

# HOSE TECHNOLOGY

Sewer and pipe cleaning

Grünin **G+L** oske  
[www.gruelo.de](http://www.gruelo.de)



Reliable, for sure!



★ friendly

★ flexible

★ fair

★ competent

★ reliable

## 5-STAR - SERVICE EVERY DAY!



For more than 60 years, **Grünig & Loske GmbH** has been standing for a successful combination of services and products in the business-to-business sector. Our declared intention is to turn our customers into delighted fans by our 5-Star-Service: friendly, flexible, fair, competent and reliable – from the first contact to on-time delivery!

**Grünig & Loske GmbH** has up to now been gaining practical experiences for decades and incorporated these into cooperation with selected vehicle manufacturers and users in the range of pipe and sewer cleaning. New and innovative products have been developed, resulting in a broad portfolio of products and services to meet your requirements and ease your daily work.

In case you need more detailed information about a particular product or would like to get a general idea about our extensive assortment, please visit us on **[www.gruelo.de](http://www.gruelo.de)**.

In case you need help to choose the right product for your application area our kind and competent sales team provides assistance under:

Fon: +49 (0)51 02-91 99-01

Fax: +49 (0)51 02-91 99-90

Mail: [info@gruelo.de](mailto:info@gruelo.de)

**Enjoy our new range of products!**

Dirk Loske  
CEO



**[www.gruelo.de](http://www.gruelo.de)**



## REACHABILITY

- We are personally available from Monday to Thursday, 7:30 a.m. to 4:30 p.m., and Friday 7:30 a.m. to 2:00 p.m.
- You are also welcome to arrange an individual appointment with us.
- Detailed information can be found on [www.gruelo.de](http://www.gruelo.de) around the clock.



## SERVICES

- We deliver your goods on your requested date.
- Packaging is done according to your transport specifications.
- We also pack your orders neutrally and send them directly to your customer.
- We take care of customs formalities for your shipments abroad.
- We help you to plan and realise custom-made products and special fabrications.
- Feel free to arrange call-off or framework orders with us.
- We assemble and test your hose lines in conformity with PED (Pressure Equipment Directive) and BetrSichV (German Operational Safety Regulations).



## DELIVERY OPTIONS

- Delivery throughout Germany within 24 hrs./48 hrs.
- Orders with express shipment can be delivered the next day.
- It is possible to pick up goods directly from our warehouse.



## CUSTOMISED LABELS

- On request we can produce your hose line with a transfer tape in your corporate colour and logo.
- With our in-house laser we mark fittings or hose clamps according to your specifications.



## YOUR SALES DOCUMENTS

- We gladly create our sales documents with your corporate design.



## OUR LOCATION

- In addition to the office building, our company headquarter in Laatzen consists of two production areas and three warehouses with a total area of approx. 4,000 m². Our storage area is equipped with the latest high-bay warehouse technology, to ensure the fastest possible processing of your order.





## THE G+L SERVICES PROGRAM

A high quality standard and our wide range of product-oriented services makes **Grüning & Loske** the supplier you trust.

Our workshops offer efficient and high-quality results in short time. Thanks to our broad range of materials, we are always able to provide you with customized results for various applications.

**Our aim is to reduce your process costs and thereby increase the productivity.**



## HOSE SERVICES Consultation and Assembly

Assembly is done under strong compliance with regulations applying to the manufacturing of complete hose lines (European Pressure Equipment Directive PED 2014/68/EU).

A safe operation of a hose line is only possible, considering the actual operation conditions. This includes resistance against the conducted media, working pressure, operating temperature, installation situation, bending frequency, duration and frequency of operation, environmental conditions and mechanical load.

All advice and practical support you require for your individual operation purpose will be given by our skilled expert staff. The personnel in hose technology is "Qualified Person pursuant to the Ordinance on Industrial Safety and Health for pressure tanks and piping" and additionally „Certificated Expert Advisers for Hose and Fitting Technology“ (Certification through Trade Association).

### Our services:

- Assembly of hose lines/swaging of hose lines up to DN 300 mm, with clamps, bolted clamps and all customary hose coupling systems: e.g. Storz, Perrot, Bauer, Anfor, Flange, Kamlok, GEKA
- Swaging of composite hoses up to DN 250 mm
- Assembly of hose packs and heatable hose lines
- Detailed advice by phone or personally on-site
- Management of hose lines
- Hose testing in conformity with European Pressure Equipment Directive PED 2014/68/EU as well as German BetrSichV (Occupational Safety Regulations)
- Labelling or marking of hoses
- Hose repair
- On-site mobile hose testing service
- Lasting security through maintenance contracts
- Hose recycling
- Hose winding and unwinding equipment



Pressing of hoses



Im Eigenversuch getestet, hielt die Verpressung einer Zugkraft von mindestens 750 kg stand!

## HOSE TESTING - according to European Pressure Equipment Directive PED 2014/68/EU

Hose lines are subject to special requirements, as they are partly under severe stress by the predominant operational conditions, transported media, operating pressure, temperature and external influences.

To minimise risks at operating hose lines, a constant inspection of the work capability is essential. A recurrent inspection of hose lines is even regulated by law. Grüning & Loske inspects your hose lines pursuant to the Ordinance on Industrial Safety and Health and Pressure Equipment Directive PED PED 2014/68/EU.

Following the inspection each hose line gets an identification number which is permanently attached to the line by a marking strip. We hand out a certification report after inspection. Furthermore we keep records of all accomplished inspections. Through the given identification number we can recall your master and test data any time.

Our mobile testing unit enables us to inspect your hose lines on-site without any circumstances.

**Take advantage of this Grüning & Loske service. It saves you time and effort - and thus lowers your costs!**

### Our services:

- Hose line testing according to European Pressure Equipment Directive PED 2014/68/EU:
  - Inspection
  - External and internal testing (visual examination)
  - Electrical conductivity test
  - Pressure test (strength test) up to 2.800 bar
  - Vacuum test
- Individual labeling
- Documentation by itemised report according to EN 10204
- Consultancy on CE-identification marks
- Variant inspections conforming to your works standard specification
- Repair on-site through our mobile testing and installation service
- Supervision of your inspection dates and punctual email reminder



Pressure testing



Pressure test with the aid of the Resato-P160-65-1

## MANUFACTURING COMPONENTS

We produce almost all types of screwing components, cast and welded assemblies as well as outsourced assemblies for you. Thus, you avoid the costly storage of articles, obtain the desired components in a consistent high quality at the desired date and at low costs. As component production specialists we always guarantee optimum project development in terms of quality, scheduling and logistics.



## C-PARTS MANAGEMENT

C-parts are of low value, but the effort to procure them is very high. In times of high demand, it is often difficult to plan the coordination of stocking and reordering the small parts you need. Reduce your replenishment costs through successful C-parts management with your trusted supplier.



## CORROSION AND WEAR PROTECTION

**GrüloCoat Systeme - the solution for high-quality surface protection.** Use our knowledge advantage and our experience to protect your surfaces against various negative influences such as mechanical abrasion, chemical influences and corrosion in the long term. Successful coatings result from the interaction of many factors. As a specialist company for high-quality wear protection for the most diverse demands, we offer you extremely resistant and high-quality coating systems made of **polyurea, polyurethane, rubber or ceramics**.



## SANDBLAST AND FINISHING TECHNIC

In our modern sandblasting and paint shop, we offer professional processing and finishing of steel parts - efficiently, reliably and from a single source. All steel parts are sandblasted to prepare them for further processing. In the paint shop, high quality paint is applied to your colour specifications for optimum corrosion protection - even after rubber has been applied. We can work on parts up to 12 m long, 4 m wide and 4 m high - ideal for commercial vehicles or low-volume plant components. Perfect results - fast and on time.



## CONSTRUCTIONAL STEELWORK

Here we bend, cut, weld, drill and grind. In the metalworking shop we build our own machines, such as winding stands and turntables for winding and unwinding hose lines, or the SmellMaster truck. We also carry out all the preparatory work for the refurbishment of containers and make special constructions such as transport racks and load securing devices for hoses and pipes, as well as other rental park accessories.



## PRESSROOM AND PLOTTING SERVICE

We manufacture customised sealing solutions according to your specifications in our in-house seal stamping shop - precisely, flexibly and to a high standard of quality. Whether rubber or plastic, simple shape or complex geometry: we realise customised solutions for a wide range of applications. We produce seals from almost all common materials - exactly according to drawings or samples, from one-off production to series production. On request, we can support you with our technical expertise in the optimum gasket design for your specific application.



## 3D TECHNOLOGY

Our high-precision 3D scanners capture complex geometries, surfaces and solids quickly and in great detail. Ideal for creating product copies, quality control or targeted optimisation of existing components - accurate, flexible and cost-effective. We also offer the service of producing CAD drawings for you. With our 3D printers, we can produce prototypes, first samples and small batches quickly, cost-effectively and accurately.





## Do you know these problems? Two men = One hour! Use GruloReelTec ...

...and find out how easy and quick changing your sewer cleaning hose is possible. Use our reeling and unwinding unit **GruloReelWinder**, save time and costs by a significant lower workload.



