DRECKSHAGE
TECHNICAL ROLLERS

TECHNICAL ROLLERS

THE PLACE FOR PERFECTLY ORGANISED PROCUREMENT.

Since 1924, our family business has always had the wishes of our customers at heart. As the visionary commercial and manufacturing enterprise we are today, we offer much more than materials and components. We inspire our customers with customised service and a broad product range, from standard products to custom-made solutions.

4 product divisions, 2 locations right at the heart of the mechanical engineering region of Ostwestfalen-Lippe are our basis for a variety and a depth of cooperation unique in this form.

Manufacturing centre in Leopoldshöhe

Headquarters in Bielefeld

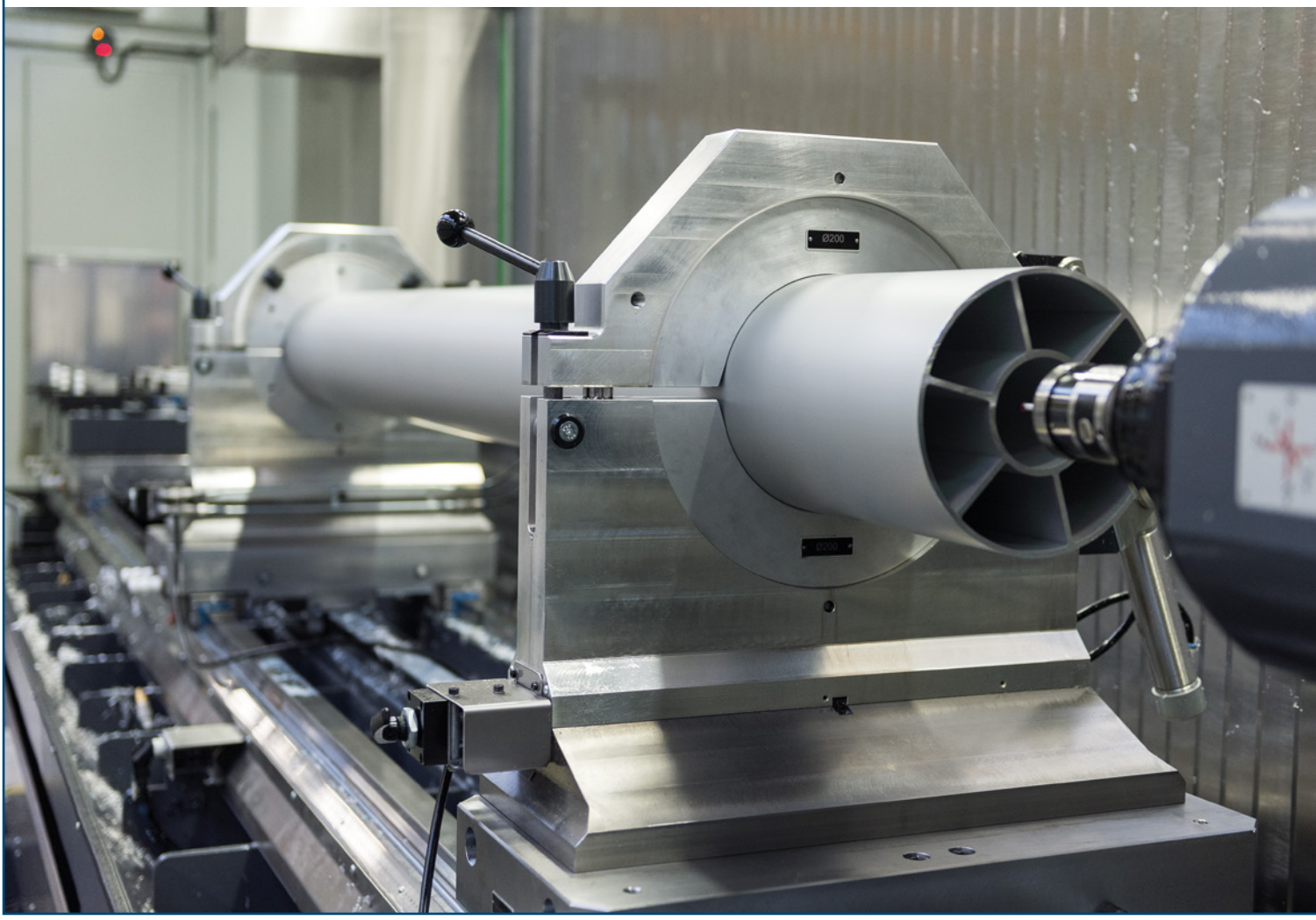
TECHNICAL ROLLERS

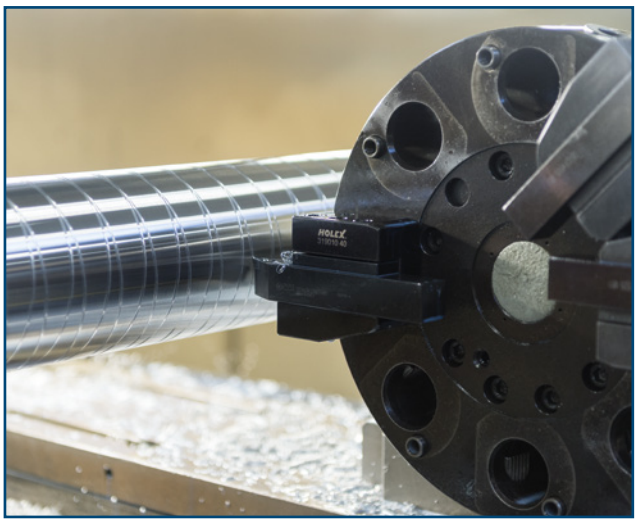
Contents

WE GET THINGS ROLLING: TECHNICAL ROLLERS BY DRECKSHAGE.

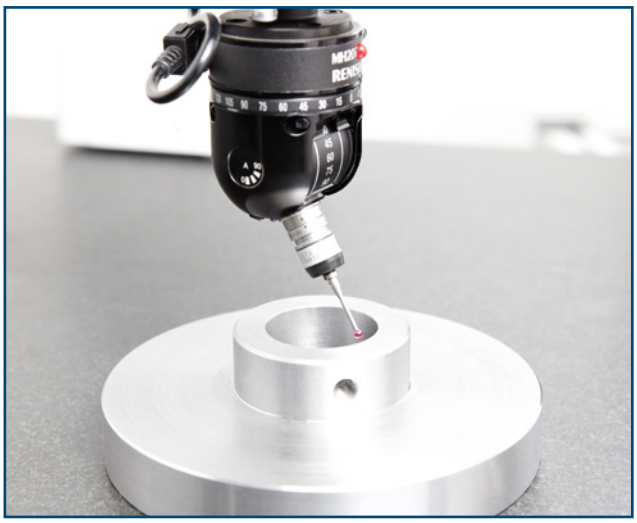
FROM OUR PRODUCTION: EACH ROLL ACCORDING TO CUSTOMER SPECIFICATIONS.

EVERYTHING FROM ONE SOURCE: FROM THE SEMI-FINISHED TO THE FINISHED ROLL!



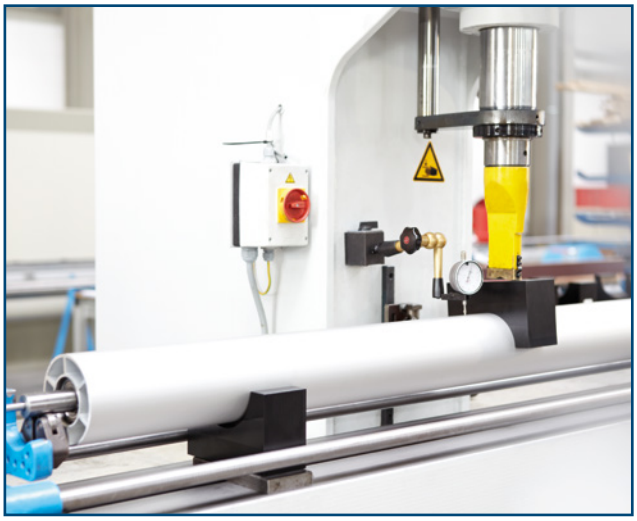


Customer-specific surfaces.



Verified dimensionally accurate parts.

Precise turned and milled parts manufactured in one setting with seven axes.



