS rating 10 after 150h, NSS rating 10 after 500h
NiCro 500: AASS rating 10 after 500h, NSS rating 10 after 1500h

Salt spray test NSS / AASS / CASS: ISO 9227. Evaluation: ISO 10289

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	N
C45E (1)	0.42 ÷ 0.50	0.10 ÷ 0.40	0.50 ÷ 0.80	max. 0.025	max. 0.035	max. 0.40	max. 0.10	max. 0.40	max. 0.30	-	-
C35E (1)	0.32 ÷ 0.39	0.10 ÷ 0.40	0.50 ÷ 0.80	max. 0.025	max. 0.035	max. 0.40	max. 0.10	max. 0.40	max. 0.30	-	-
20MnV6	0.16 ÷ 0.22	0.10 ÷ 0.50	1.30 ÷ 1.70	max. 0.035	max. 0.035	-	-	-	-	0.08 ÷ 0.20	-
38MnVS6	0.34 ÷ 0.41	0.15 ÷ 0.80	1.20 ÷ 1.60	max. 0.025	0.020 ÷ 0.060	max. 0.30	max. 0.08	-	-	0.08 ÷ 0.20	0.010 ÷ 0.020
42CrMo4	0.38 ÷ 0.45	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	0.90 ÷ 1.20	0.15 ÷ 0.30	-	max. 0.40	-	-

(1) Cr+Mo+Ni = max. 0.63

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength R_m N/mm²	Yield point $R_{p\,0.2}$ N/mm²	Elongation A_5 %	Impact energy KV_2 J	Hardness (1) Brinell N/mm²
C45E	18 < Ø ≤ 40	650 - 1000	min. 410	min. 7	-	200 - 298
	40< Ø ≤ 63	630 - 900	min. 360	min. 8		200 - 298
	18 ≤ Ø ≤ 100	min. 580	min. 305	min. 14	-	172 - 242
	100 < Ø ≤ 160	min. 560	min. 275	min. 14		172 - 242
C35E	6 < Ø ≤ 10	650 - 1000	min. 510	min. 6	-	190 - 298
	10 < Ø ≤ 16	600 - 950	min. 420	min. 7		180 - 285
	16 < Ø ≤ 40	580 - 880	min. 320	min. 8		172 - 263
	18 ≤ Ø ≤ 100	min. 520	min. 270	min. 19	-	154 - 207
	100 < Ø ≤ 160	min. 500	min. 245	min. 19		154 - 207
20MnV6	18 < Ø ≤ 25	min. 700	min. 620	min. 10		213 - 260
	19 < Ø ≤ 80	min. 600	min. 460	min. 18	min. 27J / - 20°C	159 - 220
	80 < Ø ≤ 160	min. 550	min. 420	min. 18		155- 220
20MnV6 M	20 < Ø ≤ 90	min. 600	min. 520	min. 19	min. 27J / - 20°C	165 - 225
38MnVS6	20 < Ø ≤ 120	800 - 950	min. 520	min. 12	-	240 - 290
	120 < Ø ≤ 160	700 - 950	min. 520	min. 12	-	210 - 300
38MnV6X	20 < Ø ≤ 90	850 - 1000	min. 580	min. 14	-	240 - 290
42CrMo4+QT	18 < Ø ≤ 40	1000 - 1200	min. 750	min. 11		298 - 359
	40 < Ø ≤ 100	900 - 1100	min. 650	min. 12	min. 35J / 20°C	271 - 331
	100 < Ø ≤ 160	800 - 950	min. 550	min. 13		240 - 290

(1) The hardness values are for information only

NiCro INCB C45E **NiCro INCBM** 20MnV6, 38MnVS6

Induction hardened and nickel-chrome plated steel bars

INCB

Dimensions
Ø18 - 160 mm / Ø3/4" - 6.25"

Diameter tolerance
ISO f7
other, on request

Roundness
max. 1/2 from diameter tolerance

Nickel layer thickness
NiCro 150: min. 15 µm
NiCro 500: min. 25 µm

Chrome layer thickness
NiCro 150: min. 20 µm
NiCro 500: min. 20 µm

Nickel layer microhardness
ca. 300 HV0.1

Chrome layer microhardness
min. 900 HV0.1

Surface roughness
Ra: max. 0.20 µm

Standard indicative length
6400 / 7400 (-0/+100) mm
other, on request

Straightness
Ø ≤ 16 mm: max. 0.3 mm/1000 mm
Ø > 16 mm: max. 0.2 mm/1000 mm

Corrosion resistance
NiCro 150: AASS rating 10 after 150h, NSS rating 10 after 500h
NiCro 500: AASS rating 10 after 500h, NSS rating 10 after 1500h

Salt spray test NSS / AASS / CASS: ISO 9227. Evaluation: ISO 10289

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	N
C45E (1)	0.42 ÷ 0.50	0.10 ÷ 0.40	0.50 ÷ 0.80	max. 0.025	max. 0.035	max. 0.40	max. 0.10	max. 0.40	max. 0.30	-	-
20MnV6	0.16 ÷ 0.22	0.10 ÷ 0.50	1.30 ÷ 1.70	max. 0.035	max. 0.035	-	-	-	-	0.08 ÷ 0.20	-
38MnVS6	0.34 ÷ 0.41	0.15 ÷ 0.80	1.20 ÷ 1.60	max. 0.025	0.020 ÷ 0.060	max. 0.30	max. 0.08	-	-	0.08 ÷ 0.20	0.010 ÷ 0.020