### What is GruloReelTec?

The deployment of our winding and reeling unit **GruloReelWinder** or using one of our services **GruloReelTec** will considerably ease the exchange of your sewer cleaning hoses!

Our specifically constructed **GruloReelWinder** makes reeling and unwinding a snap. Therefore our staff needs only about

one hour to exchange a hose of 32 mm nominal size and 180 m length.

**You know yourself how much time this usually takes!**

To use the machine we deliver our sewer cleaning hoses - be they of plastic or rubber - on a reel.

## GruloReelWinder MACHINE FOR WINDING AND UNWINDING

**GruloReelWinder** is available **with** (230 V / 380 V) or **without** engine. The motor-driven model has a preset rotation speed. This can be adapted on demand. For assembly and disassembly of the reel a crane, forklift or wheel loader should be available. **GruloReelWinder** is easy to move by means of a lift truck. Storage should be dust-free and dry.

With CE-Label and electrically certified. Manufactured in Germany.



You can find further information in our film.



## GruloReelWrapper ALTERNATIVES FOR EVERYBODY

The manually operable reeler **GruloReelWrapper** (*type 1*) and the **rotary plate** (*type 2*) simplify the work in exchange of hoses on your vehicles.

**For detailed informations please contact us!**



Type 1



Type 2

## GruloReelTec Overview of our services

### GruloReelLocal

Within a radius up to 200 km radius of Hannover we offer our service **GruloReelLocal**. We come to your site, deliver the ordered hose and exchange the used one. This is done quickly and without any problems directly on your doorstep.

### GruloReelBase

Quick and convenient is our local service **GruloReelBase** in Laatzen. After a prior made appointment come along with your sewer cleaning vehicle and let us do the work. Our staff undertakes the rewinding of your hose and of course we take care of the disposal.

### GruloReelRent

Use **GruloReelRent** and we deliver one of our reel winding units **GruloReelEngine**. With the same shipment you get the newly ordered hose mounted on a reel. You exchange the sewer cleaning hose at your vehicle on site yourself. After usage you simply return the machine to us!





# GrüloJet

## THERMOPLASTIC SEWER JETTING HOSES

GrüloJet-series are thermoplastic sewer jetting hoses with pressure carrier, consisting of doublebraided highly tearproof synthetic fibres and an extremely abrasion- and cut resistant polyurethane cover. They are ideally suited for equipping sewer cleaning vehicles. Due to their extremely smooth thermoplastic lining they show a lower pressure drop than usual rubber sewer cleaning hoses. Furthermore their lower weight enables you to increase your load capacity and a more efficient work.

Supplied with press-in fittings DKR/AGR (IG/AG), BSP 60° sealing cone, self-sealing and test certificate according to EN 10204. We are happy to offer other connection options as a service!



### GrüloJet 200

#### PU jetting hose 200 bar

##### Technical characteristics

Temperature range: -40 °C to +55 °C

Standard length: 120 m, 160 m, 180 m, 200 m, 240 m  
further lengths on request

Maximum length: DN 25 up to 350 m, DN 32 up to 250 m

##### Construction

Cover: Polyurethane, extremely cut- and abrasion resistant

Reinforcement: Highly tear resistant synthetic fibres, braided

Lining: Thermoplastic elastomer

Marking: - - GrüloJet 200 - - DN [...] | WP [...] bar | BP [...] bar

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
13	1/2	4,70	275	690	75	0,277	10063-013
16	5/8	5,25	220	550	100	0,372	10063-016
19	3/4	5,30	207	500	120	0,431	10063-019
25	1	5,85	207	500	150	0,580	10063-025
32	1 1/4	7,00	207	500	235	0,848	10063-032
38	1 1/2	7,90	207	500	375	1,186	10063-038



### GrüloJet 250

#### PU jetting hose 250 bar

##### Technical characteristics

Temperature range: -40 °C to +55 °C

Standard length: 80 m, 120 m, 160 m, 180 m, 200 m, 240 m  
further lengths on request

Maximum length: DN 25 up to 350 m, DN 32 up to 250 m

##### Construction

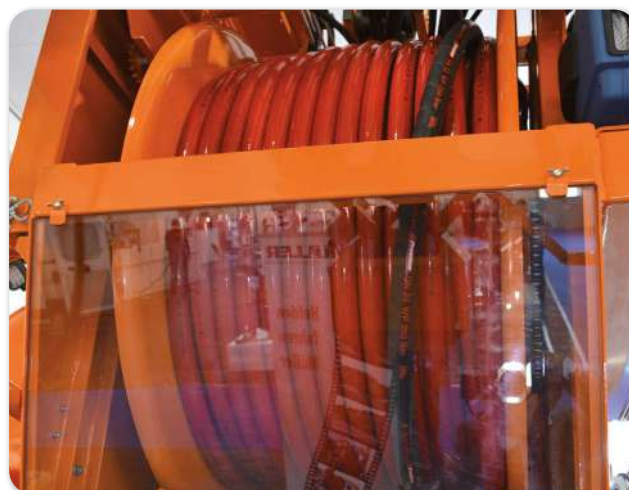
Cover: Polyurethane, extremely cut- and abrasion resistant

Reinforcement: Highly tear resistant synthetic fibres, braided

Lining: Thermoplastic elastomer

Marking: - - GrüloJet 250 - - DN [...] | WP 250 bar | BP 625 bar | [Datum]

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
19	3/4	5,30	250	625	120	0,460	10089-019
25	1	5,85	250	625	150	0,643	10089-025
32	1 1/4	7,00	250	625	235	0,985	10089-032





## GrüloJet 175

### PU jetting hose up to 175 bar

*GrüloJet 175* is a thermoplastic cleaning hose with a working pressure up to 175 bar. Perfectly suited for cleaning in the range of house connections.

As a service we offer you various connection options.

#### Technical characteristics

Temperature range: -40 °C to +55 °C

Standard length: 80 m, 100 m, 120 m | further lengths on request

Colour: Green

#### Construction

Cover: Polyurethane, extreme cut- and abrasion resistant

Reinforcement: Highly tear resistant double textile fibre braids

Lining: Thermoplastic elastomer

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
9,7	3/8	3,15	175	437	90	0,132	10064-010



## GrüloJet 400

### PU sewer jetting hose up to 400 bar

*GrüloJet 400* is a thermoplastic sewer cleaning hose with a working pressure of up to 400 bar. The pressure carrier, consisting of double-braided highly tearproof aramid- and synthetic fibres, guarantees long endurance and therefore decreases your expenses.

As a service we offer you various connection options.

#### Technical characteristics

Temperature range: -40 °C to +55 °C

Standard length: 80 m, 100 m, 120 m, 150 m, 180 m, 200 m, 250 m

Colour: Orange

#### Construction

Cover: Polyurethane, highly cut and abrasion resistant

Reinforcement: Highly tear resistant synthetic fibres

Lining: Thermoplastic elastomer

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
13,0	1/2	4,70	345	862	100	0,292	10065-013
19,2	3/4	5,40	400	1000	185	0,442	10065-019
25,8	1	6,90	400	1000	250	0,735	10065-025
32,0	1 1/4	7,90	400	1000	400	1,054	10065-032



Fig. courtesy of Klaunberg GmbH



# PRESS COUPLINGS FOR SEWER JETTING HOSES

High pressure press couplings for use in case of repair of thermoplastic or rubber sewer cleaning hoses up to a working pressure of 250 bar. Consisting of one piece press coupling BSP female, BSP male and ferrule, steel plated finish.



## IMPORTANT!

The press diameters only apply to new hoses. For used hoses or in case of repair the correct press diameters have to be determined individually again!

## Technical characteristics

BSP straight female, 60° cone

BSP male parallel, 60° cone seat

GrüloJet 200/250		Press couplings				
DN mm	DN Inch	Part	Thread Inch	Press Ø mm	Weight/piece kg	Article no.
13	1/2	Male AGR	R 1/2	-	0,090	20464-04-013
		Female DKR		-	0,090	20463-04-013
		Ferrule		25,3	0,060	20465-04-013
16	5/8	Male AGR	R 5/8	-	0,100	20464-05-016
		Female DKR		-	0,100	20463-05-016
		Ferrule		29,0	0,070	20465-05-016
19	3/4	Male AGR	R 3/4	-	0,170	20464-06-019
		Female DKR		-	0,140	20463-06-019
		Ferrule		33,5	0,090	20465-06-019
25	1	Male AGR	R 1	-	0,300	20464-10-025
		Female DKR		-	0,300	20463-10-025
		Ferrule		41,0	0,150	20465-10-025
32	1 1/4	Male AGR	R 1 1/4	-	0,500	20464-12-032
		Female DKR		-	0,400	20463-12-032
		Ferrule		51,0	0,270	20465-12-032
38	1 1/2	Male AGR	R 1 1/2	-	0,600	20464-14-038
		Female DKR		-	0,450	20463-14-038
		Ferrule		58,0	0,350	20465-14-038