Precision straightening of technical rollers.

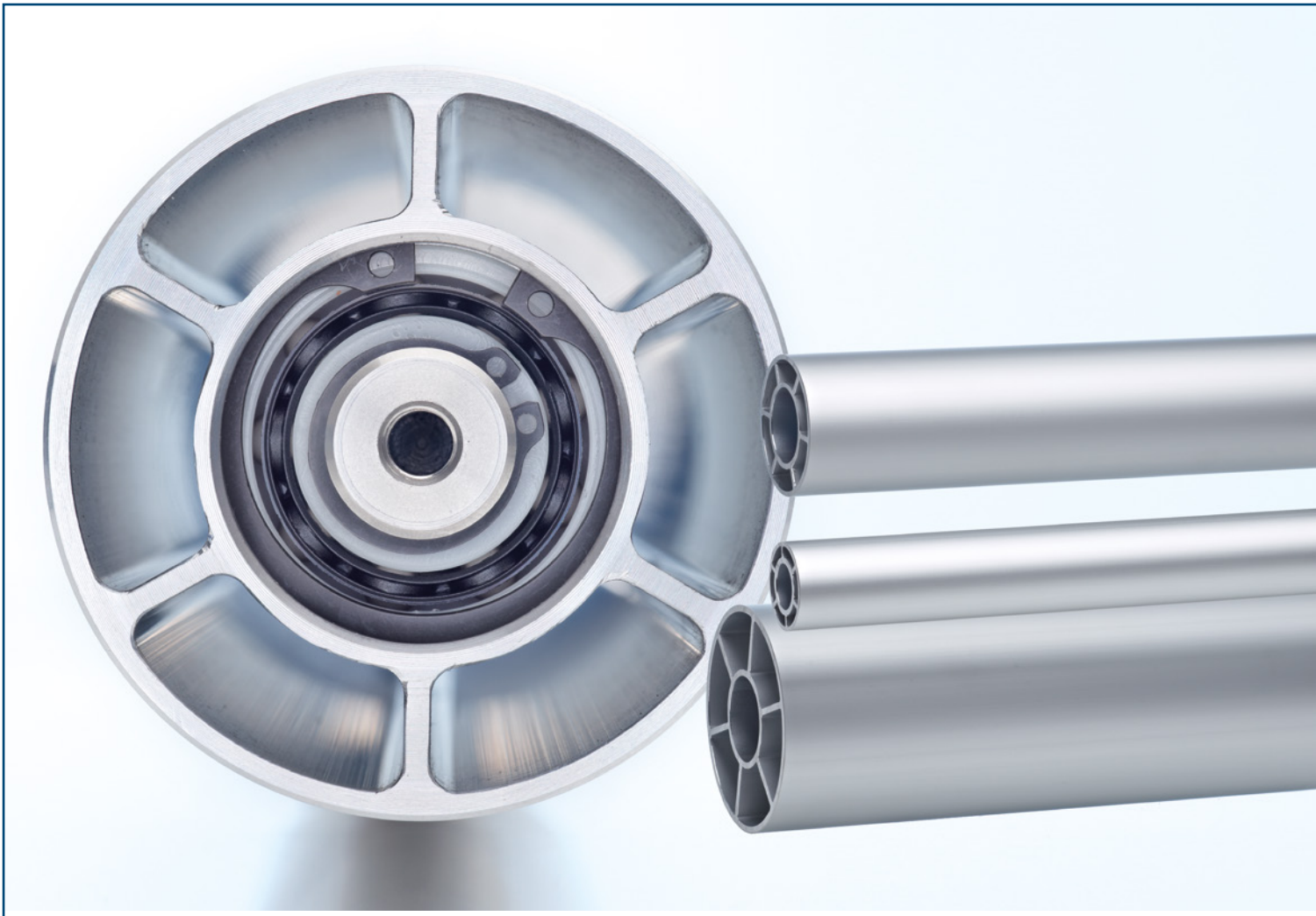
Concentricity tested with an accuracy to a hundredth.

High-quality rolls with optimal protection.

ALLROUNDTALENT: THE ECONOMICROLL® BY DRECKSHAGE.

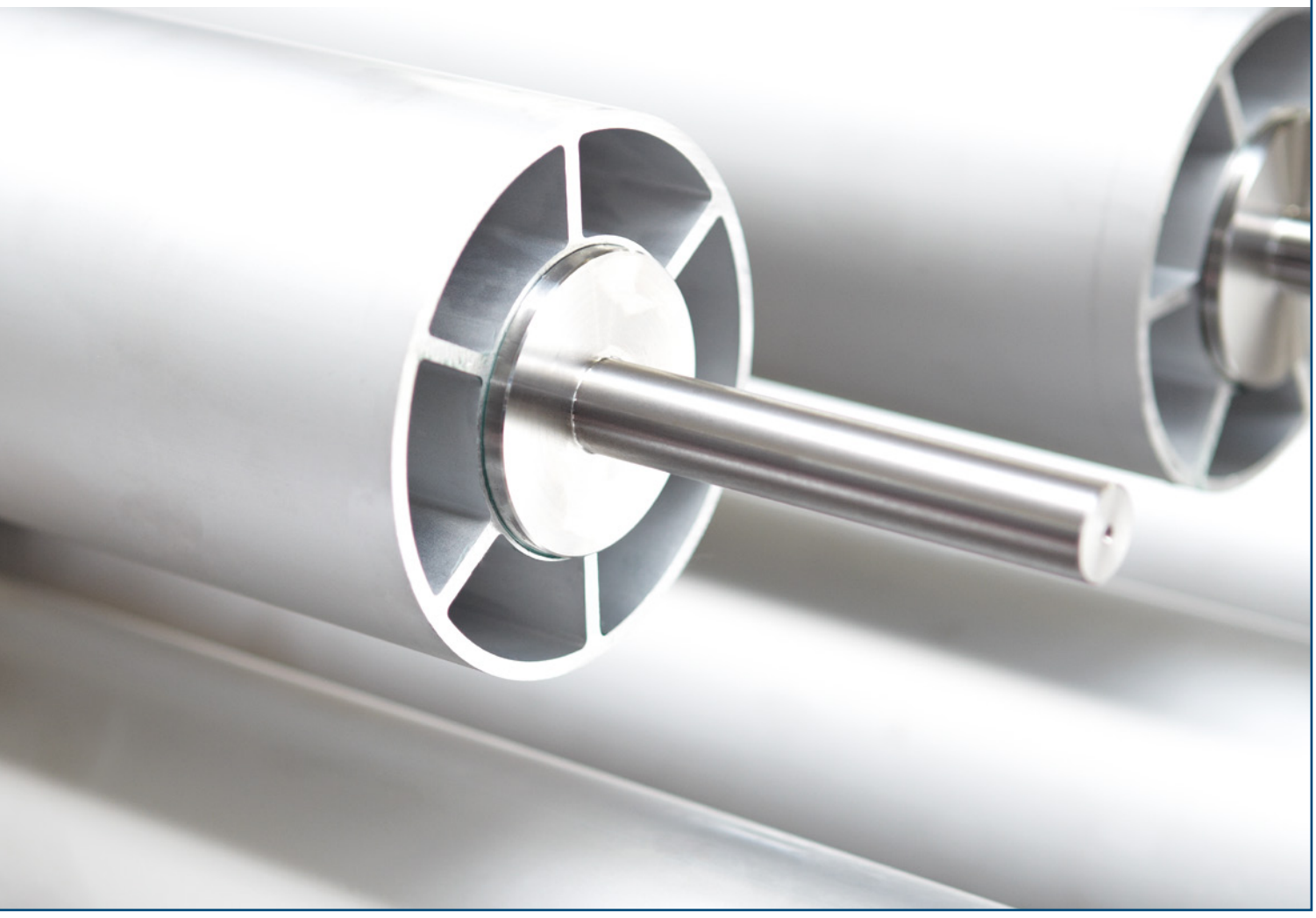
Versatile:	Can be used as an idler roller, deflection, guiding, spreader roller ...
Light:	Roll bodies made from aluminium section tube
Resilient:	Special geometry for high bending stiffness
Precise:	Optimal straightness and roundness
Elegant:	Excellent look thanks to anodised surface
Economical:	Delivered from stock – completely anodised roll bodies with standardised bearing

Developed and manufactured by DRECKSHAGE,
the EconomicRoll® features unusual stiffness and roundness thanks to its design and geometry at an attractive cost/performance ratio.