(1) Cr+Mo+Ni = max. 0.63

Mechanical properties

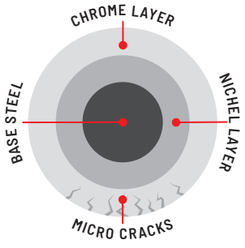
Steel grade	Diameter Ø mm	Tensile strength R_m N/mm²	Yield point $R_{p\,0.2}$ N/mm²	Elongation A_5 %	Impact energy KV_2 J	Hardness (1) Brinell N/mm²
C45E	18 < Ø ≤ 40	650 - 1000	min. 410	min. 7	-	200 - 298
	40< Ø ≤ 63	630 - 900	min. 360	min. 8		200 - 298
	18 ≤ Ø ≤ 100	min. 580	min. 305	min. 14	-	172 - 242
	100 < Ø ≤ 160	min. 560	min. 275	min. 14		172 - 242
20MnV6	18 < Ø ≤ 25	min. 700	min. 620	min. 10		213 - 260
	19 < Ø ≤ 80	min. 600	min. 460	min. 18	min. 27J / - 20°C	159 - 220
	80 < Ø ≤ 160	min. 550	min. 420	min. 18		155- 220
20MnV6 M	20 < Ø ≤ 90	min. 600	min. 520	min. 19	min. 27J / - 20°C	165 - 225
38MnVS6	20 < Ø ≤ 120	800 - 950	min. 520	min. 12	-	240 - 290
	120 < Ø ≤ 160	700 - 950	min. 520	min. 12	-	210 - 300
38MnV6X	20 < Ø ≤ 90	850 - 1000	min. 580	min. 14	-	240 - 290

(1) The hardness values are for information only

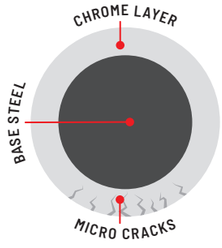
Steel grade surface hardness

	NiCro INCB C45E	NiCro INCBM 20MnV6	NiCro INCBM 38MnVS6
Surface hardness beneath the chrome layer	54±3 HRC	44±3 HRC	54±3 HRC

Nickel and chrome plated steel



Chrome plated steel



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

CBX

Chrome plated stainless steel bars

NIMAX CBX
W1.4021 (AISI 420), W1.4057 (AISI 431)
W1.4301 (AISI 304), W1.4401 (AISI 316)

Dimensions
Ø6 - 80 mm / Ø1/4" - 3.25"

Diameter tolerance
ISO f7
other, on request

Roundness
max. 1/2 from diameter tolerance

Chrome layer thickness
Ø < 14 mm: min. 15 µm
Ø ≥ 14 mm: min. 20 µm

Chrome layer microhardness
min. 900 HV0.1

Surface roughness
Ra: max. 0.20 µm

Standard indicative length
6400 (-0/+100) mm
other, on request

Straightness
Ø ≤ 16 mm: max. 0.3 mm/1000 mm
Ø > 16 mm: max. 0.2 mm/1000 mm

Corrosion resistance
W1.4021 (AISI 420): NSS rating 9 after 200h
W1.4057 (AISI 431): NSS rating 9 after 500h
W1.4301 (AISI 304): NSS rating 9 after 1200h
W1.4401 (AISI 316): NSS rating 9 after 1450h
Salt spray test NSS / AASS: ISO 9227
Evaluation: ISO 10289

Chemical composition - in % by weight

Steel grade	C	Si max.	Mn max.	P max.	S max.	Cr	Mo	Ni	N	Cu
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	17.50 ÷ 19.50	-	8.00 ÷ 10.50	max. 0.10	-
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. 0.10	-

Mechanical properties

Steel grade	Delivery condition	Diameter Ø mm	Tensile strength R_m N/mm²		Yield point $R_{p\,0.2}$ N/mm²	Elongation [1] A_5 %	Hardness Brinell N/mm²
	A	6 ≤ Ø ≤ 80	-	max. 760 [2]	-	-	max. 230 [2]
W1.4021	QT700	Ø ≤ 80	min. 700	max. 850	min. 500	min. 13	-
	QT800	Ø ≤ 80	min. 800	max. 950	min. 600	min. 12	-
	A	6 ≤ Ø ≤ 80	-	max. 950 [2]	-	-	max. 295 [2]
	QT800	Ø ≤ 60	min. 800	max. 950	min. 600	min. 14	-
W1.4057		60 < Ø ≤ 80	min. 800	max. 950	min. 600	min. 12	-
	QT900	Ø ≤ 60	min. 900	max. 1050	min. 700	min. 12	-
		60 < Ø ≤ 80	min. 900	max. 1050	min. 700	min. 10	-
W1.4301	A	Ø ≤ 80	min. 500	max. 700 [3]	min. 190	min. 40 [3]	max. 215 [3]
W1.4401	A	Ø ≤ 80	min. 500	max. 700 [3]	min. 200	min. 40 [3]	max. 215 [3]

