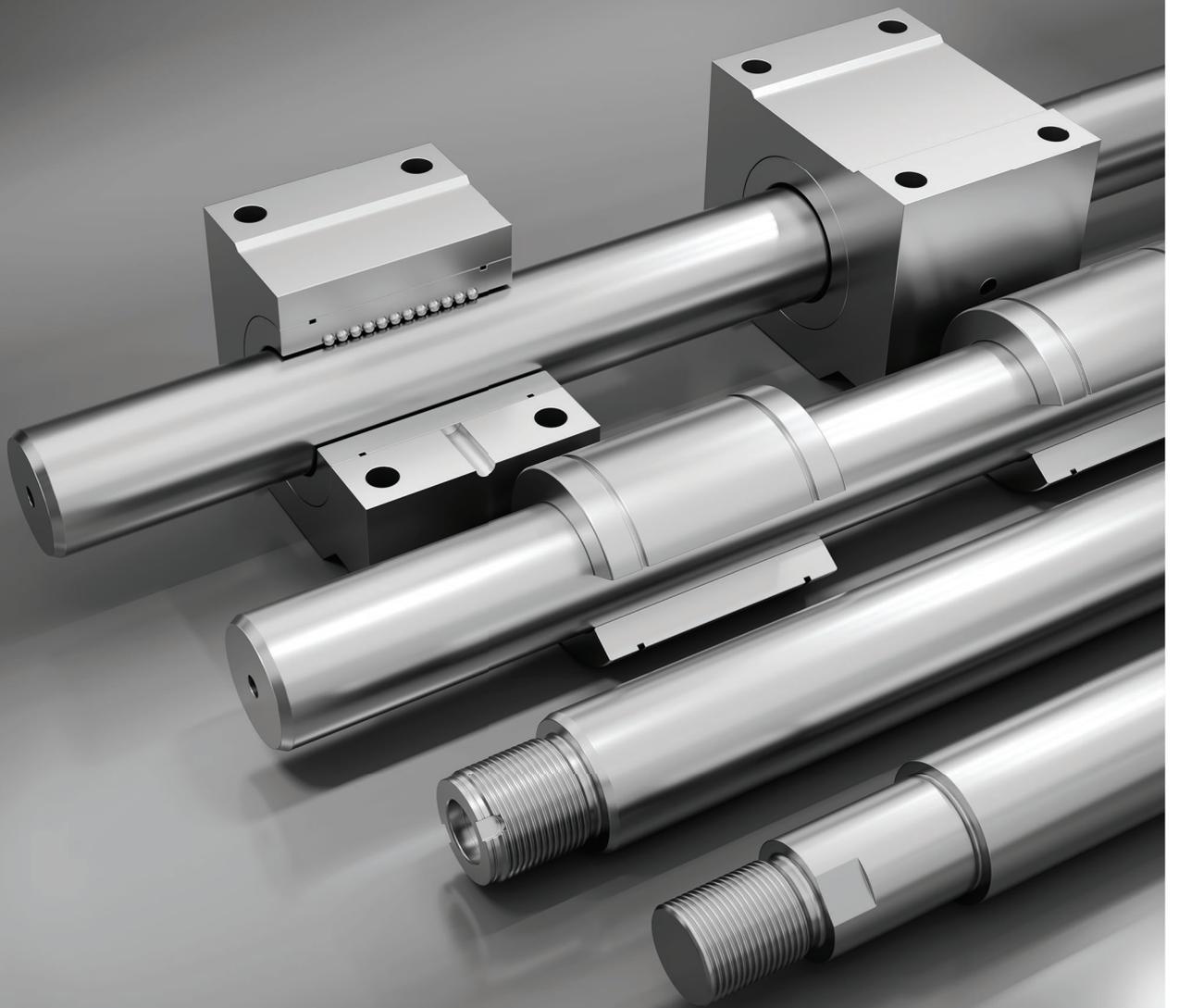


NIMET



LINEAR SHAFTS

2026 - 2027

WE CONTRIBUTE TO THE WORLD'S MOVEMENT

NIMET YOUR PARTNER IN PERFORMANCE

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.



CONTENT

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.

NIMET your partner in performance	1
History	4
Quality	6
Research & development	8
Product applications	10
Customized machining	12
Sustainability & responsible sourcing	14
Linear shafts technology	15
Linear shafts for linear motion systems	16
W Induction hardened and ground linear shafts	18
WV Induction hardened and chrome plated linear shafts	20
WRB Induction hardened and ground stainless steel linear shafts	22
WRA Induction hardened and ground stainless steel linear shafts	24
WH Induction hardened and ground hollow linear shafts	26
WHV Induction hardened and chrome plated hollow linear shafts	28
Production flow	30
Packaging / Storage & handling	32

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

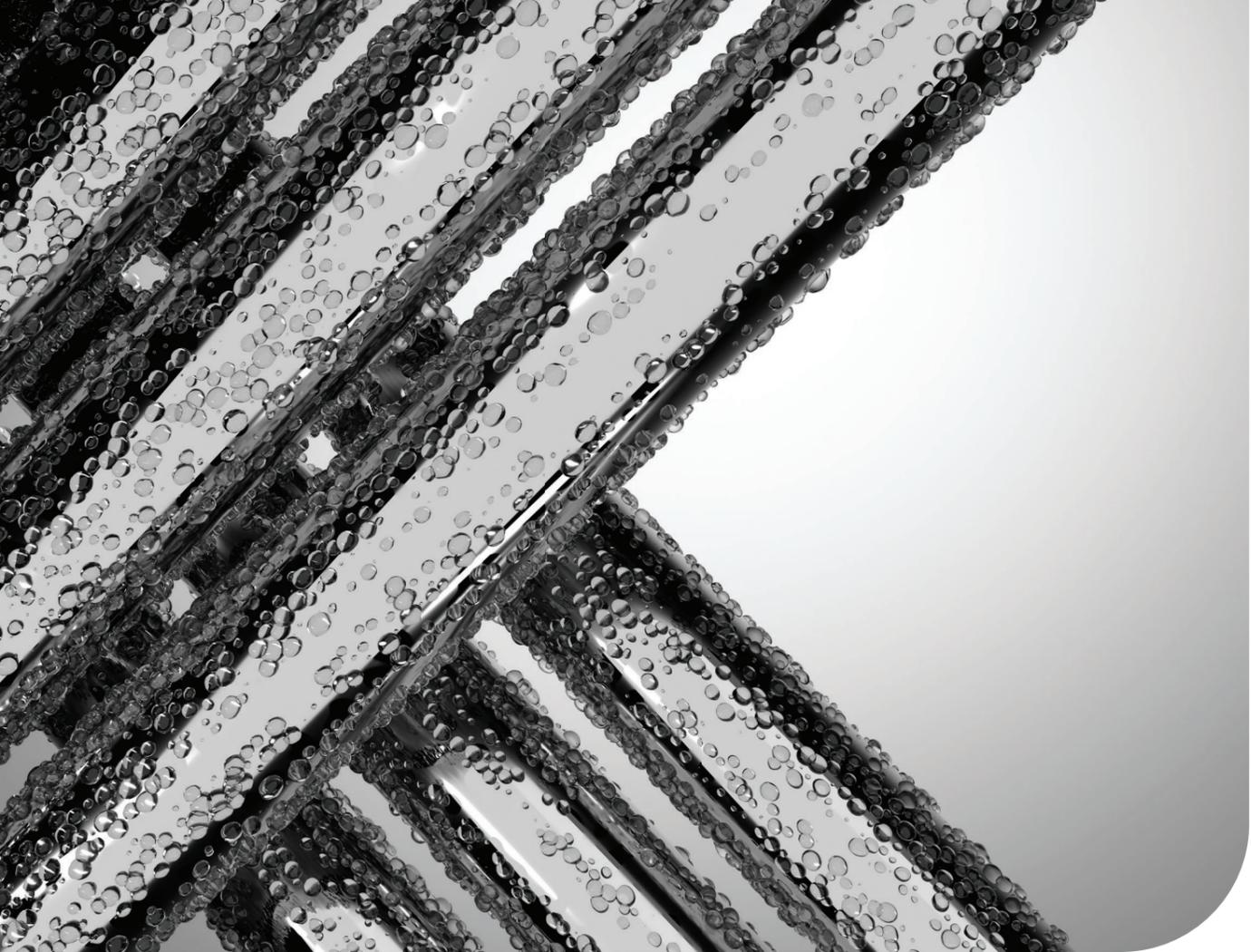
And future-ready, always.