GrüloKan 250		Press couplings				
DN mm	DN Inch	Part	Thread Inch	Press Ø mm	Weight/piece kg	Article no.
13	1/2	Male AGR	R 1/2	-	0,090	20481-04-013
		Female DKR		-	0,090	20480-04-013
		Ferrule		27,5	0,070	20482-04-013
16	5/8	Male AGR	R 5/8	-	0,100	20481-04-016
		Female DKR		-	0,100	20480-04-016
		Ferrule		31,3	0,090	20482-05-016
19	3/4	Male AGR	R 3/4	-	0,170	20481-06-019
		Female DKR		-	0,140	20480-06-019
		Ferrule		33,8	0,100	20482-06-019
25	1	Male AGR	R 1	-	0,300	20481-10-025
		Female DKR		-	0,300	20480-10-025
		Ferrule		41,2	0,170	20482-10-025
32	1 1/4	Male AGR	R 1 1/4	-	0,500	20481-12-032
		Female DKR		-	0,400	20480-12-032
		Ferrule		51,8	0,290	20482-12-032
38	1 1/2	Male AGR	R 1 1/2	-	0,650	20481-14-038
		Female DKR		-	0,700	20480-14-038
		Ferrule		59,2	0,290	20482-14-038

# GrüloKan 250

## RUBBER SEWER CLEANING HOSE

The **GrüloKan 250** offers you all benefits of a professional rubber sewer cleaning hose. The specially developed rubber compound guarantees a long operating life, high abrasion resistance and extreme flexibility. **GrüloKan 250** is characterized by its easy handling, light weight and excellent pressure resistance. In addition **GrüloKan 250** has a very small bending radius. The hose cover is resistant to abrasion and cut exposure, aging and weather resistant.

Supplied with press-in fittings DKR/AGR (IG/AG), BSP 60° sealing cone, self-sealing and test certificate according to EN 10204. We are happy to offer other connection options as a service!



## GrüloKan 250

Classical cleaning hose

DN 38 ALSO  
AVAILABLE WITH  
WP 200 BAR

### Technical characteristics

Temperature range: -40 °C to +70 °C

Standard length: 60 m, 80 m, 100 m, 120 m, 150 m, 160 m, 180 m,  
200 m, 240 m | further lengths on request

Availability: 10 m up to 240 m, DN 32 up to 220 m, DN 38 up to 150 m

Colour: Black

### Construction

Cover: NR/SBR, highly abrasion resistant

Reinforcement: 2-ply braided synthetic fibres

Lining: NR/SBR, black, smooth

Transfer tape: G+L Ellipse GrüloKan WP 250 BAR BP 625 BAR

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
13	1/2	6,00	250	625	70	0,450	10066-013
16	5/8	6,00	250	625	80	0,530	10066-016
19	3/4	6,00	250	625	90	0,600	10066-019
25	1	7,00	250	625	105	0,810	10066-025
32	1 1/4	7,50	250	625	140	1,080	10066-032
38	1 1/2	8,00	200	600	160	1,250	10066-038



EXTREMELY  
ABRASION  
RESISTANT

## GrüloKan 250 Premium

### The Extreme

**GrüloKan 250 Premium** offers you much more than all common rubber sewer cleaning hoses. The especially developed composite bilayers structure of the cover enables a very high abrasion resistance. This guarantees a long lifetime at equal flexibility in comparison to our classic **GrüloKan 250**. Therefore our **GrüloKan 250 Premium** can be used in any situation, where all others fail.

### Technical characteristics

Norm: EN ISO 6945

Temperature range: -40 °C to +70 °C

Standard length: 80 m, 120 m, 160 m  
further lengths on request

Availability: 10 m up to 240 m, DN 32 up to 180 m

Colour: Black

### Construction

Cover: NR/SBR rubber with plastic coating, extremely abrasion resistant  
Coating: Composite bi-layers structure with outstanding abrasion resistance

Reinforcement: 2-ply braided synthetic fibres

Lining: NR/SBR, black, smooth

Transfer tape: G+L Ellipse GrüloKan Premium WP 250 BAR BP 625 BAR

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
25	1	7,00	250	625	110	0,775	10866-025
32	1 1/4	8,00	250	625	140	1,095	10866-032





## GrüloKan 250 PROtect<sup>+</sup>

### For your own safety

**GrüloKan 250 PROtect** offers all the benefits of our classical rubber sewer cleaning hose **GrüloKan 250**. The yellow protection layer underneath the cover allows you to handle a high pressure hose in accordance with the requirements of working safety. As soon as the cover gets thinner – in consequence of rough operating conditions – the yellow protection layer becomes visible signaling that it is time to change the hose.

So you and your staff members are always on the safe side.

#### Technical characteristics

Temperature range: -40 °C to +70 °C  
Standard length: 60 m, 80 m, 120 m, 160 m, 180 m  
further lengths on request  
Availability: 10 m up to 240 m, DN 32 up to 200 m  
Colour: Black

#### Construction

Cover: NR/SBR, highly abrasion resistant, smooth  
Protection layer: SBR/EPDM, yellow  
Reinforcement: 2-ply braided synthetic fibres  
Lining: NR/SBR, black, smooth  
Transfer tape: G+L Ellipse GrüloKan PROtect<sup>+</sup> WP 250 BAR BP 625 BAR

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
25	1	7,50	250	625	100	0,875	10766-025
32	1 1/4	8,50	250	625	130	1,190	10766-032



## GrüloKan 250 Inliner

### Saves you money

**GrüloKan 250 Inliner** offers an extremely smooth polyamide inliner, which guarantees a significant lower pressure drop. This minimisation of the pressure drop leads to a reduced engine speed which means considerable savings in fuel costs. **GrüloKan 250 Inliner** is recommended especially for water conditioning and water recycling vehicles.

#### Technical characteristics

Temperature range: -40 °C to +70 °C  
Standard length: 60 m, 80 m, 120 m, 160 m, 180 m, 200 m, 240 m  
further lengths on request  
Availability: 10 m up to 240 m  
Colour: Black

#### Construction

Cover: NR/SBR, highly abrasion resistant, smooth  
Inliner: Polyamide, white  
Reinforcement: 2-ply braided synthetic fibres  
Lining: NR/SBR, black, smooth  
Transfer tape: G+L Ellipse GrüloKan Inliner WP 250 BAR BP 625 BAR

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
25	1	7,00	250	625	100	0,830	10666-025



## GrüloClean 2SC

### With special sliding layer

**GrüloClean 2SC** is flexible, abrasion, pressure and oil resistant and extra smooth due to a UHMWPE film coating. With an operating pressure of 250 bar, it is ideal for use as a sewer cleaning hose. This hose meets the requirements of EN 857.

As a service we offer you various connection options!

#### Technical characteristics

Norm: EN 857  
Temperature range: -40 °C to +100 °C  
Standard Length: 120 m  
Colour: Black

#### Construction

Cover: SBR, extremely smooth, wrapped, UHMWPE film coating  
Reinforcement: Double, highly tear-resistant steel braiding  
Lining: SBR, black, smooth

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Article no.
25,7	1	5,50	250	660	250	11560-025-120

# GrüloPipe

## THE PROFESSIONAL

Out of our product line GrüloLine **GrüloPipe** offers all benefits of a premium high pressure rubber hose. **GrüloPipe** is extremely flexible, abrasion-, pressure- and oil resistant. With its working pressure of 250 bar **GrüloPipe** is suited perfectly for the application on jetting lances used for cleaning manholes. **GrüloPipe** can also be used for the provisional sewer cleaning in the area of house connections.

Supplied with press-in fittings DKR/AGR (IG/AG), BSP 60° sealing cone, self-sealing and test certificate according to EN 10204. We are happy to offer other connection options as a service!



## GrüloPipe

### The Allrounder

SHORT  
PRESS FITTINGS  
W/O HEXAGON

#### Technical characteristics

Norm: EN 853 1 SN (R1 AT)

Temperature range: -40 °C to +90 °C

Availability: up to 240 m

#### Construction

Cover: SBR, smooth, black

Reinforcement: Highly tear resistant steel wire braid

Lining: SBR, black, smooth

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
6	1/4	3,15	300	900	100	0,210	10550-006
10	3/8	4,00	250	640	130	0,320	10550-009
13	1/2	4,00	250	640	180	0,420	10550-013
16	5/8	4,00	250	640	210	0,520	10550-016
19	3/4	4,00	200	600	240	0,710	10550-019

## PRESS COUPLINGS FOR PIPE CLEANING HOSES

Press couplings for pipe cleaning hoses up to max. 250 bar.

Consisting of BSP female (DKR 60° cone / BSP),

BSP male (AGR 60° inner cone / BSP) and ferrule (1SN), steel plated finish.

Also available in other versions!