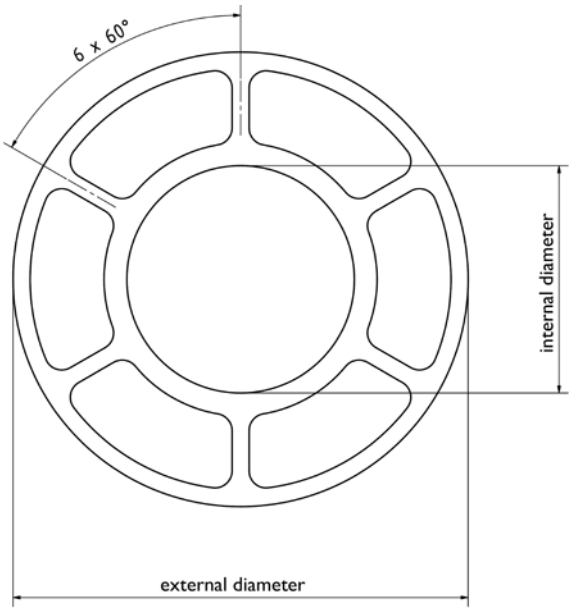


The geometry with reinforced inner ring allows the direct installation of the bearing. Thanks to this design advantage, the EconomicRoll® can be manufactured quickly and cost-effectively. Moreover, it impresses with its outstanding surface and low weight.

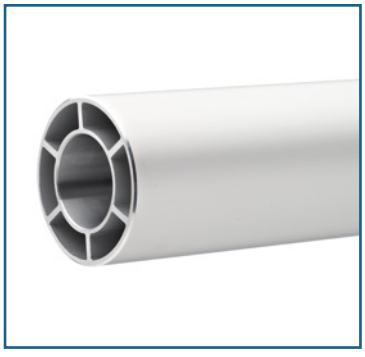
ALWAYS IN DEMAND WHEN LIGHTNESS PLAYS A ROLE.

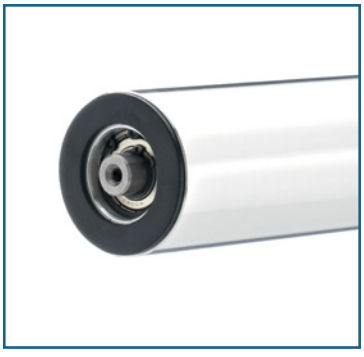


Technical data – EconomicRoll®



	ER 60	ER 80	ER 100	ER 120	ER 140	ER 160	ER 200
External diameter (mm)	60	80	100	120	140	160	200
Tolerance (external diameter (mm))	+0.46	+0.46	+0.54	+0.54	+0.63	+0.63	+0.72
Internal diameter (mm)	31	40	53	60	60	60	77
Wall thickness, external (mm)	3.0	3.0	4.0	4.0	4,5	5.0	4.5
Wall thickness, internal (mm)	4.0	4.0	4.0	4.0	4,5	5.0	5.0
Weight (kg/m)	3.0	4.2	6.2	7.6	10.0	12.7	14.8
Trading length (mm)	7,000	7,000	7,000	7,000	7,000	6,500	5,500
Concentricity (mm/m)	0.2	0.2	0.3	0.3	0.4	0.4	0.4
Material	EN AW 6063 T66 / AlMgSi0.5						
Surface (Rz 4-6 µm)	anodised	anodised	anodised	anodised	anodised	anodised	anodised
Second moment of area Ix (mm4)	325,300	808,400	1,969,700	3,436,700	5,995,530	9,816,000	17,981,300
Section modulus WX (mm3)	10,850	20,210	39,394	57,278	85,650	122,700	179,810
Modulus of elasticity E (kN/mm2)	69	69	69	69	69	69	69





Technical data general

Standard Ballbearing EconomicRoll®

Deep groove ball bearing

Shaft diameter	ER 60	ER 80	ER 100	ER 120	ER 140	ER 160	ER 200
12	6201ZZC3						
15	6002ZZC3	6302ZZC3					
20	6804ZZC3	6004ZZC3					
25		6905ZZC3		6305ZZC3	6305ZZC3	6305ZZC3	
30		6806ZZC3	6006ZZC3	6206ZZC3	6206ZZC3	6206ZZC3	
35			6907ZZC3	6007ZZC3	6007ZZC3	6007ZZC3	6307ZZC3
40				6908ZZC3	6908ZZC3	6908ZZC3	6208ZZC3
50							6010ZZC3
55							6911ZZC3

Self-aligning ball bearing

Shaft diameter	ER 60	ER 80	ER 100	ER 120	ER 140	ER 160	ER 200
12	1201/2201						
15		1302/2302					
20			FB bearing (P.15)				
25				1305/2305	1305/2305	1305/2305	
30				1206/2206	1206/2206	1206/2206	
35							1307/2307
40							1208/2208

Materials

Roller tube	AlMgSi 0,5
Bearing seat / Bases	AlMgSi 0,5 / C45
Shaft / Pin	C45 / 1.4305
Alternativ material	custom made
Coating	custom made

Self-aligning ball bearing

Alternative Surface WOB

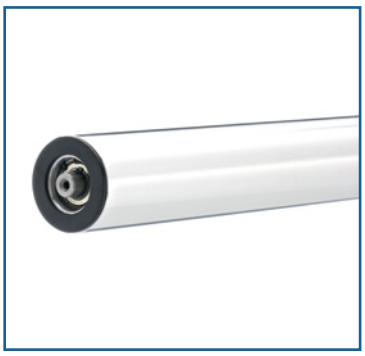
WOB overturned to 0.05 mm/m
WOB crowned overturned after drawing
WOB overturned and spiralized after drawing

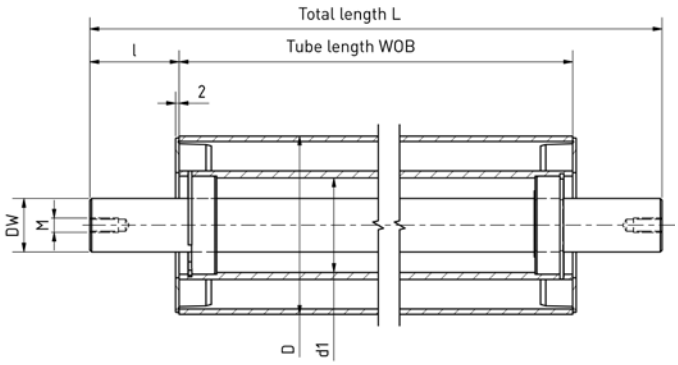
Balancing

Dynamic balanced after DIN ISO 1940
Quality Grade Q 2.5 / Q 6.3

Deep groove ball bearing

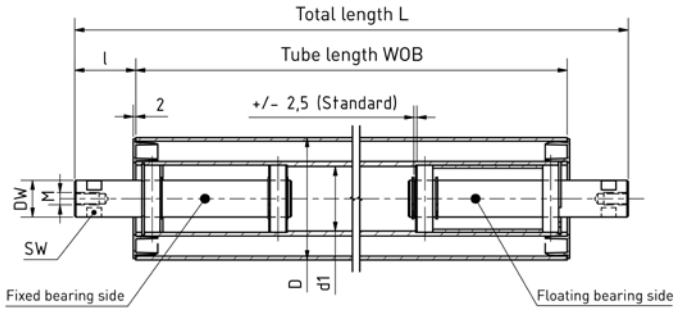
DL-W





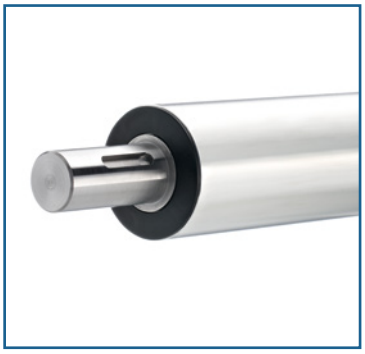
EconomicRoll® with continuous axis / shaft							
	ER 60	**ER 80**	**ER 100**	**ER 120**	**ER 140**	**ER 160**	**ER 200**
D (mm)	60	80	100	120	140	160	200
d1 (mm)	31	40	53	60	60	60	77
Bearing seat ø (mm)	32	42	55	62	62	62	80
DW (mm)	12/15/20	15/20/25/30	30/35	25/30/35/40	25/30/35/40	25/30/35/40	35/40/50/55
L, WOB, l, M	freely selectable						