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



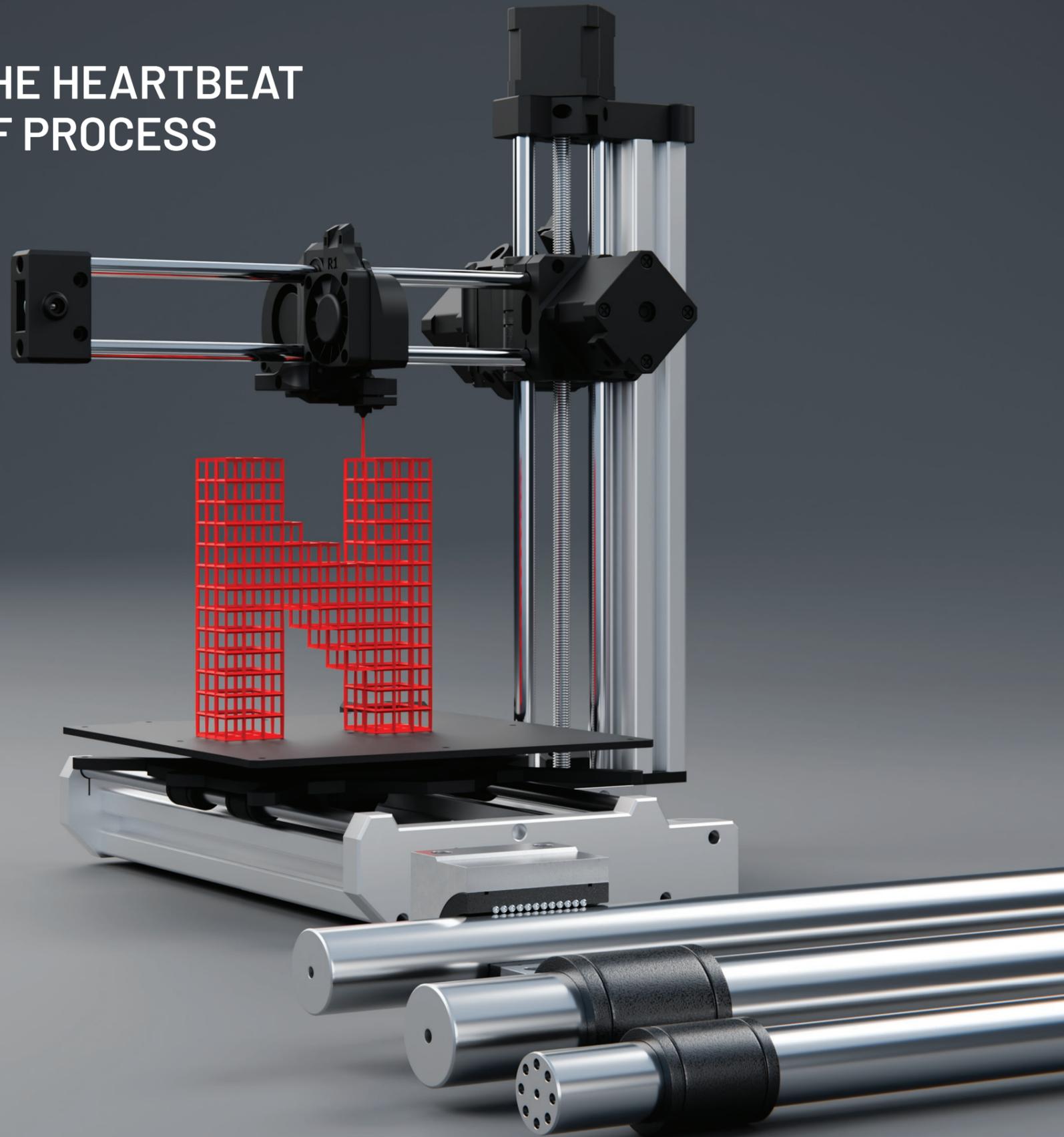
EN ISO
14001:2015



ISO
45001:2018



THE HEARTBEAT OF PROCESS



RESEARCH & DEVELOPMENT

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

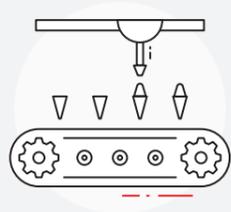
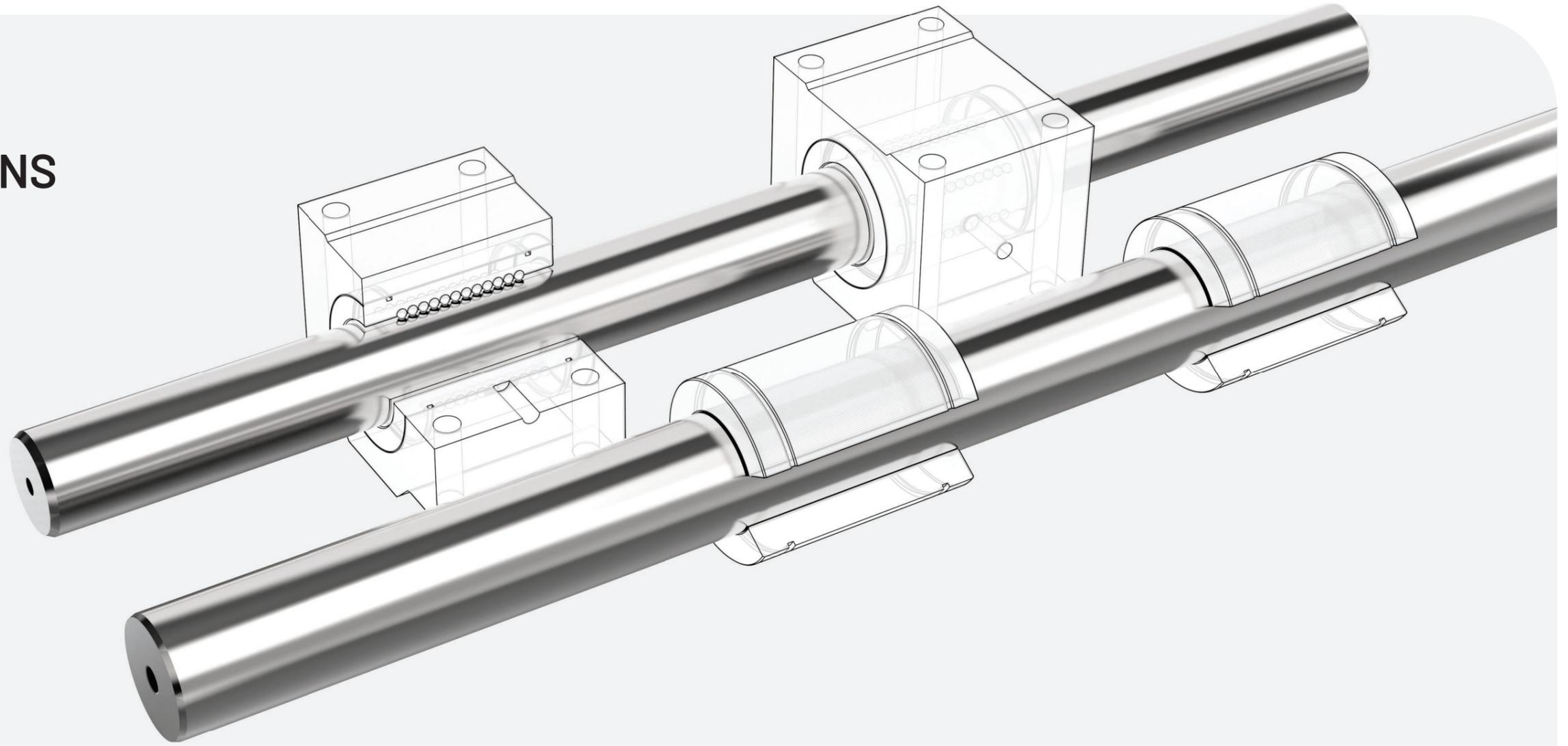
- Developing advanced, tailor-made solutions that adapt to ever-changing market demands
- Investing in cutting-edge facilities and installations to maintain the highest quality and performance

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

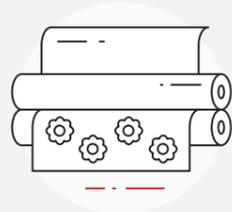
Our R&D team works closely across departments, combining engineering excellence with practical insights to create next-generation products that deliver real-world value.