A = Annealed / QT = Quenched and tempered
(1) Longitudinal
(2) The maximum HB values may be raised with 60 HB or the maximum tensile strength with 150 N/mm2 for bars up to 35 mm, having undergone final cold working
(3) 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 up to 35 mm, having undergone final cold working

CHROME PLATED STEEL TUBES

CT Chrome plated steel tubes

ICT Induction hardened and chrome plated steel tubes

NCT Nickel-chrome plated steel tubes

INCT Induction hardened and nickel-chrome plated steel tubes

CTI Internal chrome plated steel tubes

CT

Chrome plated steel tubes

NIMAX CT

E355+SR, E355+N, P460N+N, 20MnV6+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

Chrome layer thickness
Ø < 14 mm: min. 15 µm
Ø ≥ 14 mm: min. 20 µm
Ø ≥ 25 mm: min. 50 µm, on request

Chrome layer microhardness
min. 900 HV0.1

Surface roughness - OD
Ra: max. 0.20 µm

Standard indicative length
6400 / 7400 (-0/+200) mm
other, on request

Straightness
max. 0.25 mm / 1000 mm

Standard corrosion resistance
OD < 14 mm & Cr layer min. 15 µm:
NSS rating 10 after 120h, rating 9 after 200h
OD ≥ 14 mm & Cr layer min. 20 µm:
NSS rating 10 after 120h, rating 9 after 200h

High corrosion resistance
OD ≥ 14 mm & Cr layer min. 20 µm:
NSS rating 10 after 250h, rating 9 after 500h
OD ≥ 25 mm & Cr layer min. 50 µm:
NSS rating 10 after 500h, rating 9 after 1000h

Salt spray test NSS / AASS: ISO 9227
Evaluation: ISO 10289

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	-	-

Mechanical properties

Steel grade	Tensile strength	Yield point	Elongation (longitudinal)	Impact energy [2] (longitudinal direction)	Hardness [3]
	R_m N/mm²	$R_{p0.2}$ N/mm²	A_5 %	KV_2 J	Brinell N/mm²
E355+SR	min. 580	min. 450	min. 10	min. 27J / -20°C	min. 175
E355+N	490 - 630	min. 355 [4]	min. 22	min. 27J / -20°C	155 - 194
P460N+N	560 - 730	min. 460 [1]	min. 19	min. 40J / -20°C	170 - 220
20MnV6+N	550 - 800	min. 450	min. 20	min. 27J / -20°C	165 - 240

SR = stress-relieved, N = normalized
(1) Wall thickness ≤ 12 mm
(2) On request
(3) The hardness values is for information only
(4) The Yield Point value is for information only

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	-	-	-

ICT

Induction hardened and chrome plated steel tubes

NIMAX ICT

E355+SR, E355+N, P460N+N, 20MnV6+N

Outside diameter - OD
Ø40 - 125 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

Chrome layer thickness
Ø < 14 mm: min. 15 µm
Ø ≥ 14 mm: min. 20 µm
Ø ≥ 25 mm: min. 50 µm, on request

Chrome layer microhardness
min. 900 HV0.1

Surface roughness - OD
Ra: max. 0.20 µm

Standard indicative length
6400 / 7400 (-0/+200) mm
other, on request

Straightness
max. 0.25 mm / 1000 mm

Standard corrosion resistance
OD < 14 mm & Cr layer min. 15 µm:
NSS rating 10 after 120h, rating 9 after 200h
OD ≥ 14 mm & Cr layer min. 20 µm:
NSS rating 10 after 120h, rating 9 after 200h

High corrosion resistance
OD ≥ 14 mm & Cr layer min. 20 µm:
NSS rating 10 after 250h, rating 9 after 500h
OD ≥ 25 mm & Cr layer min. 50 µm:
NSS rating 10 after 500h, rating 9 after 1000h

Salt spray test NSS / AASS: ISO 9227
Evaluation: ISO 10289

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	-	-

Mechanical properties

Steel grade	Tensile strength	Yield point	Elongation (longitudinal)	Impact energy [2] (longitudinal direction)	Hardness [3]
	R_m N/mm²	$R_{p0.2}$ N/mm²	A_5 %	KV_2 J	Brinell N/mm²
E355+SR	min. 580	min. 450	min. 10	min. 27J / -20°C	min. 175
E355+N	490 - 630	min. 355 [4]	min. 22	min. 27J / -20°C	155 - 194
P460N+N	560 - 730	min. 460 [1]	min. 19	min. 40J / -20°C	170 - 220
20MnV6+N	550 - 800	min. 450	min. 20	min. 27J / -20°C	165 - 240

SR = stress-relieved, N = normalized
(1) Wall thickness ≤ 12 mm
(2) On request
(3) The hardness values is for information only
(4) The Yield Point value is for information only

Steel grade surface hardness

	NIMAX ICT E355+SR	NIMAX ICT P460N+N	NIMAX ICT 20MnV6+N
Surface hardness beneath the chrome layer	42±4 HRC	42±4 HRC	42±4 HRC