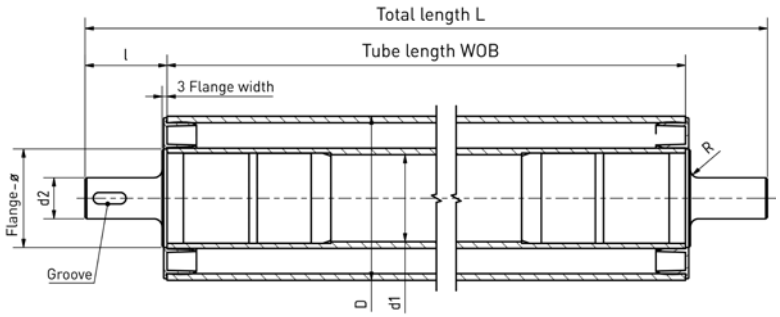
Dancer roll



EconomicRoll® with fixed and floating bearing bolts							
	ER 60	**ER 80**	**ER 100**	**ER 120**	**ER 140**	**ER 160**	**ER 200**
D (mm)	60	80	100	120	140	160	200
d1 (mm)	31	40	53	60	60	60	77
Bearing seat ø (mm)	32	42	55	62	62	62	80
DW (mm)	12/15/20	15/20/25/30	30/35	25/30/35/40	25/30/35/40	25/30/35/40	35/40/50/55
L, WOB, l, M, SW	freely selectable						

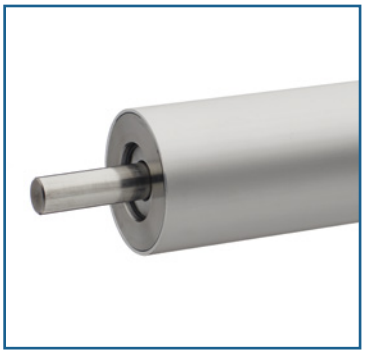
ST-Z

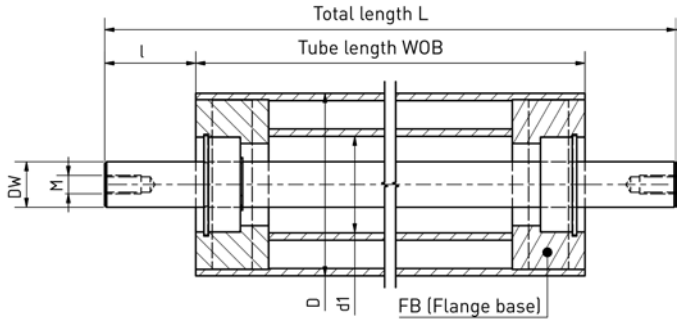




EconomicRoll® with glued steel pins							
	ER 60	**ER 80**	**ER 100**	**ER 120**	**ER 140**	**ER 160**	**ER 200**
D (mm)	60	80	100	120	140	160	200
d1 (mm)	31	40	53	60	60	60	77
Bearing seat ø (mm)	32	42	55	62	62	62	80
L, WOB, l, d2, NUT, M, SW	freely selectable						

FB-W





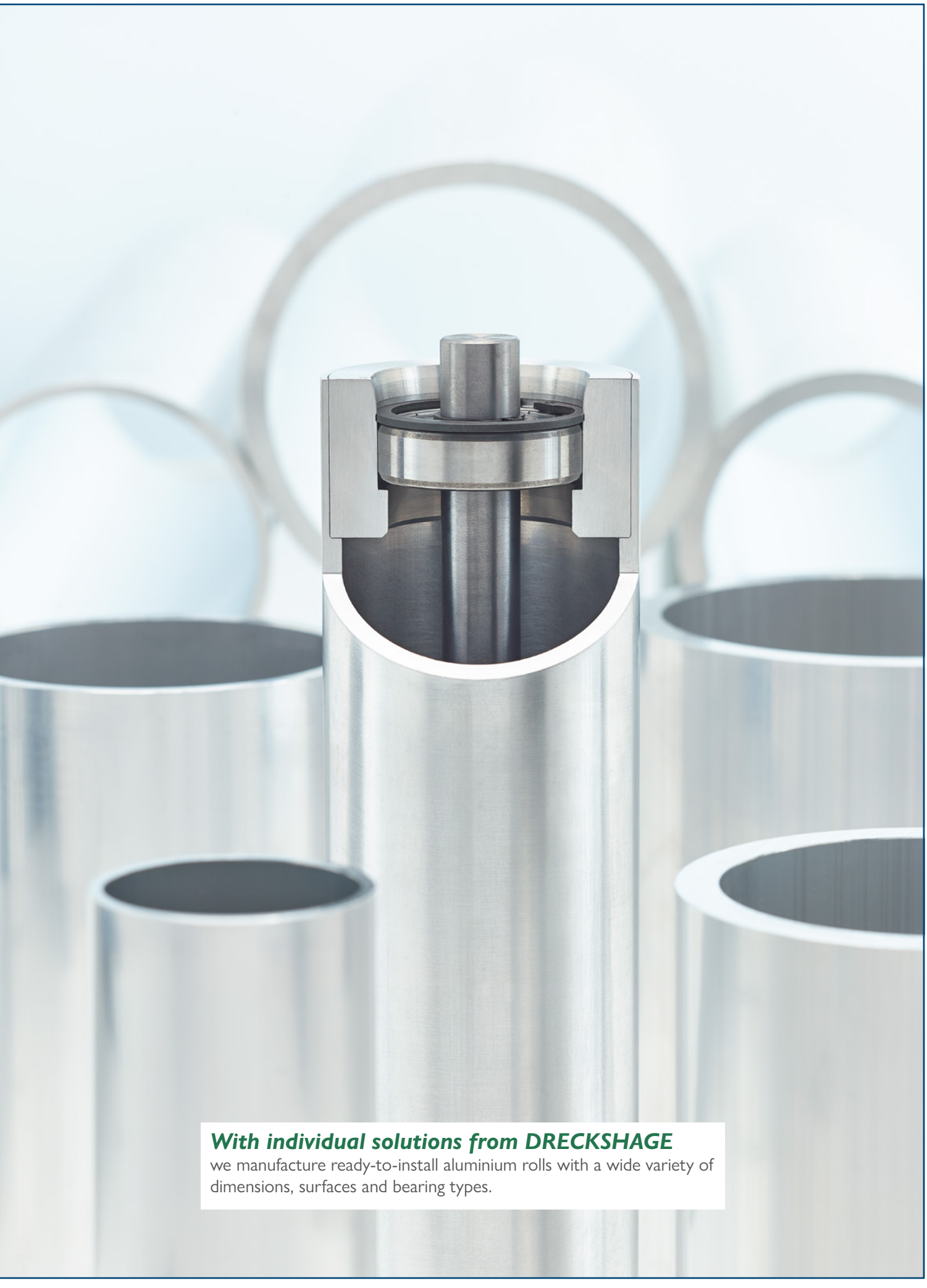
EconomicRoll® with steel or aluminium glued bases and continuous axis / shaft							
	ER 60	**ER 80**	**ER 100**	**ER 120**	**ER 140**	**ER 160**	**ER 200**
D (mm)	60	80	100	120	140	160	200
d1 (mm)	31	40	53	60	60	60	77
Bearing seat ø (mm)	32	42	55	62	62	62	80
DW (mm)	12/15/20	15/20/25/30	30/35	25/30/35/40	25/30/35/40	25/30/35/40	35/40/50/55
L, WOB, l, M	freely selectable						
Flange base material	Aluminium or steel design according to customer specifications						

DIMENSIONAL VARIETY: ALUMINIUM ROLL TUBES BY DRECKSHAGE.