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

PRODUCT APPLICATIONS



Food industry



Textile industry



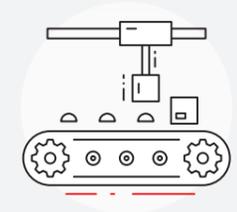
Checking and measuring equipment



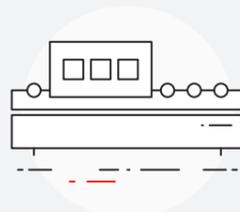
Medical equipments



Tool machines



Automatic packaging machines



Wood and aluminium working machines



Printing machines



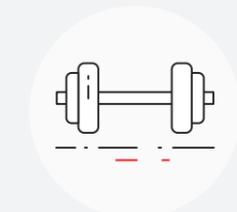
Handling systems



Door opening systems

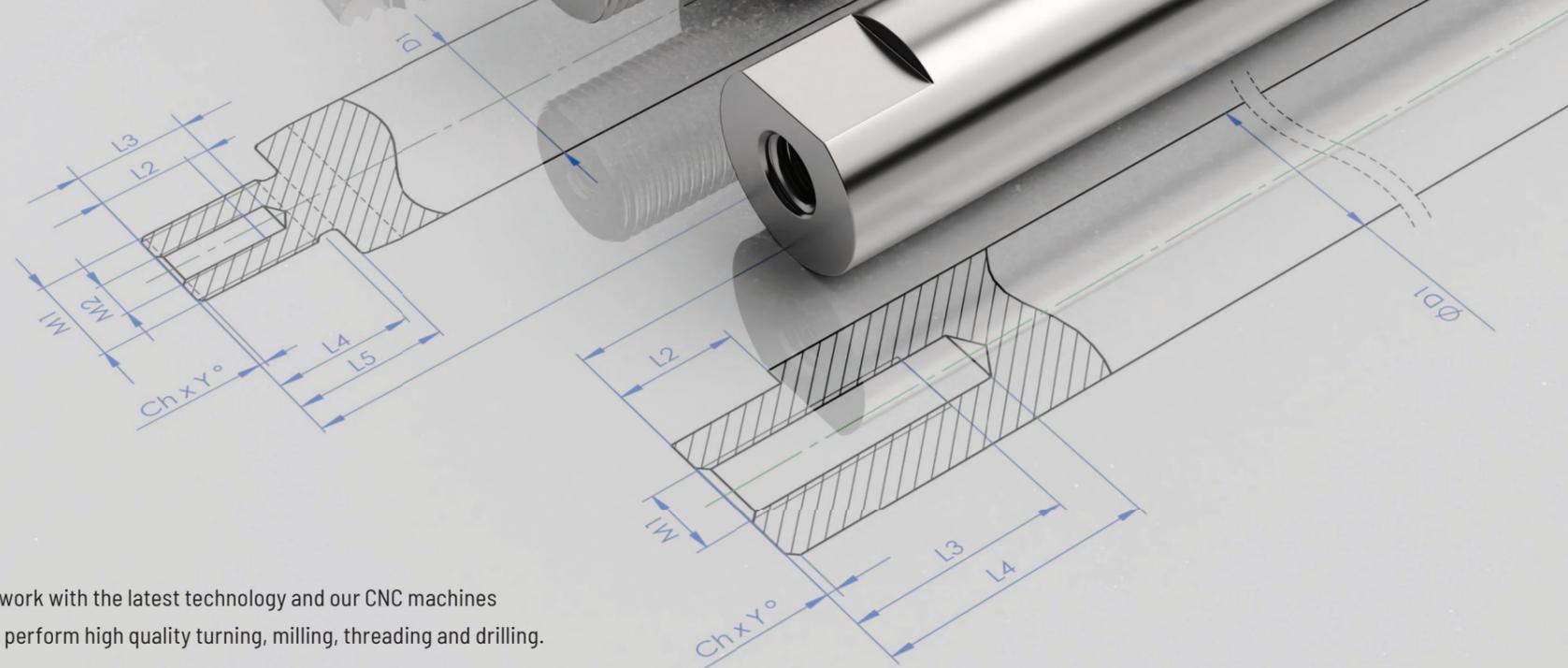


Robots



Fitness 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



Axial hole



Threaded axial hole and milled flat



Machined end tube



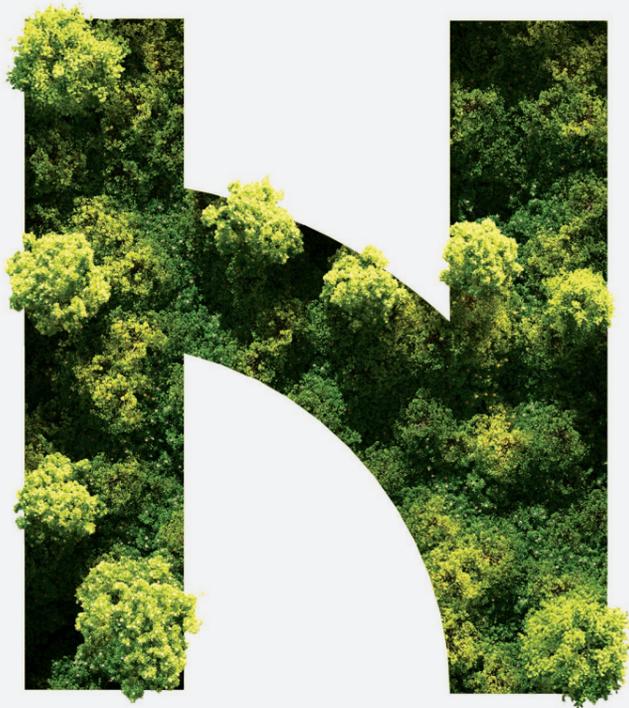
External thread tube and radial hole



Internal thread tube



Reduced diameter and external thread



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.

NIMET LINEAR SHAFTS

precision in motion

Engineered for accuracy and durability, **NIMET** linear shafts are designed to deliver smooth, precise motion in demanding mechanical applications.

Whether integrated into automated systems, linear guides, or motion control assemblies, our shafts provide the stability and surface quality required for high-performance movement-day in, day out.

Manufactured to tight tolerances with a flawless surface finish, **NIMET** linear shafts withstand constant movement, friction, and environmental stress.

They are ideal for factory automation, robotics, packaging machines, and other applications where precision alignment and minimal wear are essential.

Key performance features include:

- Superior surface hardness for reduced friction and wear
- Excellent straightness and roundness for optimal linear accuracy
- Extra chrome finish available for extended lifespan
- High load capacity with minimal deflection
- Consistent diameter and surface quality throughout the entire length

With a commitment to quality from raw material to finished product, **NIMET** linear shafts offer a reliable solution for today's precision-driven industries.



NI SERIES

Linear shafts
for linear motion systems

NI-W Induction hardened and ground linear shafts

Manufactured from medium carbon normalized steels with excellent machinability and dimensional stability, these shafts feature a surface hardening depth and a tough, elastic core that absorbs bending stresses.

They offer high geometrical accuracy - roundness, straightness, parallelism - and are supplied in a wide range of metric diameters with ISO h6 tolerance as standard.

Suitable as precision guide rods for plain bushes, tensioning and leveling rollers, or components in automated machinery and industrial equipment.

NI-WRB Induction hardened and ground stainless steel linear shafts

Crafted from martensitic stainless steel, these shafts offer a balanced combination of hardness, corrosion resistance, and dimensional accuracy. The surface hardening supports moderate impact loads, while the stainless core ensures durability in moist or mildly corrosive environments.

Available with ISO h6 tolerance, they are suitable for use in applications requiring both hygiene and mechanical performance, such as light medical devices, packaging machinery, cleanroom automation, or auxiliary components in food-related environments.

NI-WH Induction hardened and ground hollow linear shafts

These shafts offer a lightweight alternative without sacrificing mechanical integrity. The hardened layer and normalized core ensure high load resistance with reduced mass - ideal for high-speed or dynamic applications.

Hollow shafts are ground to ISO h6 tolerance, with consistent wall thickness and straightness along their full length.

NI-WV Induction hardened and hard chrome plated linear shafts

These shafts combine the mechanical strength of hardened and ground steel with the added protection of a hard chrome coating. The chrome layer increases resistance to abrasion and moderate corrosion, ensuring reliable performance in demanding linear motion applications.

Supplied in ISO h7 tolerance and various lengths, they maintain excellent dimensional precision and surface finish.

Well-suited for integration into linear systems where durability, low friction, and corrosion protection are essential, including pick-and-place automation, packaging lines, and food processing equipment.