Standard dimensions range

Outside diameter mm	40	45	50	55	60	63	70	75	80	85	90	100	110	120	125
Inside diameter mm	20	25	30	35	45	43	50	55	50	65	70	80	90	100	100
	25	30	35	40	50	50	55	-	-	-	-	-	-	-	-
Wall thickness mm	10	10	10	10	7.5	10	10	10	15	10	10	10	10	10	12.5
	7.5	7.5	7.5	7.5	5	6.5	7.5	-	-	-	-	-	-	-	-

NCT

Nickel-chrome plated steel tubes

NiCro NCT

E355+SR, E355+N, P460N+N, 20MnV6+N

Dimensions
Outside diameter - OD: Ø30 - 140 mm
Inside diameter - ID: see standard dimensions range

Outside diameter tolerance - OD
ISO f7 / ISO f8
other, on request

Roundness - OD
max. 1/2 from diameter tolerance

Nickel layer thickness
NiCro 150: min. 15 µm
NiCro 500: min. 25 µm

Chrome layer thickness
NiCro 150: min. 20 µm
NiCro 500: min. 20 µm

Nickel layer microhardness
ca. 300 HV0.1

Chrome layer microhardness
min. 900 HV0.1

Surface roughness - OD
Ra: max. 0.20 µm

Standard indicative length
6400 / 7400 (-0/+200) mm
other, on request

Straightness
max. 0.25 mm / 1000 mm

Corrosion resistance
NiCro 150: AASS rating 10 after 150h, NSS rating 10 after 500h
NiCro 500: AASS rating 10 after 500h, NSS rating 10 after 1500h

Salt spray test NSS / AASS / CASS: ISO 9227. Evaluation: ISO 10289

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	-	-

Mechanical properties

Steel grade	Tensile strength	Yield point	Elongation (longitudinal)	Impact energy [2] (longitudinal direction)	Hardness [3]
	R_m N/mm²	$R_{p0.2}$ N/mm²	A_5 %	KV_2 J	Brinell N/mm²
E355+SR	min. 580	min. 450	min. 10	min. 27J / -20°C	min. 175
E355+N	490 - 630	min. 355 [4]	min. 22	min. 27J / -20°C	155 - 194
P460N+N	560 - 730	min. 460 [1]	min. 19	min. 40J / -20°C	170 - 220
20MnV6+N	550 - 800	min. 450	min. 20	min. 27J / -20°C	165 - 240

SR = stress-relieved, N = normalized
(1) Wall thickness ≤ 12 mm
(2) On request
(3) The hardness values is for information only
(4) The Yield Point value is for information only

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	-	-	-

NiCro INCT

E355+SR, E355+N, P460N+N, 20MnV6+N

Induction hardened and nickel-chrome plated steel tubes

INCT

Dimensions
Outside diameter - OD: Ø40 - 125 mm
Inside diameter - ID: see standard dimensions range

Outside diameter tolerance - OD
ISO f7 / ISO f8
other, on request

Roundness - OD
max. 1/2 from diameter tolerance

Nickel layer thickness
NiCro 150: min. 15 µm
NiCro 500: min. 25 µm

Chrome layer thickness
NiCro 150: min. 20 µm
NiCro 500: min. 20 µm

Nickel layer microhardness
ca. 300 HV0.1

Chrome layer microhardness
min. 900 HV0.1

Surface roughness - OD
Ra: max. 0.20 µm

Standard indicative length
6400 / 7400 (-0/+200) mm
other, on request

Straightness
max. 0.25 mm / 1000 mm

Corrosion resistance
NiCro 150: AASS rating 10 after 150h, NSS rating 10 after 500h
NiCro 500: AASS rating 10 after 500h, NSS rating 10 after 1500h

Salt spray test NSS / AASS / CASS: ISO 9227. Evaluation: ISO 10289

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	-	-

Mechanical properties

Steel grade	Tensile strength	Yield point	Elongation (longitudinal)	Impact energy [2] (longitudinal direction)	Hardness [3]
	R_m N/mm²	$R_{p0.2}$ N/mm²	A_5 %	KV_2 J	Brinell N/mm²
E355+SR	min. 580	min. 450	min. 10	min. 27J / -20°C	min. 175
E355+N	490 - 630	min. 355 [4]	min. 22	min. 27J / -20°C	155 - 194
P460N+N	560 - 730	min. 460 [1]	min. 19	min. 40J / -20°C	170 - 220
20MnV6+N	550 - 800	min. 450	min. 20	min. 27J / -20°C	165 - 240

SR = stress-relieved, N = normalized
(1) Wall thickness ≤ 12 mm
(2) On request
(3) The hardness values is for information only
(4) The Yield Point value is for information only

Steel grade surface hardness

	NIMAX ICT E355+SR	NIMAX ICT P460N+N	NIMAX ICT 20MnV6+N
Surface hardness beneath the chrome layer	42±4 HRC	42±4 HRC	42±4 HRC

Standard dimensions range

Outside diameter mm	40	45	50	55	60	63	70	75	80	85	90	100	110	120	125
Inside diameter mm	20	25	30	35	45	43	50	55	50	65	70	80	90	100	100
	25	30	35	40	50	50	55	-	-	-	-	-	-	-	-
Wall thickness mm	10	10	10	10	7.5	10	10	10	15	10	10	10	10	10	12.5
	7.5	7.5	7.5	7.5	5	6.5	7.5	-	-	-	-	-	-	-	-