GrüloPipe		Press couplings			
DN mm	DN Inch	Part	Thread Inch	Press Ø mm	Article no.
6,4	1/4	Male AGR	1/4	-	20471-02-006
		Female DKR		-	20470-02-006
		Ferrule		16,4	20472-02-006
9,5	3/8	Male AGR	3/8	-	20471-03-010
		Female DKR		-	20470-03-010
		Ferrule		20,1	20472-03-010
12,8	1/2	Male AGR	1/2	-	20471-04-013
		Female DKR		-	20470-04-013
		Ferrule		24,2	20472-04-013
16,0	5/8	Male AGR	1/2	-	20471-04-016
		Female DKR		-	20470-04-016
		Ferrule	5/8	26,4	20472-05-016
19,0	3/4	Male AGR	3/4	-	20464-06-019
		Female DKR		-	20463-06-019
		Ferrule		33,5	20465-06-019





## Technical characteristics

Norm: EN 857

Temperature range: -40 °C to +70 °C

Standard length: 40 m, 60 m, 80 m, 120 m

## GrüloPipe Flex 1SC EN 857

### Streak-free

Besides extreme flexibility, high abrasion-, pressure- and oil-resistance, **GrüloPipe Flex 1SC EN 857** offers another advantage: it does not leave any streaks.

### Construction

Cover: SBR, smooth, grey

Reinforcement: Steel wire braid

Lining: SBR, smooth

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
13	1/2	4,00	200	800	70	0,350	12550-013
16	5/8	3,70	130	650	90	0,430	12550-016
19	3/4	4,00	105	520	100	0,510	12550-019



## Washer 2SN

### High Pressure Cleaning hose

The **Washer 2SN** is a universal cleaning hose that is resistant to abrasion and common cleaning agents. It is characterised by its high resistance to temperature, oil and the weather.

### Construction

Decke: SBR, wrapped

Einlage: Two steel wire inserts

Seele: SBR

## Technical characteristics

Norm: DIN EN 1829-2

Temperature range: -40 °C to +150 °C

Standard length: 25 m, 30 m | further lengths on request

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
6,6	1/4	4,00	500	1500	95	0,370	14550-006
9,8	3/8	4,40	500	1200	115	0,520	14550-010



## FlexiPipe 300 Professional

### For indoor pipe cleaning

**FlexiPipe 300 Professional** has been developed for water applications in the medium pressure range. It is perfectly suited for the application on jetting lances and for applications in the field of house connections.

### Construction

Cover: PU, magenta, abrasion resistant, UV resistant

Reinforcement: High tensile steel wire braid

Lining: Thermoplastic elastomer

## Technical characteristics

Temperature range: -40 °C to +70 °C

Standard length: 10 m, 20 m | further lengths on request

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
6,4	1/4	2,75	300	1.200	40	0,170	12551-006

We stock an extensive range of hoses and accessories for high pressure cleaning and washing equipment.

*Please contact us!*



# VACUMASTER<sup>premium</sup>

## FOR **ALL** VEHICLE MANUFACTURERS

Out of our product line **GrüloLine** we present the cassette hoses **VACUMASTER NR<sup>premium</sup>** and the oil resistant quality **VACUMASTER OIL<sup>premium</sup>**. Developed together with the producer and optimised in accordance with prominent vehicle manufacturers a unique cassette hose was developed. The **VACUMASTER<sup>premium</sup>** convinces due to its outstanding operating characteristics in currently common cassettes and reels of sewer cleaning vehicles of the leading manufacturers. A maximum of flexibility and handling is enabled by the construction of the hose. Due to its high abrasion resistant lining and cover, **VACUMASTER NR<sup>premium</sup>** guarantees a long operating life.



Fig. courtesy of KROLL Fahrzeugbau - Umwelttechnik GmbH



### Technical characteristics

Temperature range: -35 °C to +80 °C

Standard length: 20 m, 25 m, 30 m

Colour: Black

Inner mm	Inner Inch	Wall mm	Cuff mm	Cuff mm	WP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
101,6	4	8,00	110	125	6	0,90	400	4,938	11513-102
127,0	5	9,50	133	125	6	0,90	600	6,747	11513-127
152,4	6	10,00	160	150	6	0,90	720	8,487	11513-152

## VACUMASTER NR<sup>premium</sup>

### Abrasion resistant cassette hose

**VACUMASTER NR<sup>premium</sup>** is characterised by its excellent flexibility even at low temperatures. Furthermore **VACUMASTER NR<sup>premium</sup>** is dimensionally stable and has an excellent bending radius.

With extended cuff on one side | other versions available.

### Construction

Cover: NR/SBR, abrasion and weather resistant

Reinforcement: Two wound textile inserts, doubled steel wire spiral

Lining: NR/SBR, black, smooth, antistatic, Abrasion value:  $\leq 35\text{mm}^3$



### Technical characteristics

Temperature range: -35 °C to +80 °C

Standard length: 20 m, 25 m, 30 m

Electrical resistance: Cover  $R \leq 10^6 \Omega/\text{m}$

Colour: Black

Inner mm	Inner Inch	Wall mm	Cuff mm	Cuff mm	WP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
102	4	8,00	110	127	6	0,90	400	5,100	11523-102
127	5	9,50	133	127	6	0,90	600	6,440	11523-127
152	6	10,00	160	127	6	0,90	720	8,220	11523-152

## VACUMASTER OIL<sup>premium</sup>

### Oil resistant cassette hose

**VACUMASTER OIL<sup>premium</sup>** is dimensionally stable, electrically conductive and has an excellent bending radius. It also impresses with its excellent oil resistance.

With extended cuff on one side | other versions available.

### Construction

Cover: SBR, with fabric impressions

Reinforcement: Textile wrapped, reinforced spring wire spiral

Lining: NBR, black, smooth, antistatic, abrasion resistant



## OptiVrac ABR

### Flexible suction hose

**OptiVrac ABR** is a highly flexible and corrugated hose which is ideally suited for the use on sewer cleaning vehicles. Its abrasion resistant inner lining is specially developed for suction excavators with mechanical arm conveying high abrasive materials as well as for industrial cleaning purposes.



#### Technical characteristics

Temperature range: -30 °C to +70 °C

Standard length: 20 m, 25 m, 30 m | DN 252: up to 12 m

Colour: Black



#### Construction

**Cover:** SBR, corrugated, with fabric impressions, weather- and abrasion resistant

**Reinforcement:** High strength synthetic cord, embedded steel wire helix

**Lining:** Para/NR, black, smooth, abrasion resistant, antistatic

**Marking:** Transfer tape orange, [G+L-Ellipse] - OptiVrac ABR

Inner mm	Inner Inch	WP bar	BP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
80	3 1/4	3	9	0,90	245	1,980	12514-080
102	4	3	9	0,90	310	2,630	12514-102
127	5	3	9	0,90	380	3,950	12514-127
152	6	3	9	0,90	460	4,490	12514-152
203	8	3	9	0,90	610	9,980	12514-203
252	10	3	9	0,90	950	18,400	12514-252



#### Technical characteristics

Temperature range: -20 °C to +70 °C

Standard length: 20 m, 25 m, 30 m

Electrical resistance: Cover  $R \leq 10^6 \Omega/m$

Colour: Black



## OptiVrac OIL

### Flexible and oil resistant suction hose

**OptiVrac OIL** is a highly flexible corrugated hose usable on waste disposal vehicles and as reel hose on sewer cleaning vehicles. Resistant against oil, hydrocarbons, aromats and many types of chemical waste.

#### Construction

**Cover:** SBR, corrugated, with fabric impressions, weather- and abrasion resistant

**Reinforcement:** High strength synthetic cord and helix wire

**Lining:** SBR, black, smooth

**Marking:** Transfer tape yellow, [G+L-Ellipse] - OptiVrac OIL

Inner mm	Inner Inch	WP bar	BP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
80	3 1/4	3	9	0,90	320	2,500	12524-080
102	4	3	9	0,90	410	3,810	12524-102
110	-	3	9	0,90	440	4,390	12524-110
127	-	3	9	0,90	500	4,980	12524-127
152	6	3	9	0,90	610	7,540	12524-152
203	8	3	9	0,90	815	10,430	12524-203

### CASSETTE AND REEL HOSES FOR ALL VEHICLE MANUFACTURERS:

**MÜLLER UMWELT, FFG,  
KROLL, ASSMANN,  
WIEDEMANN ENVIRO TEC,  
KAISER, CAPPELOTTO...**

Fig. courtesy of Müller Umwelttechnik GmbH & Co.KG



# Sewer cleaning hose ducts

## PROTECTION AGAINST WEAR

### PE-Disposal hoses ToiVrac N

Heavy weight and flexible polyethylene ducting hose.

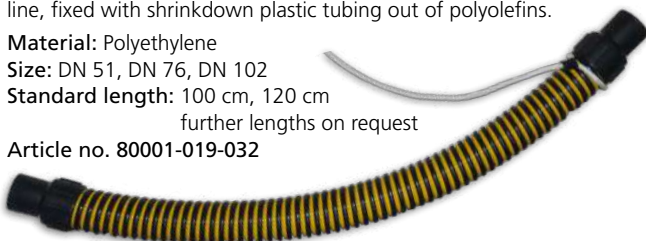
The protection set consists of one length of polyethylene disposal hose with black synthetic cuffs on both sides, a 5 m or 10 m betalone line, fixed with shrinkdown plastic tubing out of polyolefins.

**Material:** Polyethylene

**Size:** DN 51, DN 76, DN 102

**Standard length:** 100 cm, 120 cm  
further lengths on request

**Article no.** 80001-019-032



### Return slide, bottom edge with plastic insert

Available for hoses in 3/4", 1" and 1 1/4", with snap hook on one side.