NI-WRA Induction hardened and ground high alloy stainless steel shafts

These shafts are manufactured from high chromium-molybdenum stainless steel, offering enhanced corrosion resistance and surface hardness, even in aggressive environments. The tempered core retains mechanical toughness, while the hardened layer ensures longevity under continuous motion and moderate shock.

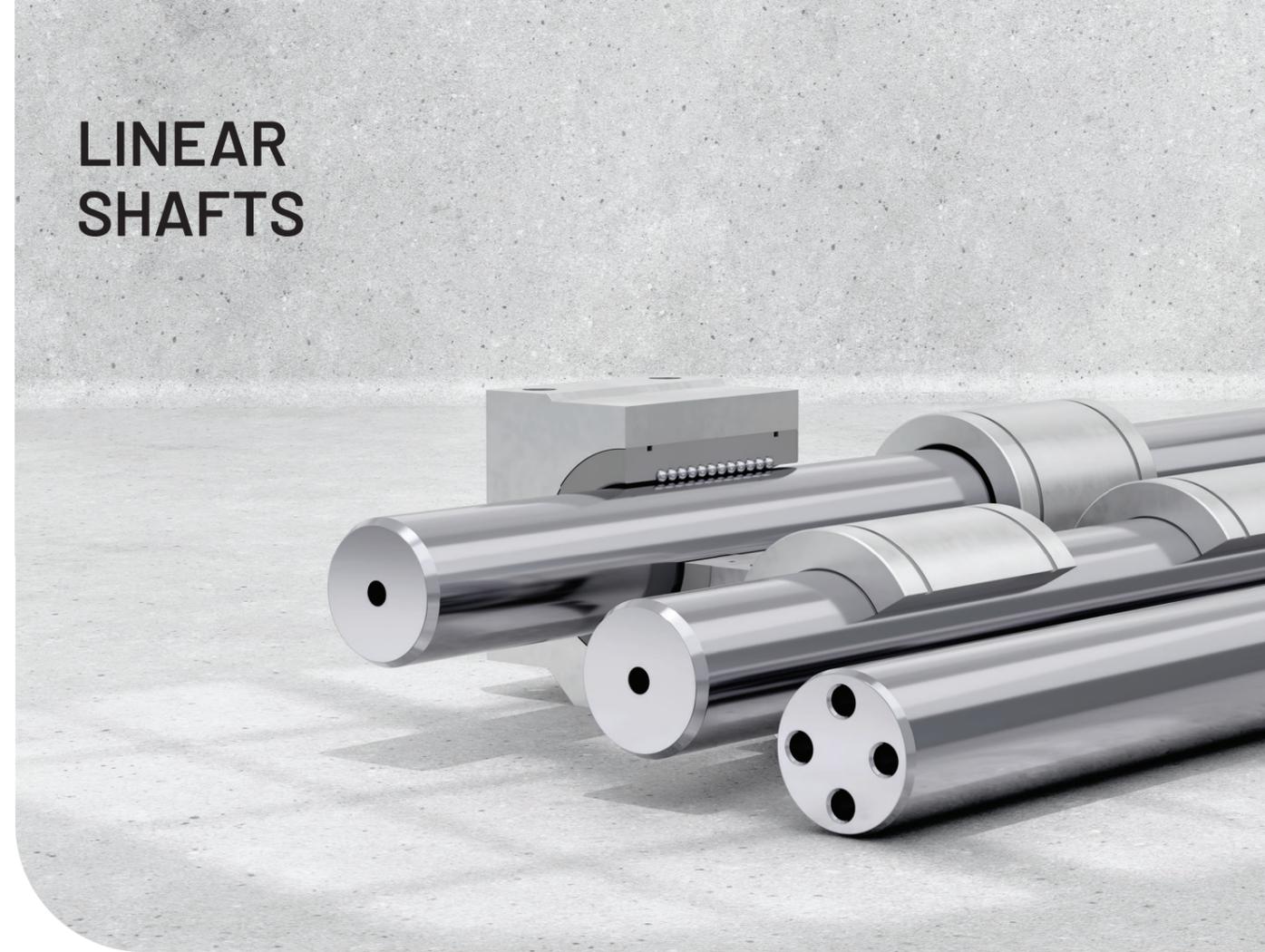
Available in ISO h6 tolerances and precise geometries, they are particularly suited for critical applications in semiconductor handling, medical automation, chemical processing, food and beverage packaging, and outdoor linear systems.

NI-WHV Induction hardened and hard chrome plated hollow linear shafts

Combining reduced weight, mechanical strength, and corrosion protection, these shafts undergo induction hardening followed by hard chrome plating. The chrome surface enhances wear resistance and ensures smooth, low-friction operation.

Manufactured to ISO h7 tolerances, they provide precise dimensional control even with hollow construction.

LINEAR SHAFTS



Induction hardened and ground linear shafts



Induction hardened and chrome plated linear shafts



Induction hardened and ground stainless steel linear shafts



Induction hardened and ground stainless steel linear shafts



Induction hardened and ground hollow linear shafts

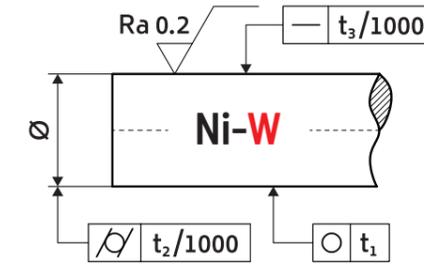


Induction hardened and chrome plated hollow linear shafts



Induction hardened and ground linear shafts

Ni-W
Cf53



Dimensions Ø6 - 80 mm	Surface hardness 62±2 HRC	Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+50) mm other, on request
Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions		

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
Cf53	0.50 ÷ 0.57	0.15 ÷ 0.35	0.40 ÷ 0.70	max. 0.025	max. 0.035	-	-	-	-

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength	Yield strength	Elongation	Hardness
		R_m N/mm ²	$R_{p0.2}$ N/mm ²	A_5 %	Brinell ⁽¹⁾ HB
Cf53	Ø ≤ 16	min. 755	min. 610	min. 6	245-320
	16 < Ø ≤ 25	min. 765	min. 630	min. 7	245-280
	Ø ≤ 40	min. 640	min. 338	min. 12	197-223
	40 < Ø ≤ 80	min. 660	min. 345	min. 12	197-223

(1) Only for information

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C53	1.1213	Cf53 (C53G)	070M55	C53	S50C	50	1050

Ni-W / Metric

Series	Shaft diameter Ø		Surface hardening depth SHD (min. + tol.) mm	Roundness t ₁ max. µm	Parallelism t ₂ max. µm	Straightness t ₃ max. mm/m	Standard tolerance ISO h6 µm
	mm	inch					
NI-W 6	6		0.4+0.4	4	6	0.25	0 / -8
NI-W 8	8		0.4+0.4	4	6	0.20	0 / -9
NI-W 10	10		0.4+0.4	4	6	0.20	0 / -9
NI-W 12	12		0.6+0.6	5	8	0.20	0 / -11
NI-W 14	14		0.6+0.6	5	8	0.20	0 / -11
NI-W 15	15		0.6+0.6	5	8	0.20	0 / -11
NI-W 16	16		0.6+0.6	5	8	0.20	0 / -11
NI-W 18	18		0.6+0.6	5	8	0.20	0 / -11
NI-W 20	20		0.9+0.8	6	9	0.20	0 / -13
NI-W 25	25		0.9+0.8	6	9	0.15	0 / -13
NI-W 30	30		0.9+0.8	6	9	0.15	0 / -13
NI-W 35	35		1.5+1.3	7	11	0.15	0 / -16
NI-W 40	40		1.5+1.3	7	11	0.15	0 / -16
NI-W 45	45		1.5+1.3	7	11	0.15	0 / -16
NI-W 50	50		1.5+1.3	7	11	0.15	0 / -16
NI-W 60	60		2.2+1.6	8	13	0.15	0 / -19
NI-W 70	70		2.2+1.6	8	13	0.15	0 / -19
NI-W 80	80		2.2+1.6	8	13	0.15	0 / -19

Dimensions Ø1/4" - 3"	Surface hardness 62±2 HRC	Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+50) mm / 251.96 (-0/+2)" other, on request
Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions		

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
Cf53	0.50 ÷ 0.57	0.15 ÷ 0.35	0.40 ÷ 0.70	max. 0.025	max. 0.035	-	-	-	-

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength	Yield strength	Elongation	Hardness
		R_m N/mm ²	$R_{p0.2}$ N/mm ²	A_5 %	Brinell ⁽¹⁾ HB
Cf53	Ø ≤ 16	min. 755	min. 610	min. 6	245-320
	16 < Ø ≤ 25	min. 765	min. 630	min. 7	245-280
	Ø ≤ 40	min. 640	min. 338	min. 12	197-223
	40 < Ø ≤ 80	min. 660	min. 345	min. 12	197-223