CTI

Internal chrome plated steel tubes

NIMAX CTI
E355+SR

Outside diameter - OD
Ø80 - 225 mm

Inside diameter - ID
Ø70 - 200 mm

Outside tolerance - OD
according to EN 10305-1 / EN 10305-2

Inside tolerance - ID
ISO H8 / ISO H9

Roundness - OD
within the limits of the diameter tolerances

Roundness - ID
within the limits of the diameter tolerances

Chrome layer thickness
min. 20 µm

Chrome layer microhardness
min. 900 HV0.1

Surface roughness - ID
Ra: max. 0.30 µm

Standard indicative length
requested by specification, but max. 1.100 mm

Straightness
max. 0.4 mm / 1000 mm

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	-	-	-	-	-	-

Mechanical properties

Steel grade	Tensile strength	Yield point	Elongation (longitudinal)	Impact energy [1] (longitudinal direction)	Hardness [2]
	R_m	$R_{p0.2}$	A_5	KV_2	Brinell
	N/mm²	N/mm²	%	J	N/mm²
E355+SR	min. 580	min. 450	min. 10	min. 27J / -20°C	min. 175

SR = stress-relieved
(1) On request
(2) The hardness values is for information only
(3) The Yield Point value is for information only

Standard dimensions range

Outside diameter mm	80	90	105	110	115	125	145	150	160	165	170	175	190	195	210	216	225
Inside diameter	70	80	90	95	100	110	125	120	135	140	145	140	160	160	180	200	200
mm	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
Wall thickness	5	5	7.5	7.5	7.5	7.5	10	15	12.5	12.5	12.5	17.5	15	17.5	15.0	8	12.5
mm	-	-	-	-	-	12.5	-	-	-	-	-	-	-	-	-	-	-