Variable: Versatile bearing types

Precise: More precise than the DIN standard

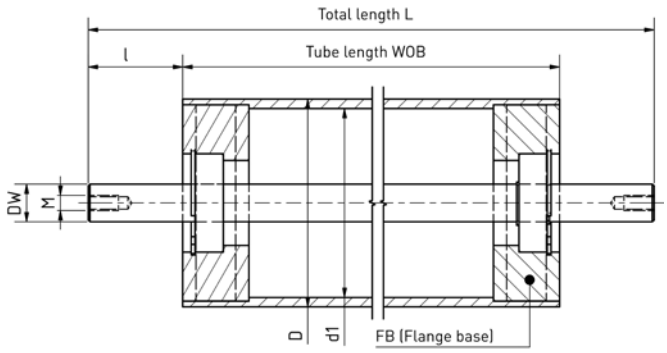
High-quality: Various surface finishes



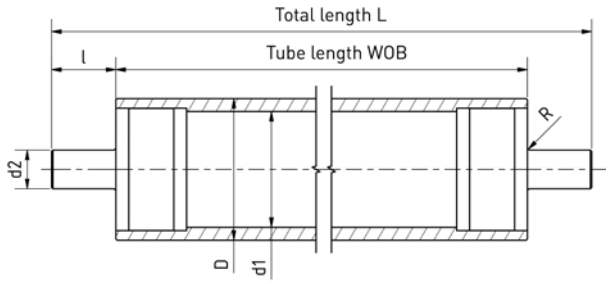
With individual solutions from DRECKSHAGE
we manufacture ready-to-install aluminium rolls with a wide variety of dimensions, surfaces and bearing types.

Bearing designs – aluminium rollers

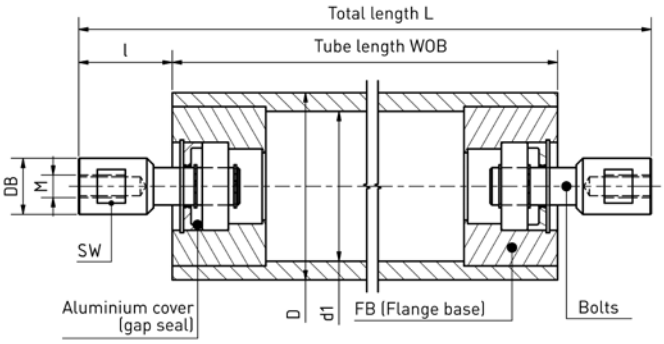
WAA-FB-W Aluminium precision roll tube with glued bases and continuous axis / shaft.



WAA-ST-Z Aluminium precision roll tube with glued steel pins.



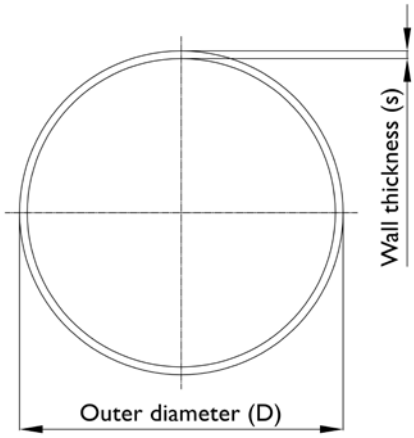
WAA-DL-B Aluminium precision roll tube with glued bases and bolts.



Practical examples

Bearing type	D (mm)	WOB	L	l	DW (mm)	End machining	Ball bearings
WAA-FB-W	70 x 5	800	1000	100	20	M12	6804ZZC3
WAA-ST-Z	90 x 10	1750	2000	125	30	NUT	-
WAA-DL-B	130 x 10	3500	3800	150	35	M16 / SW32	1207

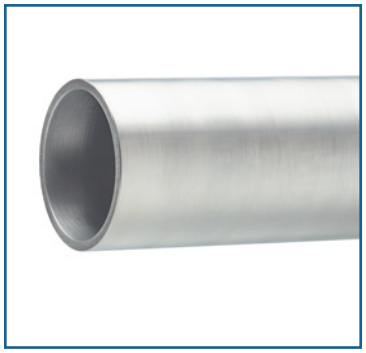
Technical data – aluminium roll tubes



Material:
AlMgSi0,5
ENAW6060 F66
EN 755-8

Tolerances:
Outer diameter (D)
ISO k12
Internal diameter
ISO H11
Concentricity
• D ≤ 200 mm 0,4 mm/m
Precision straightening
• Concentricity accuracy up to 0.2 mm/m

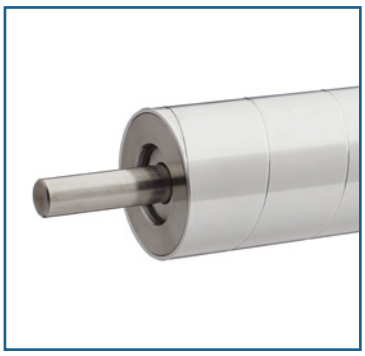
Outer diameter	Wall thickness	Outer diameter	Wall thickness
in mm	**in mm**	**in mm**	**in mm**
200	12.5	102	8.5
200	10.0	100	10.0
190	10.0	100	6.0
190	8.0	100	5.0
182	11.0	90	10.0
180	10.0	90	6.0
170	10.0	81	8.0
160	10.0	80	10.0
160	8.0	80	5.0
152	11.0	80	3.0
152	6.0	75	7.0
150	15.0	70	10.0
150	10.0	70	8.0
150	7.5	70	5.0
144	11.0	62	6.0
140	10.0	60	10.0
130	15.0	60	5.0
130	10.0	60	3.0
125	10.0	60	2.0
122	7.0	50	8.0
120	15.0	50	5.0
120	10.0	50	3.0
120	8.0	42	7.0
120	7.0	40	6.0
120	5.0	40	3.0
114	10.0	35	6.0
114	8.0	30	4.0
110	10.0	27	3.0

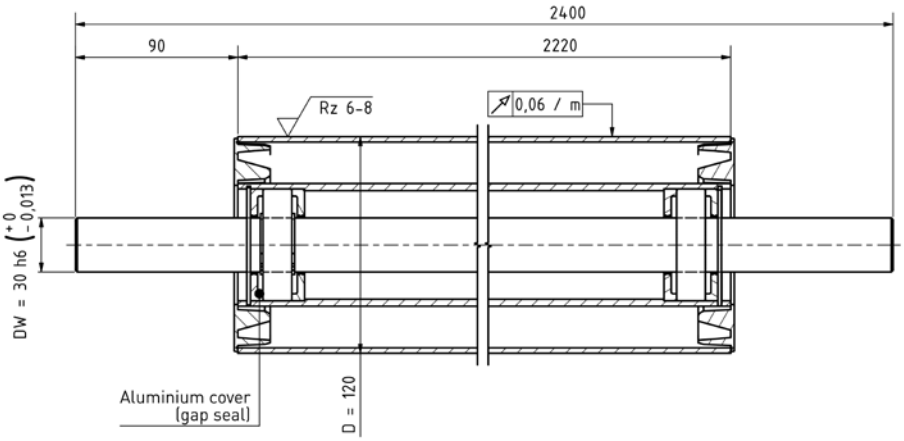


DEFINED LOW-FRICTION ROLLERS

Upon request, we manufacture rolls for you with a defined start-up weight. We achieve this through precision balancing, a special bearing, as well as low-viscosity lubrication.

Defined low-friction rollers





Basic EconomicRoll® with a start-up weight of 20 grams

August Dreckshage GmbH & Co. KG
Walter-Werning-Straße 7
33699 Bielefeld

Balancing protocol

DRECKSHAGE TECHNICAL ROLLERS

Type

Rotor type	ER120-2220-2400-DL
Rotational speed (target)	500 1/min (Rotating direction: normal)

ABC geometry

Position of compensation level	
Distance a	75,0 mm
Distance b	2100,0 mm
Distance c	75,0 mm
Radius 1	54,0 mm
Radius 2	54,0 mm

ISO 1940-1:2003 (Calculation)

Type of calculation regarding	quality level G
Deviation	-10
Quality level	G 2,5
Mass of rotor	16,0 kg
Operating rotation speed	500 1/min
Distance of bearings L	2250,0 mm
Distance bearing A – Center of gravity	1125,0 mm
Distance bearing B – Center of gravity	1125,0 mm

Test results, Run 1:

RotorIdent	ER120-2220-2400-DL\1		
Test rotation speed	502 1/min		
Unbalanced mass			
Compensation level 1	916 g·mm	227 °	2,7 * Tol
Compensation level 2	907 g·mm	295 °	2,6 * Tol
Compensation			
Compensation level 1 – mass (fix)	17,0 g	47 °	2,7 * Tol
Compensation level 2 – mass (fix)	16,8 g	115 °	2,6 * Tol