(1) Only for information

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C53	1.1213	Cf53 (C53G)	070M55	C53	S50C	50	1050

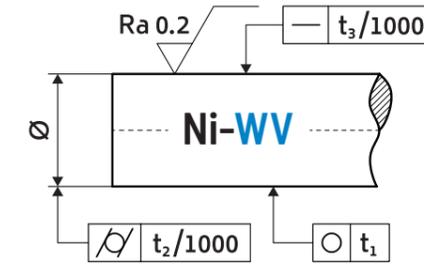
Ni-W / Imperial

Series	Shaft diameter Ø		Surface hardening depth SHD (min. + tol.) inch	Roundness t ₁ max. inch	Parallelism t ₂ max. inch	Straightness t ₃ max. inch/ft	Standard tolerance Class "L" inch
	mm	inch					
NI-W 6.35	6.35	0.25	0.016+0.016	0.00016	0.00023	0.00308	-0.0005 / -0.001
NI-W 9.525	9.525	0.375	0.016+0.016	0.00016	0.00023	0.00246	-0.0005 / -0.001
NI-W 12.7	12.7	0.5	0.024+0.024	0.00020	0.00031	0.00246	-0.0005 / -0.001
NI-W 15.875	15.875	0.625	0.024+0.024	0.00020	0.00031	0.00246	-0.0005 / -0.001
NI-W 19.05	19.05	0.75	0.035+0.032	0.00024	0.00035	0.00246	-0.0005 / -0.001
NI-W 22.225	22.225	0.875	0.035+0.032	0.00024	0.00035	0.00185	-0.0005 / -0.001
NI-W 25.4	25.4	1	0.035+0.032	0.00024	0.00035	0.00185	-0.0005 / -0.001
NI-W 28.575	28.575	1.125	0.035+0.032	0.00024	0.00035	0.00185	-0.0005 / -0.001
NI-W 31.75	31.75	1.25	0.059+0.051	0.00028	0.00043	0.00185	-0.0005 / -0.001
NI-W 34.925	34.925	1.375	0.059+0.051	0.00028	0.00043	0.00185	-0.0005 / -0.001
NI-W 38.1	38.1	1.5	0.059+0.051	0.00028	0.00043	0.00185	-0.0006 / -0.0011
NI-W 44.45	44.45	1.75	0.059+0.051	0.00028	0.00043	0.00185	-0.0006 / -0.0011
NI-W 50.8	50.8	2	0.087+0.063	0.00028	0.00043	0.00185	-0.0006 / -0.0013
NI-W 57.15	57.15	2.25	0.087+0.063	0.00031	0.00051	0.00185	-0.0007 / -0.0015
NI-W 63.5	63.5	2.5	0.087+0.063	0.00031	0.00051	0.00185	-0.0007 / -0.0015
NI-W 76.2	76.2	3	0.087+0.063	0.00031	0.00051	0.00185	-0.0008 / -0.0017



Induction hardened and chrome plated linear shafts

Ni-WV
Cf53



Dimensions Ø6 - 80 mm	Surface hardness 62±2 HRC	Chrome layer thickness 12±5 µm	Chrome layer microhardness 900-1100HV0.1
Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+50) mm other, on request	Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
Cf53	0.50 ÷ 0.57	0.15 ÷ 0.35	0.40 ÷ 0.70	max. 0.025	max. 0.035	-	-	-	-

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength	Yield strength	Elongation	Hardness
		R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %	Brinell ⁽¹⁾ HB
Cf53	Ø ≤ 16	min. 755	min. 610	min. 6	245-320
	16 < Ø ≤ 25	min. 765	min. 630	min. 7	245-280
	Ø ≤ 40	min. 640	min. 338	min. 12	197-223
	40 < Ø ≤ 80	min. 660	min. 345	min. 12	197-223

(1) Only for information

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C53	1.1213	Cf53 (C53G)	070M55	C53	S50C	50	1050

Ni-WV / Metric

Series	Shaft diameter Ø		Surface hardening depth SHD (min. + tol.) mm	Roundness t ₁ max. µm	Parallelism t ₂ max. µm	Straightness t ₃ max. mm/m	Standard tolerance ISO h7 µm
	mm	inch					
NI-WV 6	6		0.4 + 0.4	5	10	0.25	0 / -12
NI-WV 8	8		0.4 + 0.4	6	10	0.20	0 / -15
NI-WV 10	10		0.4 + 0.4	6	10	0.20	0 / -15
NI-WV 12	12		0.6 + 0.6	8	12	0.20	0 / -18
NI-WV 14	14		0.6 + 0.6	8	12	0.20	0 / -18
NI-WV 15	15		0.6 + 0.6	8	12	0.20	0 / -18
NI-WV 16	16		0.6 + 0.6	8	12	0.20	0 / -18
NI-WV 18	18		0.6 + 0.6	8	12	0.20	0 / -18
NI-WV 20	20		0.9 + 0.8	9	12	0.20	0 / -21
NI-WV 25	25		0.9 + 0.8	9	12	0.15	0 / -21
NI-WV 30	30		0.9 + 0.8	9	12	0.15	0 / -21
NI-WV 35	35		1.5 + 1.3	11	15	0.15	0 / -25
NI-WV 40	40		1.5 + 1.3	11	15	0.15	0 / -25
NI-WV 45	45		1.5 + 1.3	11	15	0.15	0 / -25
NI-WV 50	50		1.5 + 1.3	11	15	0.15	0 / -25
NI-WV 60	60		2.2 + 1.6	13	15	0.15	0 / -30
NI-WV 70	70		2.2 + 1.6	13	15	0.15	0 / -30
NI-WV 80	80		2.2 + 1.6	13	15	0.15	0 / -30

Dimensions Ø1/4" - 3"	Surface hardness 62±2 HRC	Chrome layer thickness 12±5 µm / 0.0005±0.0002"	Chrome layer microhardness 900-1100HV0.1
Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+50) mm / 251.96 (-0/+2)" other, on request	Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
Cf53	0.50 ÷ 0.57	0.15 ÷ 0.35	0.40 ÷ 0.70	max. 0.025	max. 0.035	-	-	-	-

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength	Yield strength	Elongation	Hardness
		R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %	Brinell ⁽¹⁾ HB
Cf53	Ø ≤ 16	min. 755	min. 610	min. 6	245-320
	16 < Ø ≤ 25	min. 765	min. 630	min. 7	245-280
	Ø ≤ 40	min. 640	min. 338	min. 12	197-223
	40 < Ø ≤ 80	min. 660	min. 345	min. 12	197-223

(1) Only for information

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C53	1.1213	Cf53 (C53G)	070M55	C53	S50C	50	1050

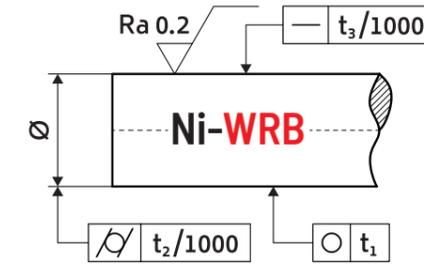
Ni-WV / Imperial

Series	Shaft diameter Ø		Surface hardening depth SHD (min. + tol.) inch	Roundness t ₁ max. inch	Parallelism t ₂ max. inch	Straightness t ₃ max. inch/ft	Standard tolerance Class "L" inch
	mm	inch					
NI-WV 6.35	6.35	0.25	0.016 + 0.016	0.00020	0.00039	0.00308	-0.0005 / -0.001
NI-WV 9.525	9.525	0.375	0.016 + 0.016	0.00024	0.00039	0.00246	-0.0005 / -0.001
NI-WV 12.7	12.7	0.5	0.024 + 0.024	0.00031	0.00047	0.00246	-0.0005 / -0.001
NI-WV 15.875	15.875	0.625	0.024 + 0.024	0.00031	0.00047	0.00246	-0.0005 / -0.001
NI-WV 19.05	19.05	0.75	0.035 + 0.032	0.00035	0.00047	0.00246	-0.0005 / -0.001
NI-WV 22.225	22.225	0.875	0.035 + 0.032	0.00035	0.00047	0.00185	-0.0005 / -0.001
NI-WV 25.4	25.4	1	0.035 + 0.032	0.00035	0.00047	0.00185	-0.0005 / -0.001
NI-WV 28.575	28.575	1.125	0.035 + 0.032	0.00035	0.00047	0.00185	-0.0005 / -0.001
NI-WV 31.75	31.75	1.25	0.059 + 0.051	0.00043	0.00059	0.00185	-0.0005 / -0.001
NI-WV 34.925	34.925	1.375	0.059 + 0.051	0.00043	0.00059	0.00185	-0.0005 / -0.001
NI-WV 38.1	38.1	1.5	0.059 + 0.051	0.00043	0.00059	0.00185	-0.0006 / -0.0011
NI-WV 44.45	44.45	1.75	0.059 + 0.051	0.00043	0.00059	0.00185	-0.0006 / -0.0011
NI-WV 50.8	50.8	2	0.087 + 0.063	0.00043	0.00059	0.00185	-0.0006 / -0.0013
NI-WV 57.15	57.15	2.25	0.087 + 0.063	0.00051	0.00059	0.00185	-0.0007 / -0.0015
NI-WV 63.5	63.5	2.5	0.087 + 0.063	0.00051	0.00059	0.00185	-0.0007 / -0.0015
NI-WV 76.2	76.2	3	0.087 + 0.063	0.00051	0.00059	0.00185	-0.0008 / -0.0017