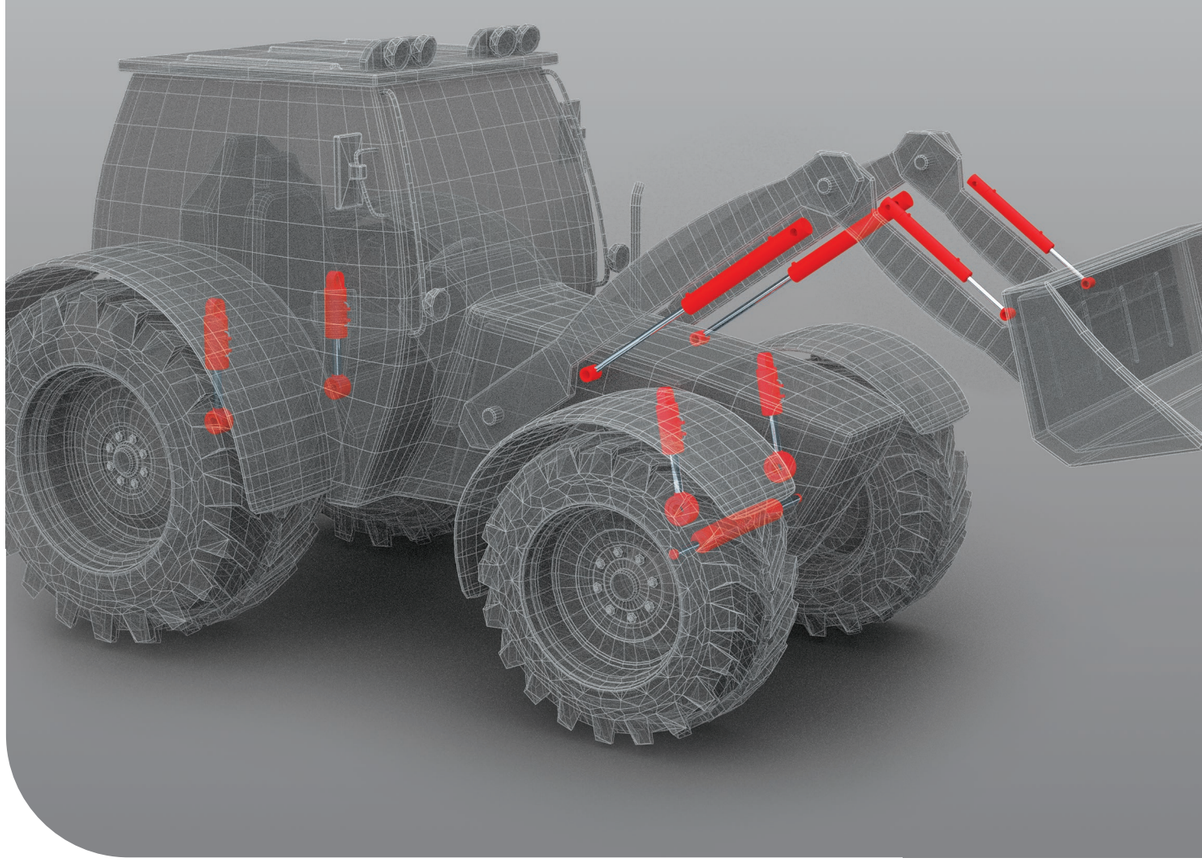
* Other dimensions on request

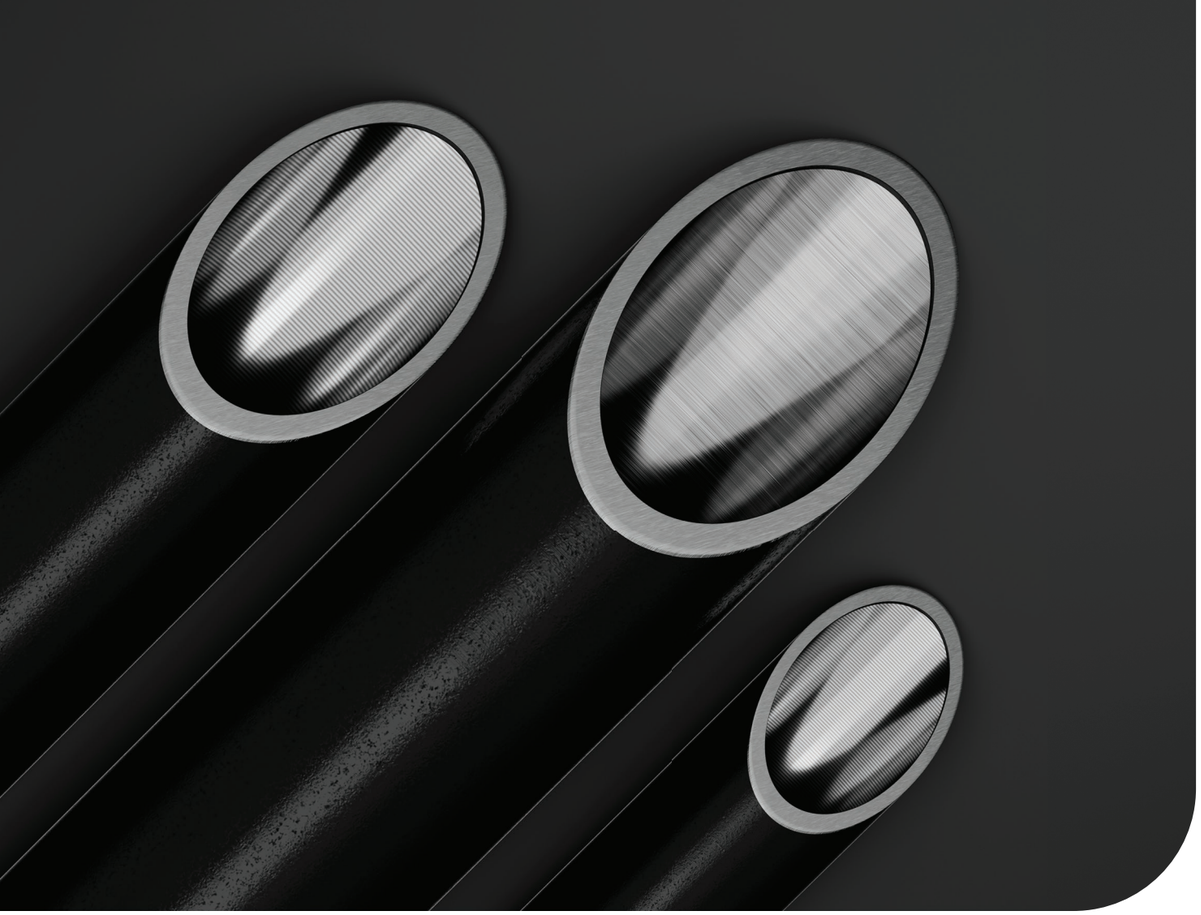
Precision customized

PISTON RODS

With strong engineering know-how and a customer-focused approach, we deliver custom piston rod solutions designed to meet specific operational demands.

Our commitment to understanding the final application guarantees precision, efficiency, and dependable performance.





CYLINDER TUBES

for hydraulic applications

H8 hydraulic tubes are precision-engineered for applications requiring high dimensional accuracy and superior surface finish.

They are ideal for manufacturing hydraulic cylinders, ensuring excellent sealing performance, reduced friction, and long-lasting reliability. Designed for high-pressure systems, H8 tubes enhance overall efficiency and operational safety.

NIMAX H8

E355+SR, EN 10305-1, EN 10305-2

Cylinder tubes inside skived and roller burnished

H8

Outside diameter - OD
Ø60 - 245 mm

Inside diameter - ID
Ø50 - 200 mm

Outside tolerance - OD
according to EN 10305-1 / EN 10305-2

Inside tolerance - ID
ISO H8

Roundness - ID
within the limits of diameter tolerances

Surface roughness - ID
Ra: max. 0.30 µm

Standard indicative length
5000 - 8000 mm
other, on request

Straightness local deviation
max. 1 mm / 1000 mm

Straightness total deviation
max. 3.5 mm for tubes with length up to 6000 mm for tubes with length more than 6000 mm, for each meter over this length, the tolerance increases by 0.5 mm