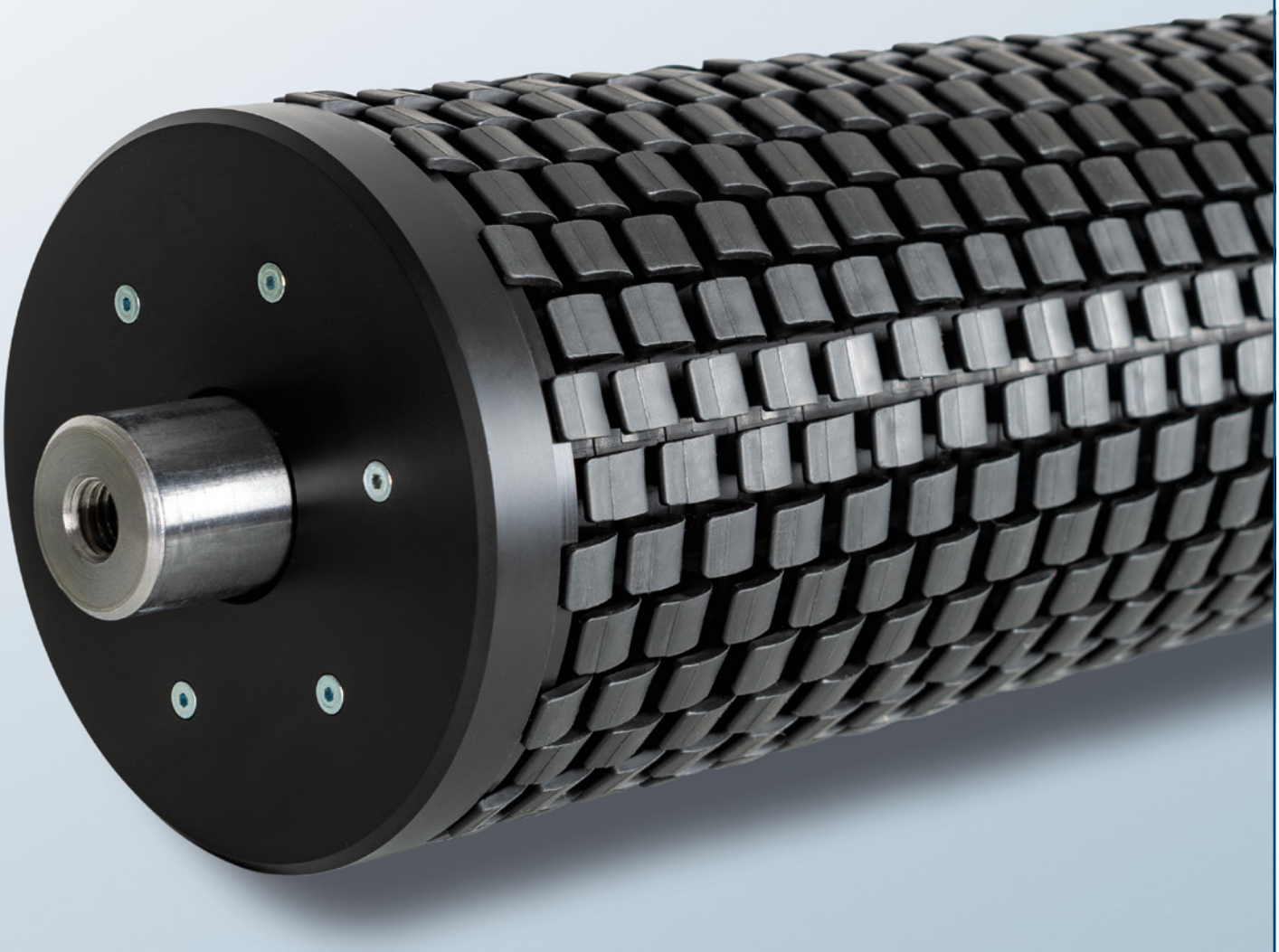
Test results, Run 2:

RotorIdent	ER120-2220-2400-DL\1		
Test rotation speed	502 1/min		
Unbalanced mass			
Compensation level 1	48,8 g·mm	280 °	in Tol
Compensation level 2	77,8 g·mm	313 °	in Tol
Compensation			
Compensation level 1 – mass (fix)	903 mg	100 °	in Tol
Compensation level 2 – mass (fix)	1,44 g	133 °	in Tol

Date Signature Stamp

THE **E**CO**S**TRETCH**R**OLL - A HIGH-EFFICIENCY SPREADER ROLLER FOR SUCH MEDIA AS FILM, NONWOVEN, TEXTILE OR PAPER

- Even spreads media with layer thickness > 4 µm
- Gentle, non-marking and effective spreading
- Low wear
- Ozone resistant
- Can be used for multiple cuttings
- Vibration reducing
- No external drive required; the spreader roller is driven by the web
- Available with FDA approval
- no functionless centre area



Quantum leap in web spreading:
The highly efficient EcoStretchRoll spreader roller manufactured by DRECKSHAGE.

EcoStretchRoll-ST:

The Allrounder for layer thickness > 4 µm.

The EcoStretchRoll (ESR) is an innovative spreader roller developed by the inventor of brush spreader rollers. Using patented precision rubber rings with individual spreading elements, the ESR enables improved and precise spreading without the need to use an engine for drive or adjusting the roller. Each rubber ring consists of independent spreading elements that react quickly to fabric pressure. The controlled movement towards the edge of the roller is achieved by a protected moulding of the spreader elements.

The 11 unbeatable advantages of the spreader roller

Principle of operation:
1.400-2.800 independently operating individual spreader elements per meter of roll length.

Web Tension:
Between 10 and 750 N/mtr. roll length.

Web speed:
The EcoStretchRoll can be used up to 1.000 m/min. At the same time, it has a vibrationdamping effect and runs absolutely quietly.

Roll body:
Lightweight aluminum roll tubes with special geometry for high bending stiffness. Fast response due to low start-up weights and low inertia.

Contact surface:
Slightly curved, large contact surfaces ensure marking-free guidance without relative movement.

Web thickness:
Spreads any material thickness > 4 µm and > 8 gr/m^2.

Variants:
The EcoStretchRoll is available in four diameters (60, 110, 130, 150 mm) and can be produced to customer specifications up to a maximum of 7.000 mm.

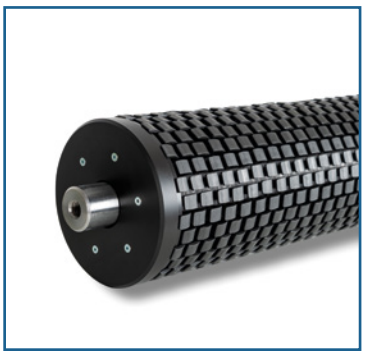
Assembly:
Each EcoStretchRoll is produced according to customer specifications and delivered ready for installation. It is ready for immediate use without external drive or adjustment.

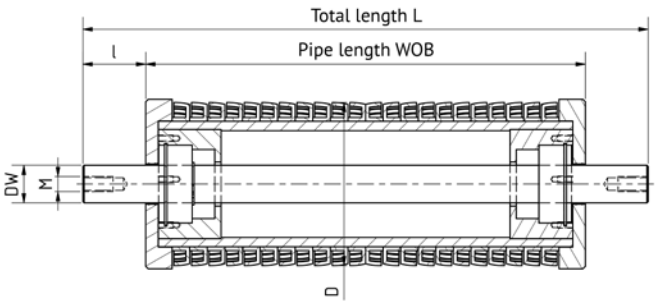
Wrap angle:
Full functionality at 8-180° wrap angle.

Multiple cutting:
Applicable for multiple cuttings.

Material properties:
Wear-resistant, temperature- and ozone-resistant and FDA-approval on request.