Induction hardened and ground stainless steel linear shafts

Ni-WRB
X46Cr13 (W1.4034)



Dimensions Ø6 - 50 mm	Surface hardness 56±2 HRC	Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+200) mm other, on request
Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions		

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
X46Cr13	0.43 ÷ 0.50	max. 1.0	max. 1.0	max. 0.040	max. 0.030	12.5 + 14.5	-	-	-

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength	Yield strength	Elongation	Hardness
		R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %	Brinell HB
X46Cr13+A	6 < Ø ≤ 50	max. 800	-	-	max. 245

A=annealed

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
X46Cr13	1.4034	X46Cr13	(420S45)	X40Cr14	-	40Ch13	420C

Ni-WRB / Metric

Series	Shaft diameter Ø		Surface hardening depth SHD (min. + tol.) mm	Roundness t ₁ max. µm	Parallelism t ₂ max. µm	Straightness t ₃ max. mm/m	Standard tolerance ISO h6 µm
	mm	inch					
NI-WRB 6	6		0.4 + 0.9	4	6	0.25	0 / -8
NI-WRB 8	8		0.4 + 0.9	4	6	0.20	0 / -9
NI-WRB 10	10		0.4 + 0.9	4	6	0.20	0 / -9
NI-WRB 12	12		0.6 + 0.9	5	8	0.20	0 / -11
NI-WRB 14	14		0.6 + 0.9	5	8	0.20	0 / -11
NI-WRB 15	15		0.6 + 0.9	5	8	0.20	0 / -11
NI-WRB 16	16		0.6 + 0.9	5	8	0.20	0 / -11
NI-WRB 20	20		0.8 + 0.8	6	9	0.20	0 / -13
NI-WRB 25	25		0.9 + 0.8	6	9	0.15	0 / -13
NI-WRB 30	30		0.9 + 0.8	6	9	0.15	0 / -13
NI-WRB 35	35		1.5 + 1.3	7	11	0.15	0 / -16
NI-WRB 40	40		1.5 + 1.3	7	11	0.15	0 / -16
NI-WRB 50	50		1.5 + 1.3	7	11	0.15	0 / -16

Dimensions Ø1/4" - 2"	Surface hardness 56±2 HRC	Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+200) mm / 251.96 (-0/+8)" other, on request
Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions		

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
X46Cr13	0.43 ÷ 0.50	max. 1.0	max. 1.0	max. 0.040	max. 0.030	12.5 + 14.5	-	-	-

Mechanical properties

Steel grade	Diameter Ø inch	Tensile strength	Yield strength	Elongation	Hardness
		R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %	Brinell HB
X46Cr13+A	0.25 < Ø ≤ 2	max. 800	-	-	max. 245

A=annealed

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
X46Cr13	1.4034	X46Cr13	(420S45)	X40Cr14	-	40Ch13	420C

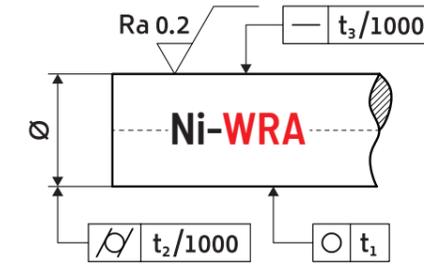
Ni-WRB / Imperial

Series	Shaft diameter Ø		Surface hardening depth SHD (min. + tol.) inch	Roundness t ₁ max. inch	Parallelism t ₂ max. inch	Straightness t ₃ max. inch/ft	Standard tolerance Class "L" inch
	mm	inch					
NI-WRB 6.35	6.35	0.25	0.016 + 0.035	0.00016	0.00024	0.00308	-0.0005 / -0.001
NI-WRB 9.525	9.525	0.375	0.016 + 0.035	0.00016	0.00024	0.00246	-0.0005 / -0.001
NI-WRB 12.7	12.7	0.5	0.024 + 0.035	0.00020	0.00031	0.00246	-0.0005 / -0.001
NI-WRB 15.875	15.875	0.625	0.024 + 0.035	0.00020	0.00031	0.00246	-0.0005 / -0.001
NI-WRB 19.05	19.05	0.75	0.032 + 0.032	0.00024	0.00035	0.00246	-0.0005 / -0.001
NI-WRB 25.4	25.4	1	0.032 + 0.032	0.00024	0.00035	0.00185	-0.0005 / -0.001
NI-WRB 31.75	31.75	1.25	0.059 + 0.051	0.00028	0.00043	0.00185	-0.0005 / -0.001
NI-WRB 38.1	38.1	1.5	0.059 + 0.051	0.00028	0.00043	0.00185	-0.0006 / -0.0011
NI-WRB 50.8	50.8	2	0.087 + 0.063	0.00028	0.00043	0.00185	-0.0006 / -0.0013



Induction hardened and ground stainless steel linear shafts

Ni-WRA
X90CrMoV18 (W1.4112)



Dimensions Ø6 - 50 mm	Surface hardness 57±2 HRC	Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+200) mm other, on request
Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions		

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
X90CrMoV18	0.85 ÷ 0.95	max. 1.0	max. 1.0	max. 0.040	max. 0.030	17.0 ± 19.0	-	0.90 ± 1.30	0.07 ± 0.12

Mechanical properties

Steel grade	Diameter Ø mm	Tensile strength	Yield strength	Elongation	Hardness
		R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %	Brinell HB
X90CrMoV18+A	6 < Ø ≤ 50	min. 738	min. 427	min. 9	max. 285

A=annealed

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
X90CrMoV18	1.4112	X90CrMoV18	-	-	-	-	440B

NI-WRA / Metric

Series	Shaft diameter Ø		Surface hardening depth SHD (min. + tol.) mm	Roundness t ₁ max. µm	Parallelism t ₂ max. µm	Straightness t ₃ max. mm/m	Standard tolerance ISO h6 µm
	mm	inch					
NI-WRA 6	6		0.4 + 0.9	4	6	0.25	0 / -8
NI-WRA 8	8		0.4 + 0.9	4	6	0.20	0 / -9
NI-WRA 10	10		0.4 + 0.9	4	6	0.20	0 / -9
NI-WRA 12	12		0.6 + 0.9	5	8	0.20	0 / -11
NI-WRA 14	14		0.6 + 0.9	5	8	0.20	0 / -11
NI-WRA 15	15		0.6 + 0.9	5	8	0.20	0 / -11
NI-WRA 16	16		0.6 + 0.9	5	8	0.20	0 / -11
NI-WRA 20	20		0.8 + 0.8	6	9	0.20	0 / -13
NI-WRA 25	25		0.9 + 0.8	6	9	0.15	0 / -13
NI-WRA 30	30		0.9 + 0.8	6	9	0.15	0 / -13
NI-WRA 35	35		1.5 + 1.3	7	11	0.15	0 / -16
NI-WRA 40	40		1.5 + 1.3	7	11	0.15	0 / -16
NI-WRA 50	50		1.5 + 1.3	7	11	0.15	0 / -16

Dimensions Ø1/4" - 2"	Surface hardness 57±2 HRC	Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+200) mm / 251.96 (-0/+8)" other, on request
Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions		

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
X90CrMoV18	0.85 ÷ 0.95	max. 1.0	max. 1.0	max. 0.040	max. 0.030	17.0 ± 19.0	-	0.90 ± 1.30	0.07 ± 0.12