**Material:** Frame in stainless steel, plastic slide in black  
**Article no.** 80010



### Replacement insert Return slide

Available in two sizes.

**Article no.** 80011

### Return pulley, bottom edge

Essential for fighting abrasion and wear of sewer jetting hoses.

The return pulley, bottom edge is suitable for hoses with **ND 19 to 32 mm**. With three rollers (Ø 73 mm), snap hook and 6 m-line with loop.

**Material:** Galvanised steel

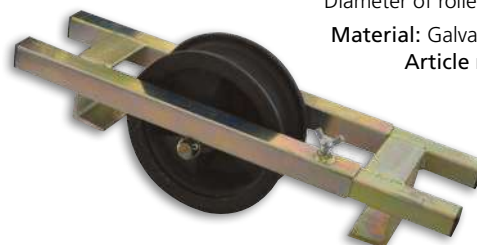
**Article no.:** 80001-019-032



### Return pulley, upper edge

Return pulley, upper edge, galvanised steel.  
Diameter of roller 225 mm.

**Material:** Galvanised steel  
**Article no.** 80002



# Manhole cover

### Manhole cover with gap

Outer Ø 670 mm  
Recess 170 mm  
with 2 foldable flags

**Article no.** 83000-2602



### Manhole cover with deflecting roller

Universal size, with 2 foldable flags

**Article no.** 80013-2601



### Manhole cover

Outer Ø 670 mm  
with 2 foldable flags

**Article no.** 83000-2603





## Individual labelling

### HOSE MARKINGS

On request we can produce your hose line with a transfer tape in your corporate colour and logo.

### LASER ENGRAVING

We mark your assembled hose lines with our in-house laser. Thus, manufacturer name and order number are visible at a glance. Customer-specific specifications are of course also possible.

This could include the manufacturer's name, your order number and the date of the test.



#### Technical characteristics

Temperature range: -25 °C to +70 °C  
Standard length: 40 m | further lengths on request  
Colour: Black

## Water S/D 10

### Rubber suction and delivery hose

Water hose for suction and discharge purposes in industry, agriculture and construction. The tube is suited for water, sewage, liquid manure, drilling mud and low abrasive materials. The cover is abrasion and weather resistant.

Available in lengths of 3 or 5 m and with spiral free cuffs!

#### Construction

Cover: SBR, with fabric impression  
Reinforcement: Synthetic textile, steel wire spiral  
Lining: SBR, black, smooth

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
51	2	5,50	10	30	0,90	306	1,738	10056-051
76	3	6,50	10	30	0,90	458	2,845	10056-076
102	4	6,50	10	30	0,90	610	3,930	10056-102
152	6	8,50	10	30	0,90	915	7,850	10056-152
203	8	11,00	10	30	0,90	1219	13,500	10056-203
254	10	12,50	10	30	0,90	1524	18,240	10056-254



#### Technical characteristics

Temperature range: -20 °C to +60 °C  
Standard length: 50 m | from DN 110: 30 m, DN 152: 20 m  
Colour: Grey

## GrüloElastic SE

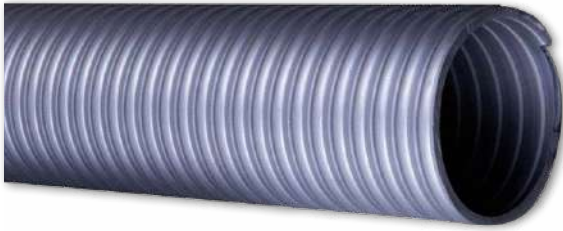
### PVC suction and discharge hose

**GrüloElastic SE** is a suction and discharge hose for irrigation, sink- and canal cleaning as well as for agricultural purposes as a slurry hose. It is weatherproof, dimensionally stable and smooth inside. Due to its special synthetic formula, **GrüloElastic SE** stays flexible even at temperatures below zero.

#### Construction

Cover: PVC/BUNA, corrugated  
Reinforcement: Hard-PVC spiral, impact and pressure resistant  
Lining: PVC/BUNA, smooth

Inner mm	Inner Inch	Outer mm	WP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
51	2	61,8	5	0,90	185	1,070	10201-051
76	3	89,0	4	0,90	312	1,720	10201-076
80	-	93,0	3	0,90	326	1,900	10201-080
100	4	116,0	3	0,90	406	2,630	10201-100
127	5	144,0	2	0,90	576	3,900	10201-127
152	6	170,0	2	0,90	680	5,000	10201-152



## Super Heliflex

### PVC-BUNA suction- and discharge hose

Suction and pressure hose for irrigation, cesspit and sewer cleaning or as a slurry hose in the agricultural industry. It is ozone and UV-resistant, dimensionally stable and smooth on the inside. Thanks to its special plastic formulation, Super Heliflex is particularly flexible.

#### Technical characteristics

Temperature range: -40 °C to +60 °C

Standard length: 50 m | DN 125: 25 m, DN 152: 20 m

Colour: Silver-grey

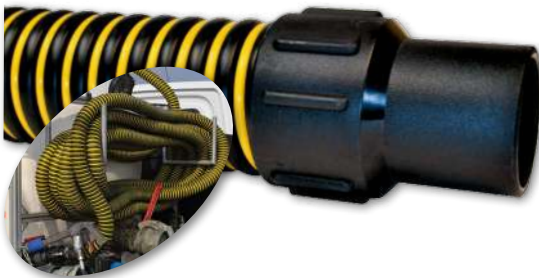
#### Construction

Cover: PVC/BUNA

Reinforcement: Hard-PVC spiral

Lining: PVC/BUNA, smooth

Inner mm	Inner Inch	Outer mm	WP bar	Vakuum bar	BR mm	Weight kg/m	Article no.
51	2	61,4	5,0	0,88	170	1,000	10072-051
76	3	88,4	4,0	0,88	240	1,700	10072-076
80	-	92,2	3,0	0,88	250	2,100	10072-080
102	4	116,4	3,0	0,88	320	2,700	10072-100
125	5	141,0	2,0	0,88	620	3,600	10072-127
152	6	170,0	2,0	0,88	500	5,000	10072-152



## ToiVrac N

### Polyethylene sanitary hose

Heavy weight and flexible PE ducting. For suction and transport of liquids and solid media, especially in sanitary and agricultural pumping systems, sewer cleaning and airport service. Kink resistant, traversable, good resistance to common oils, fats and chemicals. High vacuum resistance and excellent weather- and rot-proof.

Delivery occurs optional with tight welded cuffs on both sides.

#### Technical characteristics

Temperature range: -40 °C to +60 °C

Standard length: 10 m, 15 m, 20 m | further lengths on request

Colour: Yellow-black | special colors on request

#### Construction

Material: Polyethylene

Inner mm	Inner Inch	Material mm	Vacuum bar	BR mm	Weight kg/m	Article no.
51	2	1,40	0,95	85	0,950	12200-051
76	3	1,40	0,95	125	1,400	12200-076
102	4	1,40	0,85	165	1,800	12200-102



## GruloLine

### PVC suction hose

Flexible and abrasion resistant PVC hose for suction and discharge of liquids and liquid foodstuffs in accordance with EU regulation 10/2011 A, B and C in industry, agriculture and irrigation.

All technical data refer to a temperature of 20 °C.

#### GruloLine

#### Technical characteristics

Temperature range: -15 °C to +65 °C

Standard length: 50 m

Colour: Clearly transparent

#### Construction

Material: Soft PVC, smooth

Reinforcement: Embedded steel wire spiral

Inner mm	Outer mm	Wall mm	WP bar	Vakuum bar	BR mm	Weight kg/m	Article no.
51	61,8	5,4	7	0,88	150	1,260	10048-050
75	88,4	6,7	5	0,88	225	2,230	10048-075
90	103	6,5	4	0,88	270	2,800	10048-090
102	117	7,5	3	0,88	306	3,640	10048-102
152	172	10,0	2	0,88	456	6,300	10048-152

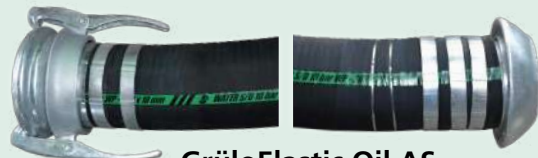


## Assembled hose lines

Assembly is done under strong compliance with regulations applying to the manufacturing of complete hose lines according to European Pressure Equipment Directive PED 2014/68/EU. Our qualified specialist staff compresses your hose lines up to DN 12"/305 mm with all common coupling systems (Bauer, Perrot, Flange, clamping ring coupling, Victaulic).



### Water S/D 10



GrüloElastic Oil AS

### GrüloTank SP



Tested by us, the grout withstood a tensile force of at least 750kg!



### Technical characteristics

Norm: ISO 1307

Temperature range: -10 °C to +60 °C

Standard length: 40 m

Colour: Black with orange stripes



## GrüloFlex TPE 20

### TPE compressed air hose 20 bar

**GrüloFlex TPE 20** shows similar properties to a rubber hose due to its special Thermorub® composite material. It is very flexible even at low temperatures and oil resistant. Due to the high-strength textile fabric **GrüloFlex TPE 20** is especially suitable as compression air or water hose. Ideal for filling stop-off bags!