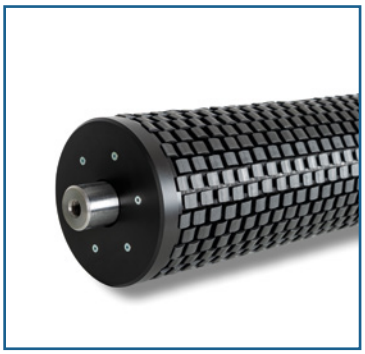
ESR FB-W

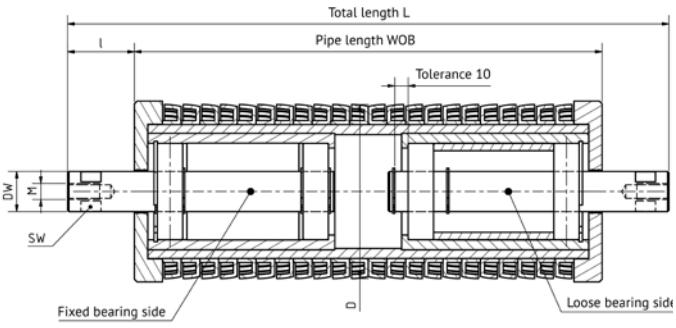




EcoStretchRoll with continuous axis / shaft				
	ESR 60	**ESR 110**	**ESR 130**	**ESR 150**
D (mm)	60	110	130	150
DW (mm)	15	30	30	35
L, WOB, l, M	freely selectable			

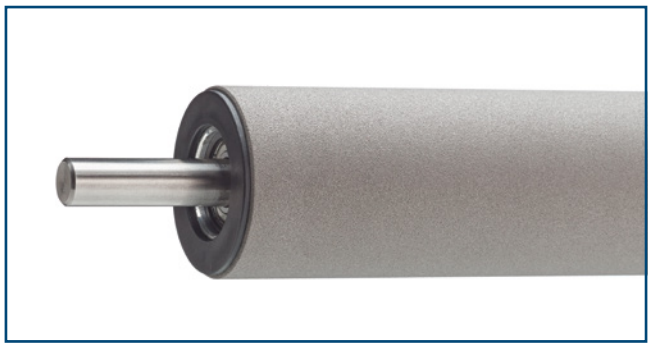
ESR FB-T





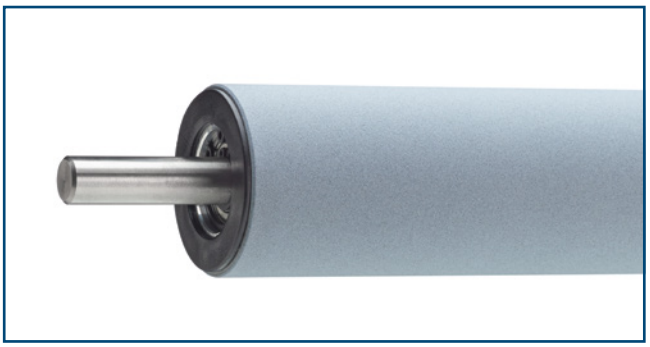
EcoStretchRoll with fixed and floating bearing bolts				
	ESR 60	**ESR 110**	**ESR 130**	**ESR 150**
D (mm)	60	110	130	150
DW (mm)	15	30	30	35
L, WOB, l, M	freely selectable			

Coatings – Technical rollers



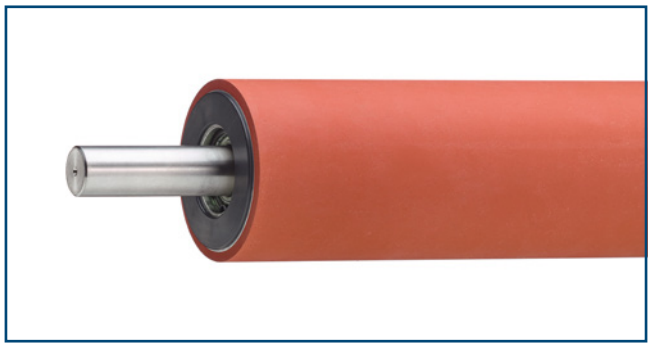
Non-stick coatings

- Excellent non-stick properties
- High wear protection, easy cleaning
- On request with FDA approval
- Various surface qualities
- Good grip qualities



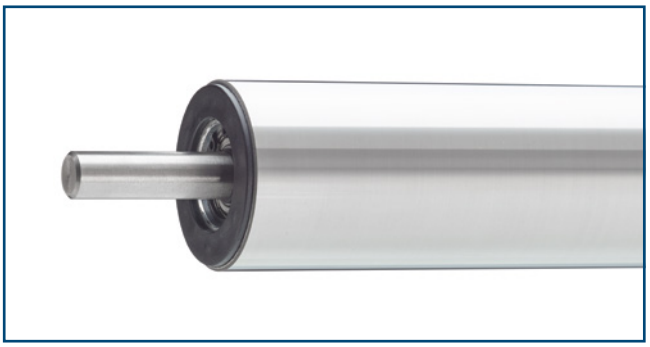
Ceramic coatings

- Hardness = 40-65 HRC
- Electrical insulation
- High layer thickness of up to 2 mm / Rz 2-50 µm
- High temperature resistance
- Wear-resistant, cut-resistant and grindable



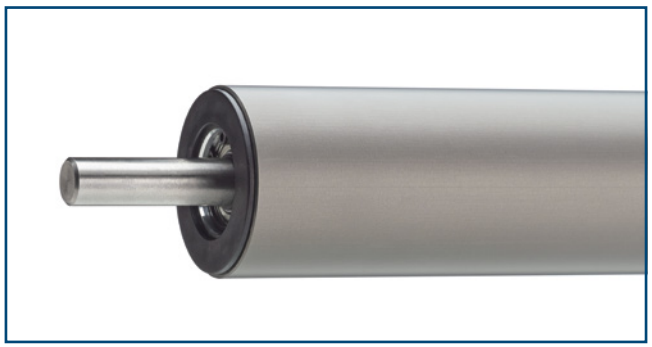
Rubber coatings

- Design according to customer specifications (various Shore hardnesses, colours, finishes) with grip, non-stick, wear protection, electrical conductivity and anti-static
- e.g. NBR, EPDM, PU, silicone NR, XNBR, SBR, CR



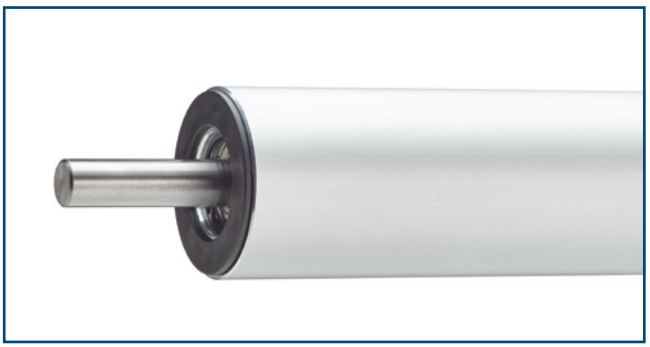
Hard metal coatings

- Very hard layer (55-72 HRC)
- Cut-resistant
- Higher durability compared to hard chrome (3-5x service life)
- Low porosity <1%; Rz 1-25 µm / grindable
- Resistant to erosion, abrasion and oxidation