Mechanical properties

Steel grade	Diameter Ø inch	Tensile strength	Yield strength	Elongation	Hardness
		R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %	Brinell HB
X90CrMoV18+A	0.25 < Ø ≤ 2	min. 738	min. 427	min. 9	max. 285

A=annealed

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
X90CrMoV18	1.4112	X90CrMoV18	-	-	-	-	440B

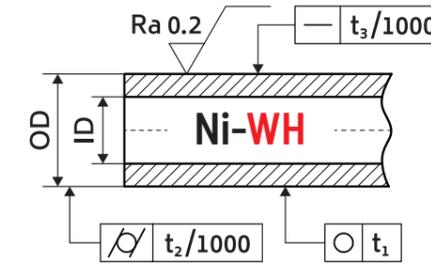
NI-WRA / Imperial

Series	Shaft diameter Ø		Surface hardening depth SHD (min. + tol.) inch	Roundness t ₁ max. inch	Parallelism t ₂ max. inch	Straightness t ₃ max. inch/ft	Standard tolerance Class "L" inch
	mm	inch					
NI-WRA 6.35	6.35	0.25	0.016 + 0.035	0.00016	0.00024	0.00308	-0.0005 / -0.001
NI-WRA 9.525	9.525	0.375	0.016 + 0.035	0.00016	0.00024	0.00246	-0.0005 / -0.001
NI-WRA 12.7	12.7	0.5	0.024 + 0.035	0.00020	0.00031	0.00246	-0.0005 / -0.001
NI-WRA 15.875	15.875	0.625	0.024 + 0.035	0.00020	0.00031	0.00246	-0.0005 / -0.001
NI-WRA 19.05	19.05	0.75	0.032 + 0.032	0.00024	0.00035	0.00246	-0.0005 / -0.001
NI-WRA 25.4	25.4	1	0.035 + 0.032	0.00024	0.00035	0.00185	-0.0005 / -0.001
NI-WRA 31.75	31.75	1.25	0.059 + 0.051	0.00028	0.00043	0.00185	-0.0005 / -0.001
NI-WRA 38.1	38.1	1.5	0.059 + 0.051	0.00028	0.00043	0.00185	-0.0006 / -0.0011
NI-WRA 50.8	50.8	2	0.087 + 0.063	0.00028	0.00043	0.00185	-0.0006 / -0.0013



Induction hardened and ground hollow linear shafts

Ni-WH
C60E



Dimensions OD: Ø12 - 60 mm	Surface hardness 63±2 HRC	Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+50) mm other, on request
Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions		

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
C60E	0.57 ÷ 0.65	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	max. 0.4	max. 0.4	max. 0.1	-

Mechanical properties

Steel grade	Tensile strength	Yield strength	Elongation
	R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %
C60+NBK	720 - 900	min. 390	min. 13

NBK = normalized in a protective atmosphere.

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C60E	1.1221	Ck60	060A62, 070M60	C60	S58C	60, 60G, 60GA	1060

NI-WH / Metric

Series	Outside diameter		Surface hardening depth SHD (min. + tol.)	Roundness t ₁ max.	Parallelism t ₂ max.	Straightness t ₃ max.	Standard tolerance ISO h6
	OD mm	ID mm					
NI-WH 12x4	12	4	0.4 + 0.4	5	8	0.20	0 / -11
NI-WH 12x7	12	7	0.4 + 0.4	5	8	0.20	0 / -11
NI-WH 16x7	16	7	0.4 + 0.4	5	8	0.20	0 / -11
NI-WH 20x14	20	14	0.6 + 0.5	6	9	0.20	0 / -13
NI-WH 25x15	25	15	0.8 + 0.8	6	9	0.15	0 / -13
NI-WH 30x18	30	18	0.9 + 0.8	6	9	0.15	0 / -13
NI-WH 40x28	40	28	1.2 + 1.1	7	11	0.15	0 / -16
NI-WH 40x26	40	26	1.2 + 1.1	7	11	0.15	0 / -16
NI-WH 50x30	50	30	1.5 + 1.2	7	11	0.15	0 / -16
NI-WH 60x36	60	36	1.5 + 1.2	8	13	0.15	0 / -19

Dimensions OD: Ø5/8" - 2"	Surface hardness 63±2 HRC	Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+50) mm / 251.96 (-0/+2)" other, on request
Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions		

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
C60E	0.57 ÷ 0.65	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	max. 0.4	max. 0.4	max. 0.1	-

Mechanical properties

Steel grade	Tensile strength	Yield strength	Elongation
	R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %
C60+NBK	720 - 900	min. 390	min. 13

NBK = normalized in a protective atmosphere.

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C60E	1.1221	Ck60	060A62, 070M60	C60	S58C	60, 60G, 60GA	1060

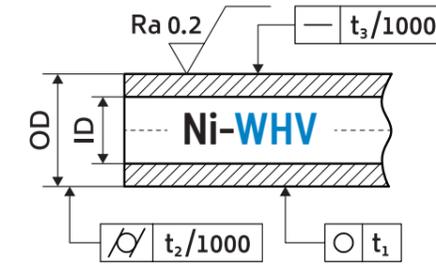
NI-WH / Imperial

Series	Outside diameter		Surface hardening depth SHD (min. + tol.)	Roundness t ₁ max.	Parallelism t ₂ max.	Straightness t ₃ max.	Standard tolerance Class "L"
	OD mm	ID mm					
NI-WH 15.875x6.35	15.875	6.35	0.024 + 0.020	0.000197	0.000315	0.00246	-0.0005 / -0.001
NI-WH 19.05x11.125	19.05	11.125	0.035 + 0.032	0.000236	0.000354	0.00246	-0.0005 / -0.001
NI-WH 25.4x15.494	25.4	15.494	0.035 + 0.032	0.000236	0.000354	0.00185	-0.0005 / -0.001
NI-WH 31.75x18.288	31.75	18.288	0.035 + 0.032	0.000236	0.000354	0.00185	-0.0005 / -0.001
NI-WH 38.1x22.606	38.1	22.606	0.047 + 0.043	0.000276	0.000433	0.00185	-0.0006 / -0.0011
NI-WH 50.8x31.75	50.8	31.75	0.059 + 0.043	0.000276	0.000433	0.00185	-0.0006 / -0.0013



Induction hardened and chrome plated hollow linear shafts

Ni-WHV
C60E



Dimensions OD: Ø12 - 60 mm	Surface hardness 63±2 HRC	Chrome layer thickness 12±5 µm	Chrome layer microhardness 900-1100HV0.1
Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+50) mm other, on request	Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
C60E	0.57 ÷ 0.65	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	max. 0.4	max. 0.4	max. 0.1	-

Mechanical properties

Steel grade	Tensile strength	Yield strength	Elongation
	R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %
C60+NBK	720 - 900	min. 390	min. 13

NBK = normalized in a protective atmosphere.

Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C60E	1.1221	Ck60	060A62, 070M60	C60	S58C	60, 60G, 60GA	1060

NI-WHV / Metric

Series	Outside diameter		Surface hardening depth SHD (min. + tol.)	Roundness t ₁ max.	Parallelism t ₂ max.	Straightness t ₃ max.	Standard tolerance ISO h7
	OD mm	ID mm					
NI-WHV 12x4	12	4	0.4 + 0.4	8	12	0.20	0 / -18
NI-WHV 12x7	12	7	0.4 + 0.4	8	12	0.20	0 / -18
NI-WHV 16x7	16	7	0.4 + 0.4	8	12	0.20	0 / -18
NI-WHV 20x14	20	14	0.6 + 0.5	9	12	0.20	0 / -21
NI-WHV 25x15	25	15	0.8 + 0.8	9	12	0.15	0 / -21
NI-WHV 30x18	30	18	0.9 + 0.8	9	12	0.15	0 / -21
NI-WHV 40x28	40	28	1.2 + 1.1	11	15	0.15	0 / -25
NI-WHV 40x26	40	26	1.2 + 1.1	11	15	0.15	0 / -25
NI-WHV 50x30	50	30	1.5 + 1.2	11	15	0.15	0 / -25
NI-WHV 60x36	60	36	1.5 + 1.2	13	15	0.15	0 / -30

Dimensions OD: Ø5/8" - 2"	Surface hardness 63±2 HRC	Chrome layer thickness 12±5 µm / 0.0005±0.0002"	Chrome layer microhardness 900-1100HV0.1
Surface roughness Ra max. 0.20 µm	Standard indicative length 6400 (-0/+50) mm / 251.96 (-0/+2)" other, on request	Surface hardening depth, SHD according to EN ISO 15787	On request special lengths, tolerances and dimensions

Chemical composition - in % by weight

Steel grade	C	Si	Mn	P	S	Cr	Ni	Mo	V
C60E	0.57 ÷ 0.65	0.10 ÷ 0.40	0.60 ÷ 0.90	max. 0.025	max. 0.035	max. 0.4	max. 0.4	max. 0.1	-

Mechanical properties

Steel grade	Tensile strength	Yield strength	Elongation
	R _m N/mm ²	R _{p0.2} N/mm ²	A ₅ %
C60+NBK	720 - 900	min. 390	min. 13

NBK = normalized in a protective atmosphere.