#### Construction

Cover: TPE, abrasion-, ozone- and weather resistant

Reinforcement: Two high-strength synthetic textile fabric

Lining: TPE, partly oil resistant, black

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
13	1/2	4,00	20	60	180	0,335	12228-013
19	3/4	5,00	20	60	240	0,565	12228-019
25	1	5,50	20	60	300	0,790	12228-025

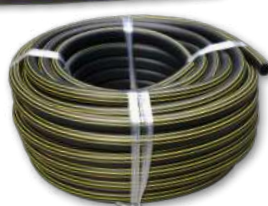


### Technical characteristics

Temperature range: -40 °C to +95 °C

Standard length: 40 m

Colour: Black with four yellow stripes



## GrüloFlex EPDM 20

### The water hose for professionals

Extruded EPDM hose for metering, filling and draining aqueous alkalis and solutions. Particularly suitable for heavy duty applications. Due to its ozone resistant cover, **GrüloFlex EPDM 20** is ideal for outdoor use.

#### Construction

Cover: EPDM, smooth

Reinforcement: Textile insert, corded

Lining: EPDM, black, smooth

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
13	1/2	3,50	20	60	100	0,300	10030-013
19	3/4	4,00	20	60	120	0,420	10030-019
25	1	4,50	20	60	150	0,600	10030-025



## Technical characteristics

Temperature range: -40 °C to +80 °C | information valid for water

Standard length: 20 m | further lengths on request

Colour: White

## Synthetic building hose Standard

### Layflat hose with couplings

Efficient layflat hose with Storz suction couplings for water pumping.  
Hose binding according to your requirements.

#### Construction

Material: Polyester yarn, circular woven in twill weave

Lining: EPDM rubber

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	Weight kg/m	Article no.
C/52	2	1,70	16	50	8,000	90002-052-020
B/75	3	1,70	16	50	11,500	90002-075-020
A/102	4	2,10	10	30	14,000	90002-102-020
F/152	6	2,10	10	30	27,000	90002-152-020



## Technical characteristics

Temperature range: -15 °C to +100 °C

Standard length: 100 m | further lengths on request

Colour: Black

## GrüloDur

### Multipurpose layflat hose

Flat hose for the delivery of liquid media - as well as hot water and compressed air. Abrasion resistant, robust and long-lasting. Resistance to oil, petrol and chemicals. Lightweight and very flexible compared to mandrel built hoses.

#### Construction

Cover: NBR/PVC compound, ribbed

Reinforcement: Polyester, circular woven

Lining: NBR/PVC compound

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	Weight kg/m	Article no.
52	2	2,00	20	60	0,460	10009-052
75	3	2,50	17	50	0,790	10009-075
90	3 1/2	2,35	17	45	0,930	10009-090
102	4	2,50	15	52	1,030	10009-102
125	5	2,70	15	45	1,400	10009-125
152	6	2,60	14	42	1,650	10009-152



## Technical characteristics

Temperature range: -10 °C to +60 °C | information valid for water

Standard length: 100 m | further lengths on request

Colour: Blue

## GrüloFlat M

### PVC layflat hose, medium duty

Medium duty layflat hose for conveying liquid media. Flat rollable. For the use in irrigation systems, construction industry, agriculture and mining.

#### Construction

Cover: PVC

Reinforcement: Polyester yarn

Lining: PVC, blue

Inner mm	Inner Inch	WP bar	BP bar	Weight kg/m	Article no.
51	2	6	18	0,300	10005-050
76	3	6	18	0,550	10005-076
102	4	6	18	0,900	10005-102
153	6	6	18	1,800	10005-150
203	8	6	18	2,800	10005-203



# High pressure hoses

## WATER JETTING HOSES

The efficient and powerful high pressure water jetting hoses out of the **WATERSHOOTER**-series grant a high abrasion resistance and durability at low weight. **WATERSHOOTER** are designed for work under very high pressure with water-based cleaning fluids and for the use on water jet systems. The programme is completed by the polyurethane high pressure hose **GrüloJet POWER**. **Reliable, for sure!**



### Technical characteristics

Temperature range: -10 °C to +70 °C

Standard length: 10 m, 20 m | further lengths on request

Colour: Black

## WATERSHOOTER plus

Water jetting hose up to 1100 bar

### Construction

Cover: SBR, oil-, abrasion- and weather resistant

Reinforcement: 4 spiral inlays of high tensile steel wire

Lining: SBR, black, oil resistant

Inner mm	Inner Inch	Ø Braid mm	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
12,7	1/2	21,6	6,00	1100	2.750	230	1,215	11517-013
19	3/4	29,0	6,50	1100	2.750	250	1,855	11517-019



### Technical characteristics

Temperature range: -10 °C to +70 °C

Standard length: 10 m, 20 m | further lengths on request

Colour: Black

## WATERSHOOTER 6S

Water jetting hose up to 1450 bar

### Construction

Cover: SBR, oil-, abrasion- and weather resistant

Reinforcement: 6 spiral inlays of high tensile steel wire

Lining: SBR, black, oil resistant

Inner mm	Inner Inch	Ø Braid mm	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
12,7	1/2	24,6	7,50	1450	3.625	250	1,815	11516-012
19	3/4	32,1	8,20	1350	3.375	280	2,640	11516-019



### Technical characteristics

Temperature range: -40 °C to +55 °C

Standard length: 40 m, 60 m, 80 m, 120 m

Colour: Orange

## GrüloJet POWER

Water jetting hose up to 1120 bar

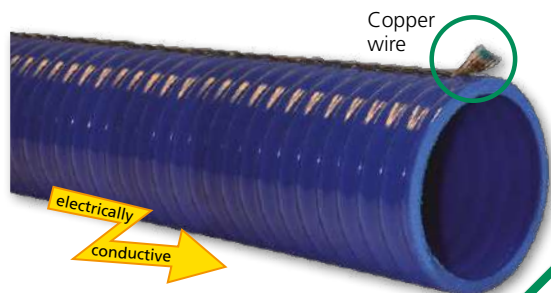
### Construction

Cover: PU, abrasion resistant

Reinforcement: Aramid fibre braids and one high tensile steel braid

Lining: Thermoplastic polymer

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
3,5	1/8	3,85	1120	2.800	25	0,180	10079-003
4,8	3/16	3,25	800	2.000	30	0,167	10079-004
6,4	1/4	4,00	1120	2.800	40	0,253	10079-006
8,0	5/16	4,00	1000	2.500	50	0,292	10079-008
9,5	3/8	4,65	1120	2.800	90	0,389	10079-009
13,0	1/2	6,10	1040	2.600	150	0,516	10079-013



## GrüloElastic Oil AS

### For loading and unloading tank trucks

**GrüloElastic Oil AS** is extremely durable and flexible, pressure and abrasion resistant, fuel, oil resistant, weather and UV resistant. It is particularly suitable as a suction and discharge hose for tank trucks. All technical data refer to a temperature of 20 °C.

#### Construction

**Cover:** PVC, corrugated, outer copper wire

**Reinforcement:** Shock and pressure resistant PVC spiral

**Lining:** PVC/NBR, smooth

#### Technical characteristics

Norm: ISO 6808

Temperature range: -10 °C to +55 °C

Standard length: 50 m

Inner mm	Inner Inch	Outer mm	WP bar	BP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
50,8	2	62,0	6	20	0,90	200	1,150	10571-051
76,2	3	90,0	5	17	0,90	250	1,910	10571-076
80,0	-	94,0	5	15	0,90	280	2,100	10571-080
102,0	4	117,4	4	13	0,90	350	3,250	10571-102



## Ölflex

### Antistatic tank truck hose

Tank truck hose for suction and pressure conveyance of fuels, oils and other petroleum derivatives with an aromatic content of up to 50%. The corrugated construction allows a high degree of flexibility. Electrically conductive ( $R \leq 10^6 \Omega/m$ ).

#### Construction

**Cover:** SBR, corrugated, fabric-patterned

**Reinforcement:** Highly tear resistant textile fibres, steel wire helix, conductive copper litz wire

**Lining:** NBR, black, smooth

#### Technical characteristics

Temperature range: -30 °C to +80 °C

Standard length: 61 m

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
32	1 1/4	6,00	10	30	0,90	116	0,865	10419-032
38	1 1/2	6,00	10	30	0,90	134	1,010	10419-038
50,9	2	6,55	10	30	0,90	186	1,522	10419-052
76,2	3	6,90	10	30	0,90	298	2,615	10419-076
101,6	4	7,20	10	30	0,90	390	3,851	10419-102



## GrüloTank SP EN 12115

### Tank truck hose with helix

Tank truck hose with spiral according EN 12115. Suitable for hydrocarbons up to max. 55% aromatic contents. Oil, weather and ozone resistant cover. Electrically conductive ( $R \leq 10^6 \Omega/m$ ).