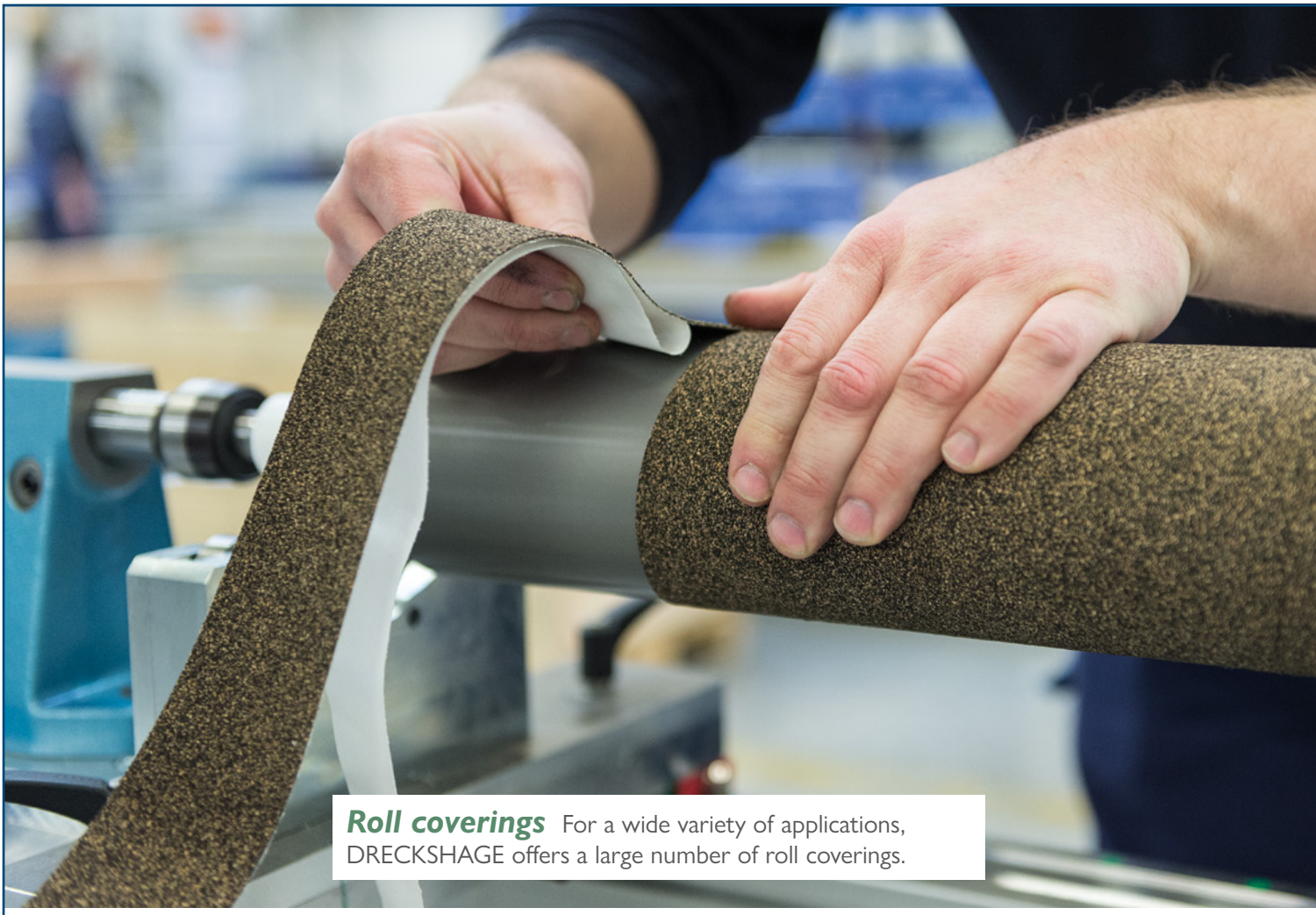
Hard anodisation

- Increased protection against corrosion and wear
- Layer thickness 50+/-10 µm

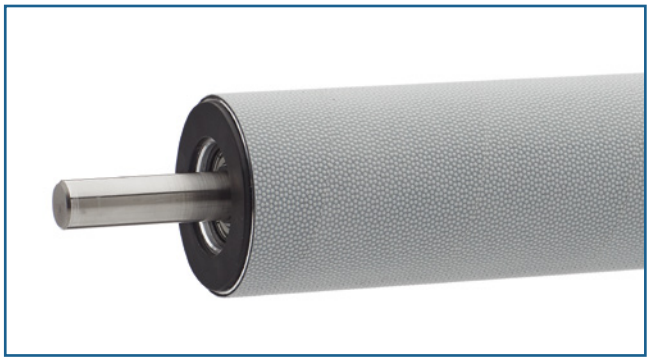


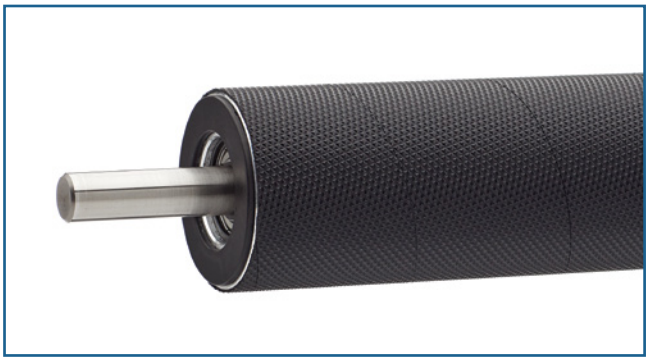
Anodisation E6/EV1

- Medium protection against corrosion and wear

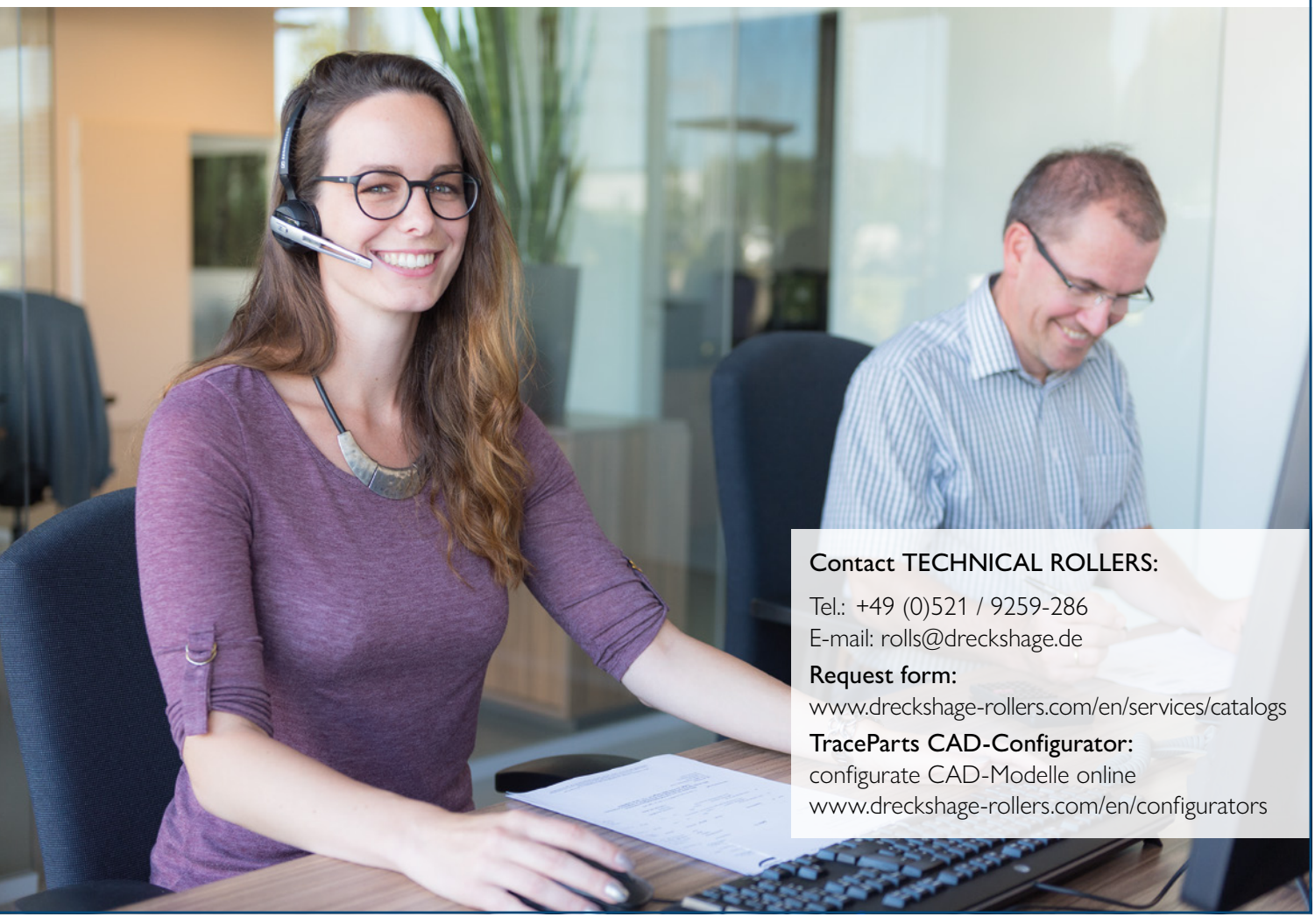


Roll coverings For a wide variety of applications, DRECKSHAGE offers a large number of roll coverings.





WE LOOK FORWARD TO INSPIRING YOU.



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