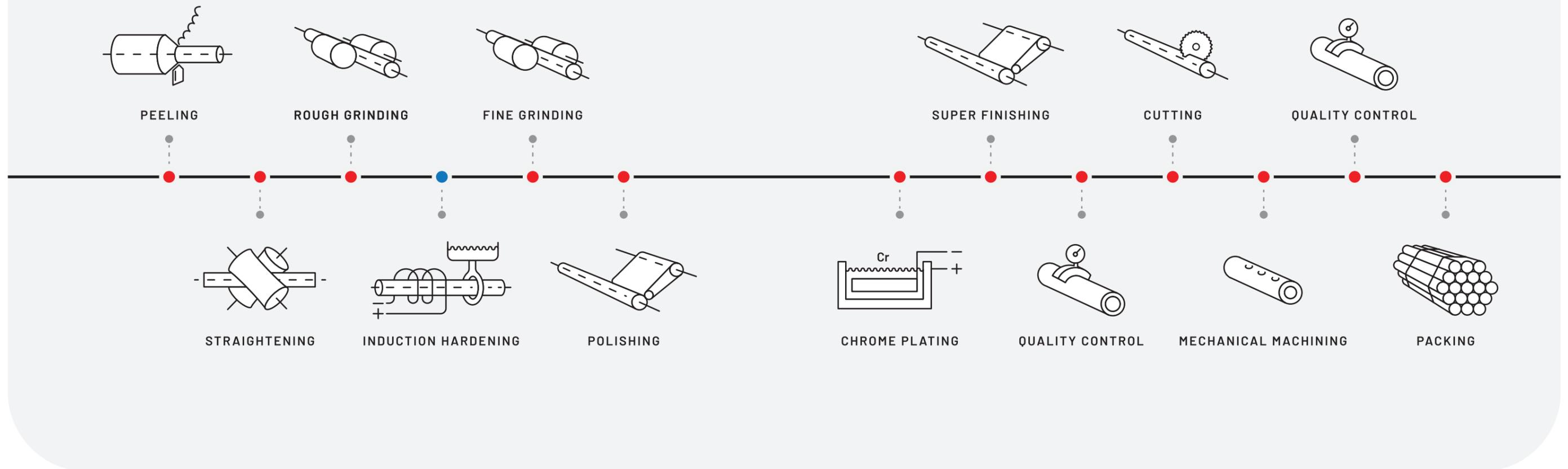
Steel grades correspondences

EN	Werkstoff	DIN	B.S.	UNI	JIS	GOST	AISI / SAE / ASTM
C60E	1.1221	Ck60	060A62, 070M60	C60	S58C	60, 60G, 60GA	1060

NI-WHV / Imperial

Series	Outside diameter		Surface hardening depth SHD (min. + tol.)	Roundness t ₁ max.	Parallelism t ₂ max.	Straightness t ₃ max.	Standard tolerance Class "L"
	OD mm	ID mm					
NI-WHV 15.875x6.35	15.875	6.35	0.024 + 0.020	0.000315	0.000472	0.00246	-0.0005 / -0.001
NI-WHV 19.05x11.125	19.05	11.125	0.035 + 0.032	0.000354	0.000472	0.00246	-0.0005 / -0.001
NI-WHV 25.4x15.494	25.4	15.494	0.035 + 0.032	0.000354	0.000472	0.00185	-0.0005 / -0.001
NI-WHV 31.75x18.288	31.75	18.288	0.035 + 0.032	0.000354	0.000472	0.00185	-0.0005 / -0.001
NI-WHV 38.1x22.606	38.1	22.606	0.047 + 0.043	0.000433	0.000591	0.00185	-0.0006 / -0.0011
NI-WHV 50.8x31.75	50.8	31.75	0.059 + 0.043	0.000433	0.000591	0.00185	-0.0006 / -0.0013

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 supports the linear motion systems sector with high-precision components designed for smooth, reliable performance. Our core offering includes induction-hardened shafts and chrome-plated shafts, used in applications such as automation, robotics, packaging, and material handling, as well as in various industrial machinery.

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.

PACKAGING

Plastic sleeves

- WHITE plastic sleeves / net

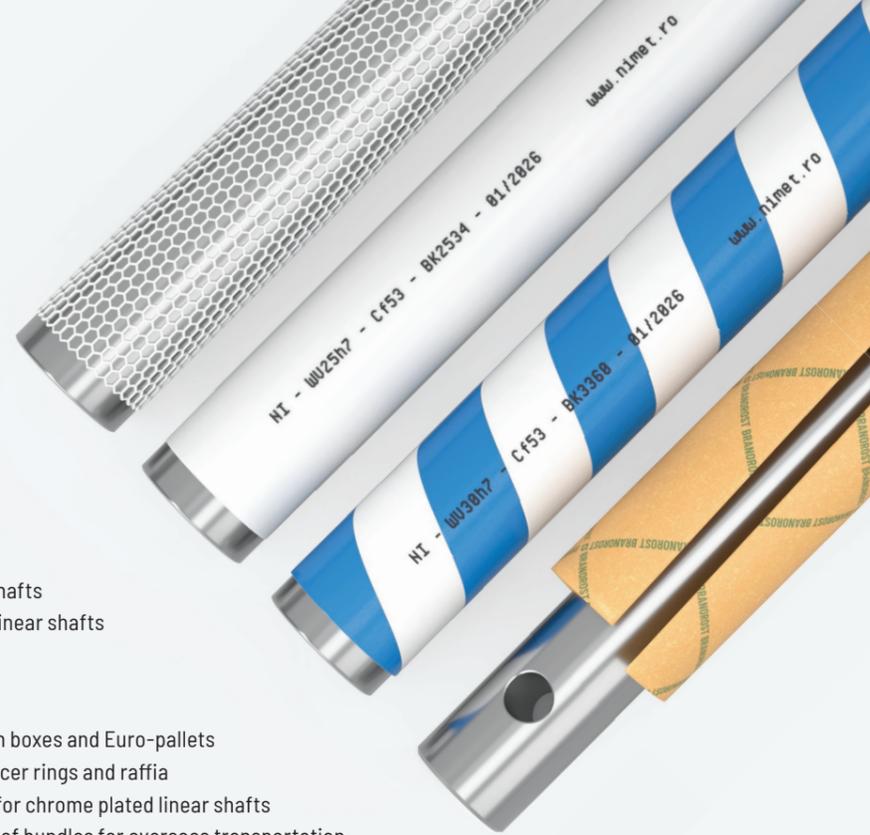
Cardboard tubes

- BLUE & WHITE striped tubes
- Induction hardened and chrome plated linear shafts
- Induction hardened and chrome plated hollow linear shafts

- Branorost paper, spacer rings, raffia, wooden boxes and Euro-pallets
- Bundles protected with branorost paper, spacer rings and raffia
- Individual cardboard tubes or plastic sleeve for chrome plated linear shafts
- Aluminum foil vacuum bags extra protection of bundles for overseas transportation

Marking on the cardboard tube or on the plastic sleeve:

Product Code - Diameter - Tolerance - Material - Heat Number - Calendar Week/Year - www.nimet.ro
 NI - WV25h7 - Cf53 - BK2534 - 01/2026 - www.nimet.ro



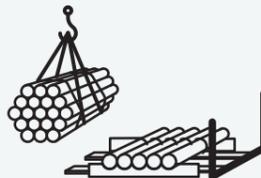
STORAGE & HANDLING

Recommendations



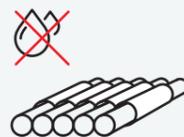
Keep the products stored in dry and covered spaces.

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.



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

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



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.

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

NIMET

HEADQUARTERS AND PRODUCTION FACILITY / NIMET 1

Targului Street 103, 137121
Lazuri, Dambovita, Romania

PRODUCTION FACILITY / NIMET 2 & 3

Laminorului Street 52, 130089
Targoviste, Dambovita, Romania



+40 245 607 000 / office@nimet.ro / www.nimet.ro