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	-	-	-	-	-	-

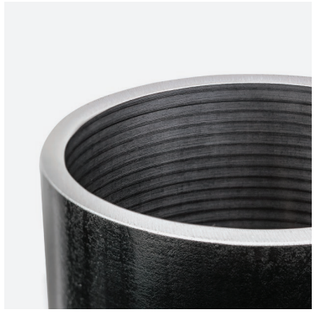
Mechanical properties

Steel grade	Tensile strength R_m N/mm²	Yield point $R_{p0.2}$ N/mm²	Elongation (longitudinal) A_5 %	Impact energy [1] (longitudinal direction) KV_2 J	Hardness [2] Brinell N/mm²
E355+SR	min. 580	min. 450	min. 10	min. 27J / -20°C	min. 175

SR = stress-relieved, C = cold drawn
(1) On request
(2) The hardness values is for information only
(3) The Yield Point value is for information only

Standard dimensions range

Inside diameter mm	Wall thickness mm
50	5 6 6.5 7.5 10 12.5 15
50.8	5 6 6.35 7.5 10 12.5
55	5 6 6.5 7.5 10 12.5 15
60	5 6 6.5 7.5 10 12.5 15
63	5 6 7 7.5 8.5 10 12.5 13 13.5
63.5	5 6 6.35 7.5 10 12.5 15
65	5 6 6.35 7.5 10 12.5 15
70	5 6 6.35 7.5 10 12.5 15 17.5
75	5 6 6.35 7.5 10 12.5 15 17.5
76.2	5 6 6.35 7.5 10 12.5 15 17.5
80	5 6 6.35 7.5 10 12.5 15 17.5
82.55	5 6 6.35 7.5 10 12.5 15 17.5
85	5 6 6.35 7.5 10 12.5 15 17.5
88.9	5 6 6.35 7.5 10 12.5 15 17.5
90	5 6 6.35 7.5 10 12.5 15 17.5
100	6 6.35 7.5 10 12.5 15 17.5 20
101.6	6 6.35 7.5 10 12.5 15 17.5 20
105	7.5 10 12.5 15 17.5 20
110	7.5 10 12.5 15 17.5 20
114.3	7.5 10 12.5 15 17.5 20
115	7.5 10 12.5 15 17.5 20
120	7.5 10 12.5 15 17.5 20 22.5
125	7.5 10 12.5 15 17.5 20 22.5
127	7.5 10 12.5 15 17.5 20
130	7.5 10 12.5 15 17.5 20
135	7.5 10 12.5 15 17.5
140	7.5 10 12.5 15 17.5 20
150	7.5 10 12.5 15 17.5 20
160	7.5 10 12.5 15 17.5 20
170	7.5 10 12.5 15 17.5 20
180	7.5 10 12.5 15 17.5 20
200	7.5 10 12.5 15 17.5 20 22.5 25

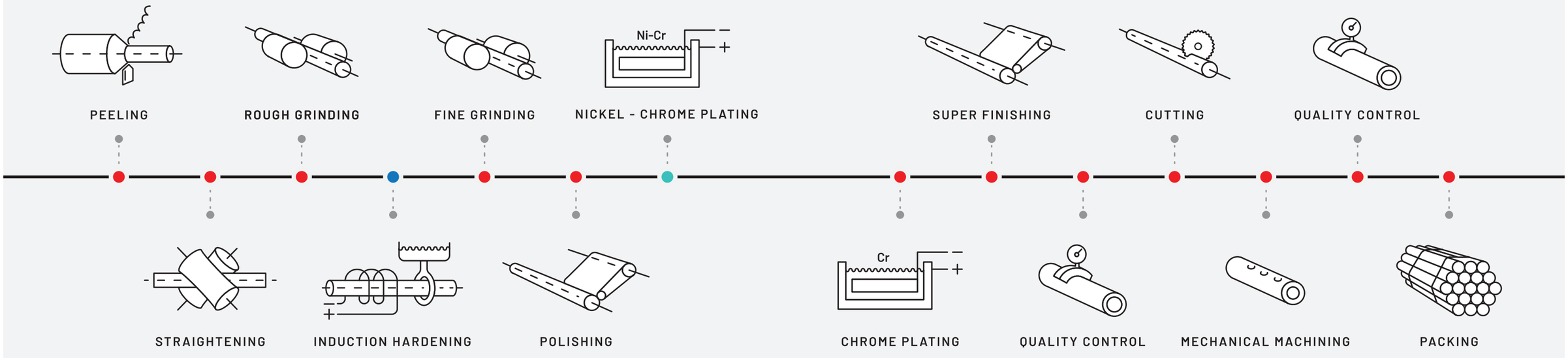


The skiving and roller burnishing production technique refers to a process consisting in micro-finishing metallic internal tube surfaces.
The resulted effect is a mirror surface finish with technical roughness advantages.

Dimensional tolerance table

Inside diameter - ID mm	ISO H8 µm
50 < Ø ≤ 80	0 / +46
80 < Ø ≤ 120	0 / +54
120 < Ø ≤ 180	0 / +63
180 < Ø ≤ 200	0 / +72

PRODUCTION FLOW



Nowadays, the market is more demanding and requires a high level of service which we are ready to sustain with solutions tailored to customer needs:

- materials with particular characteristics (chemical composition, mechanical properties, hardening parameters, surface finishing);
- special lengths and cutting to specific lengths;
- technical support;
- custom finished or semi-finished products based on the customer's drawing or our own design.