#### Construction

**Cover:** CR

**Reinforcement:** Synthetic fibres with steel wire helix and two copper litz wires

**Lining:** NBR, black, smooth

#### Technical characteristics

Temperature range: -30 °C to +80 °C

Standard length: 40 m

Inner mm	Inner Inch	Wall mm	WP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
51	2	8,00	16	0,90	310	1,690	10191-051
76	3	8,00	16	0,90	460	2,830	10191-076
102	4	8,00	16	0,90	620	3,950	10191-102
152	6	10,00	16	0,90	910	8,480	10191-152





## GrüloChem SP EPDM

### EPDM Chemical hose

**GrüloChem SP EPDM**, for the conveyance of a wide range of chemicals, acids and solvents, is highly flexible, resistant to ageing and ozone. Cover and core are electrically conductive ( $R \leq 106 \Omega/m$ ). Suitable for ATEX Zones 0 and 1.

#### Construction

**Cover:** EPDM, black, fabric impressions

**Reinforcement:** Textile cord with two steel spirals

**Lining:** EPDM, black

#### Technical characteristics

**Norm:** EN 12115:2011  $\Omega/T$

**Temperature range:** -20 °C to +100 °C

**Standard length:** 40 m



Inner mm	Inner Inch	Wall mm	WP bar	Vacuum bar	BP bar	BR mm	Weight kg/m	Article no.
50	2	8,00	16	0,90	64	250	1,650	10164-051
75	3	7,50	16	0,90	64	375	2,750	10164-076
100	4	8,00	16	0,90	64	500	3,850	10164-102
152	6	10,00	16	0,90	64	680	8,940	10164-152



## GrüloChem SP UPE

### UPE Chemical hose

**GrüloChem SP UPE** is a highly flexible chemical hose with a conductive UPE liner. Suitable for the transport of acids, alkalis, salts, organic compounds incl. aromatic substances, chlorinated hydrocarbons and oxidising acids. Cover and lining are electrically conductive ( $R \leq 10^6 \Omega/m$ ).

#### Construction

**Cover:** EPDM, fabric impressions, electrically conductive

**Reinforcement:** Galvanized high tensile steel spiral

**Lining:** UPE, black, smooth

#### Technical characteristics

**Norm:** EN 12115:2011

**Temperature range:** -20 °C to +65 °C depending on medium

**Standard length:** 40 m, 60 m



Inner mm	Inner Inch	Wall mm	WP bar	Vacuum bar	BP bar	BR mm	Weight kg/m	Article no.
50	2	7,00	16	0,90	64	350	2,150	10163-050
75	-	7,50	16	0,90	64	525	3,350	10163-075
100	-	8,00	16	0,90	64	700	4,450	10163-100
152	6	9,00	16	0,80	64	1064	8,940	10163-152

## Hose assembly and pressure testing according to PED 2014/68/EU



As a certified workshop, we assemble your hose lines using the latest technology. All hose assemblies are tested and you will receive a test certificate afterwards.

#### Our services at a glance:

- Assembly of your hose lines
- Hose line testing according to PED 2014/68/EU
- Individual labeling
- Documentation by EN 10204
- Mobile service on site for recurring testing of the hose line



# Multi-layer foil hoses

## COMPOSITE HOSES

**Grüning & Loske** offers you a comprehensive range of multi-layer foil hoses or composite hoses for the flexible transport of oil and chemical products in accordance with EN 13765:2010. Apart from an assortment of standards, individual solutions on demand are available. Production and assembly are made according to ISO 9001 and PED. Convince yourself once more of our know-how and 5-star service.



### CompoOIL 10 GGE

#### Oil resistant composite hose

**CompoOil 10 GGE** is suitable for use and delivery and / or suction of fuels, oils and lubricants in tank trucks, wagons or deposits.

**Also available with 14 bar working pressure.**



#### Technical characteristics

Norm: EN 13765:2010

Temperature range: -30 °C to +100 °C

Standard length: max. 30 m

Safety factor: 5:1

#### Construction

Cover: PVC, PP on request

Inner wire spiral: Galvanized steel

Outer wire spiral: Galvanized steel

Lining: Polypropylene

Inner mm	Inner Inch	WP bar	BP bar	BR mm	Weight kg/m	Article no.
51	2	10	50	190	2,060	10324-051
76	3	10	50	290	3,500	10324-076
102	4	10	50	320	5,440	10324-102

## We assemble your multi-layer foil hoses with all common coupling systems!



Seals



Ferrule



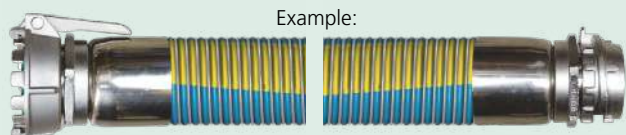
Serrated hose shank with male thread



Serrated hose shank with female thread



Flange



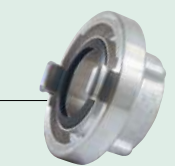
Example:



Cam & Groove



Guilemin



Storz



Tank Truck



Flange



## Chemical-resistant multi-layer foil hoses

These chemical-resistant composite hoses are suitable for loading and unloading tank trucks in industry plants and marine applications. Suitable for chemical products such as acids, fatty acids, alkalis and solvents, even in corrosive environments. Also available in other versions and with a working pressure of 14 bar.



### CompoCHEM 10 EGE

#### Technical characteristics

Norm: EN 13765:2010  
 Temperature range: -30 °C to +100 °C  
 Standard length: max. 30 m  
 Safety factor: 5:1

#### Construction

Cover: PVC coated polyester fabric  
 Inner wire spiral: PP coated steel  
 Outer wire spiral: Galvanized Steel  
 Lining: Polypropylene



Inner mm	Inner Inch	WP bar	BP bar	BR mm	Weight kg/m	Article no.
51	2	10	50	190	2,060	10326-051
76	3	10	50	290	3,500	10326-076
102	4	10	50	320	5,440	10326-102



### CompoCHEM 10 SSE

#### Technical characteristics

Norm: EN 13765:2010  
 Temperature range: -30 °C to +100 °C  
 Standard length: max. 30 m  
 Safety factor: 5:1

#### Construction

Cover: PVC coated polyester fabric  
 Inner wire spiral: Stainless steel  
 Outer wire spiral: Stainless steel  
 Lining: Polypropylene



Inner mm	Inner Inch	WP bar	BP bar	BR mm	Weight kg/m	Article no.
51	2	10	50	190	2,160	10325-051
76	3	10	50	290	3,670	10325-076
102	4	10	50	320	5,710	10325-102



### CompoCHEM 10 ESE

#### Technical characteristics

Norm: EN 13765:2010  
 Temperature range: -30 °C to +100 °C  
 Standard length: max. 30 m  
 Safety factor: 5:1

#### Construction

Cover: PVC coated polyester fabric  
 Inner wire spiral: PP coated steel  
 Outer wire spiral: Stainless steel  
 Lining: Polypropylene



Inner mm	Inner Inch	WP bar	BP bar	BR mm	Weight kg/m	Article no.
51	2	10	50	190	2,010	10327-051
76	3	10	50	290	3,400	10327-076
102	4	10	50	320	5,420	10327-102

# HINGE BOLT CLAMPS

## GrüloClamp

**Material:** W1: completely steel, zinc-coated  
 W2: Bolt 8.8, band stainless steel  
 X8Cr17 zinc-coated (DIN 1.4016/AISI 430)  
 other parts steel, zinc-coated

W4: completely stainless steel  
 X5CrNi1810 (DIN 1.4301/AISI 304)

Screw material: Hexagon bolt

### 1-part



Band-width mm	Clamping range mm	W1	W2	W4
		Article no.	Article no.	Article no.
25	68 - 73	30050-W1-25-073	30050-W2-25-073	30050-W4-25-073
	74 - 79	30050-W1-25-079	30050-W2-25-079	30050-W4-25-079
	80 - 85	30050-W1-25-085	30050-W2-25-085	30050-W4-25-085
	86 - 91	30050-W1-25-091	30050-W2-25-091	30050-W4-25-091
	92 - 97	30050-W1-25-097	30050-W2-25-097	30050-W4-25-097
	98 - 103	30050-W1-25-103	30050-W2-25-103	30050-W4-25-103
	104 - 112	30050-W1-25-112	30050-W2-25-112	30050-W4-25-112
	113 - 121	30050-W1-25-121	30050-W2-25-121	30050-W4-25-121
	122 - 130	30050-W1-25-130	30050-W2-25-130	30050-W4-25-130
26	131 - 139	30050-W1-26-139	30050-W2-25-139	30050-W4-26-139
	140 - 148	30050-W1-26-148	30050-W2-26-148	-
	149 - 161	30050-W1-26-161	30050-W2-26-161	30050-W4-26-148
	162 - 174	30050-W1-26-174	30050-W2-26-174	30050-W4-26-174
	175 - 187	30050-W1-26-187	30050-W2-26-187	-

### 2-part



Bandwidth mm	Clamping range mm	W1
		Article no.
24	60 - 70	30050-W1-24-070
	70 - 80	30050-W1-24-080
	80 - 90	30050-W1-24-090
	90 - 100	30050-W1-24-100
	100 - 110	30050-W1-24-110
	110 - 120	30050-W1-24-120
	120 - 130	30050-W1-24-130
	130 - 140	30050-W1-24-140
	150 - 160	30050-W1-24-160
	160 - 170	30050-W1-24-170
	170 - 180	30050-W1-24-180
	180 - 190	30050-W1-24-190
	220 - 230	30050-W1-24-230
	230 - 240	30050-W1-24-240

The hose **lifter**®

## Handles for hoses

and pipes from 2" bis 6"

**The HoseLifter** makes working with hoses and pipes safer and more efficient.

The simple mechanism allows the hose to be clamped in one fluid movement and without effort. **The HoseLifter** is made of highly durable and wear-resistant nylon and has good thermal insulating properties.