NIMET's product portfolio is designed to support both the hydraulic & pneumatic and linear motion systems industries. Our core product is the chrome-plated rod used in hydraulic cylinders - an essential component across sectors such as agriculture, construction, automotive, mining, and various industrial applications.

Our production process integrates modern technologies and strict quality assurance at every step.
Through continuous innovation and expertise, we deliver precision, reliability, and consistent quality - strengthening our position as a trusted partner for global OEMs and distributors.

SUSTAINABILITY & RESPONSIBLE SOURCING

At **NIMET**, sustainability is integral to our operations. With over 700 employees and 50.000 sqm of production space, we are committed to:

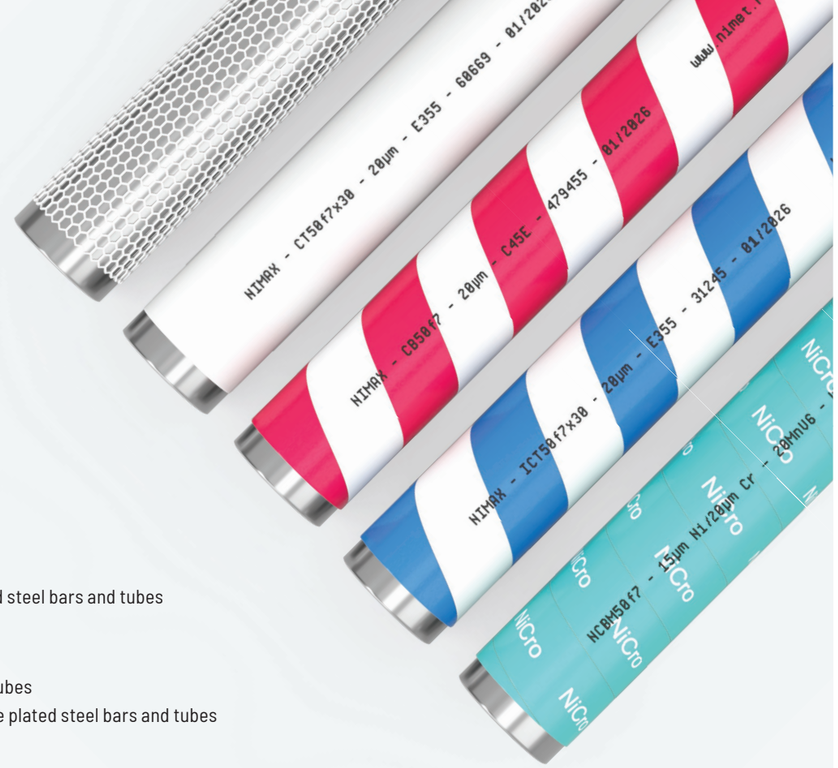
- Renewable Energy: Our large-scale photovoltaic system produces significant amounts of clean electricity each year, helping to reduce our carbon footprint.

- Responsible Sourcing: We source raw materials exclusively from certified steel mills that adhere to strict environmental and ethical standards, ensuring full traceability and compliance.

- Global circular economy and landfill waste reduction: Minimizing waste through the efficient use of raw materials and by adopting a reduce – reuse – recycle approach to waste management. Through effective sorting, preparation, and sale of scrap metal, cardboard, and wood, we ensure that valuable resources are returned to the production cycle.

- Pollution prevention: Reducing water consumption and implementing measures that prevent the pollution of groundwater.

PACKAGING



Plastic sleeves

WHITE plastic sleeves / net

Cardboard tubes

RED & WHITE striped tubes
Chrome plated steel bars and tubes

BLUE & WHITE striped tubes
Induction hardened and chrome plated steel bars and tubes

TURQUOISE tubes
Nickel-chrome plated steel bars and tubes
Induction hardened and nickel-chrome plated steel bars and tubes

Marking on the cardboard tube or on the plastic sleeve:

Product Code - Diameter - Tolerance - Chrome layer - Material - Heat Number - Calendar Week/Year - www.nimet.ro
NIMAX - CB125f7 - 20µm - C45E - 479455 - 01/2026 - www.nimet.ro

STORAGE & HANDLING

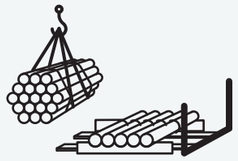
Recommendations

Keep the products stored in dry and covered spaces.

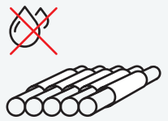
Do not expose the bars or tubes for a long time to the sunlight or to very low temperatures.

Direct contact with the floor and steel supports that are not lined with soft materials must be avoided; preferable to use rubber or wood lined supports.

Whenever possible, please use the crane to load or unload the bundles; when using the fork lift please avoid the direct contact of the forks with the products.



Always keep dry the cardboard tubes that protect the chromed products.



Always lift the bundles using textile slings. Do not use metal slings during handling of bundles.

As part of the Palfinger Group, we adhere to their globally recognized governance policies, ensuring our operations meet the highest ethical and legal standards.

Read our Code of Conduct: www.nimet.ro/code-of-conduct
Report via Integrity Line: www.nimet.ro/integrity-line

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