#### Advantages:

- Increases safety and efficiency
- Reduces contact with hazardous substances
- Easy to maintain and use
- Solid, safe handle
- Clips easily to hoses and pipes without damage
- Can be used in all climates and locations
- Works in mud, cold, rain or wet snow

Application  
video at  
[www.gruelo.de!](http://www.gruelo.de!)



# STORZ COUPLINGS

## Aluminium

### Technical characteristics

Material: Aluminium | also available in brass

Seal: Nitrile rubber, black / white

Thread: DIN ISO 228

WP: 16 bar / 10 bar

## Stainless steel

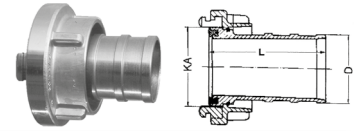
### Technical characteristics

Material: Stainless steel

Seal: Viton

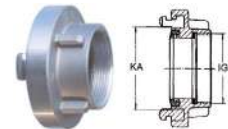
Thread: DIN ISO 228

WP: 16 bar



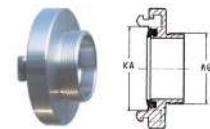
## Suction hose coupling

Storz	Lug mm	D mm	Aluminium				Stainless steel		
			L mm	Remark	Weight/piece kg	Article no.	L mm	Weight/piece kg	Article no.
25-D	31	25	53	DIN 14301	0,090	21015-025-025-01	53	0,260	21015-025-025-13
52-C	66	52	90	DIN 14321	0,370	21015-052-052-01	90	0,950	21015-052-052-13
75-B	89	75	125	DIN 14322	0,710	21015-075-075-01	105	1,790	21015-075-075-13
100	115	100	150	-	1,150	21015-100-100-01	100	3,760	21015-100-100-13
110-A	133	110	170	DIN 14323	1,660	21015-110-110-01	170	4,250	21015-110-110-13
125	148	125	200	-	2,270	21015-125-125-01	180	5,550	21015-125-125-13
150	160	150	180	-	2,900	21015-150-150-01	180	9,460	21015-150-150-13
205	220	205	375	max. PN 10	7,200	21015-205-205-01	-	-	-
250	278	258	400	max. PN 10	11,700	21015-254-254-01	-	-	-



## Adapter with female thread

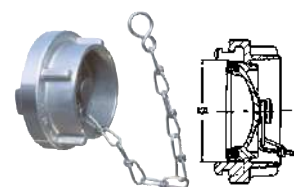
Storz	Lug mm	Female thread Inch	Aluminium			Stainless steel	
			Remark	Weight/piece kg	Article no.	Weight/piece kg	Article no.
25-D	31	1	DIN 14306	0,080	21020-025-10-01	0,210	21020-025-10-13
52-C	66	2	DIN 14307	0,280	21020-052-20-01	0,770	21020-052-20-13
75-B	89	2 1/2	DIN 14308	0,420	21020-075-24-01	1,510	21020-075-24-13
		3	-	0,420	21020-075-30-01	1,260	21020-075-30-13
100	115	4	-	0,850	21020-100-40-01	2,220	21020-100-40-13
110-A	133	4 1/2	DIN 14309	1,120	21020-110-44-01	3,200	21020-110-44-13
125	148	5	-	1,380	21020-125-50-01	3,550	21020-125-50-13
150	160	6	-	1,820	21020-150-60-01	5,300	21020-150-60-13
205	220	8	max. PN 10	3,480	21020-205-80-01	-	-



## Adapter with male thread

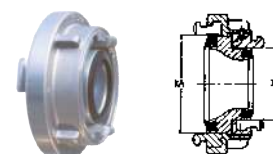
Storz	Lug mm	Male thread Inch	Aluminium			Stainless steel	
			Remark	Weight/piece kg	Article no.	Weight/piece kg	Article no.
52-C	66	1 1/2	-	0,250	21021-052-14-01	0,720	21021-052-14-13
		2	-	0,210	21021-052-20-01	0,710	21021-052-20-13
75-B	89	2 1/2	-	0,360	21021-075-24-01	1,110	21021-075-24-13
		3	-	0,390	21021-075-30-01	1,320	21021-075-30-13
100	115	4	-	0,710	21021-100-40-01	2,760	21021-100-40-13
110-A	133	4	-	1,010	21021-110-40-01	2,920	21021-110-40-13
125	148	5	with nipple	1,810	21021-125-50-01	-	-
150	160	6	with nipple	2,340	21021-150-60-01	-	-





## Blank cap with chain

Storz	Lug mm	Aluminium			Stainless steel	
		Remark	Weight/piece kg	Article no.	Weight/piece kg	Article no.
52-C	66	DIN 14311	0,380	21030-052-01DIN	0,880	21030-052-13
75-B	89	DIN 14312	0,560	21030-075-01DIN	1,340	21030-075-13
110-A	133	DIN 14313	1,340	21030-110-01DIN	3,650	21030-110-13
125	148	-	1,700	21030-125-01	4,610	21030-125-13
150	160	-	2,140	21030-150-01	7,130	21030-150-13



## Reducer Storz to Storz

Storz to Storz	Lug mm	Aluminium			Stainless steel	
		Remark	Weight/piece kg	Article no.	Weight/piece kg	Article no.
75-B / 52-C	89 / 66	DIN 14342	0,600	21040-075-052-01DIN	2,170	21040-075-052-03
110-A / 75-B	133 / 89	DIN 14343	1,570	21040-110-075-01DIN	4,460	21040-110-075-03
125 / 100	148 / 115	-	2,630	21040-125-100-01	-	-
150 / 125	160 / 148	-	3,960	21040-150-125-01	-	-



## Suction hose coupling with security collar for safety clamp assembly

Storz	Lug mm	D mm	L mm	Aluminium			Stainless steel	
				Remark	Weight/piece kg	Article no.	Weight/piece kg	Article no.
25-D	31	25	75	NW 25	0,110	21018-025-025-01	0,310	21018-025-025-13
52-C	66	50	95	NW 50	0,410	21018-052-050-01	1,030	21018-052-050-13
75-B	89	75	105	NW 80	0,700	21018-075-080-01	2,270	21018-075-075-13
100	115	100	195	NW 100	1,390	21018-100-100-01	-	-
110-A	133	100	145	NW 100	1,670	21018-110-100-01	4,490	21018-110-100-13
125	148	125	190	NW 125	2,340	21018-125-125-01	-	-
150	160	150	250	NW 150	3,610	21018-150-150-01	-	-



## Suction hose couplings with serrated profile for spiral hoses

Material: Aluminium

Storz	Lug mm	D mm	L mm	Weight/piece kg	Article no.
52-C	66	51	90	0,370	21017-052-051-01
75-B	89	76	125	0,800	21017-075-076-01
110-A	133	102	170	1,800	21017-110-102-01
150	160	152	180	3,700	21017-150-152-01

## Coupling spanners

Storz	Remark	Fig.	Weight/piece kg	Article no.
D	Steel	①	0,160	21060-025-04
65 / 38	Malleable cast iron	②	0,300	21060-065-038-05
B C	Malleable cast iron	③	0,430	21060-075-052-05
B C	Steel (plastic handle)	④	0,300	21060-075-052-04
A B C	Malleable cast iron	⑤	0,780	21060-110-052-05
A B C	Steel (plastic handle)	⑥	0,730	21060-110-052-04
150 / 125	Steel (plastic handle)	⑦	0,720	21060-150-125-04



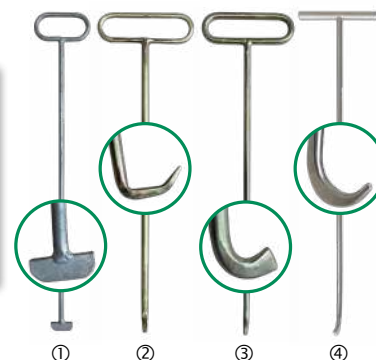
## Actuating Keys

Remark	Material	Fig	Weight/piece kg	Article no.
For pillar hydrants DIN 3223 A	Malleable cast iron	①	1,350	21061-05
For pillar hydrants DIN 3223 B	Modular iron	②	2,100	21061-06
For underground hydrants DIN 3223 C	Steel	③	5,510	21063-04
For underground hydrants long edition W	Steel	③	9,300	21063-04W
Hydrant bar with chain	Malleable cast iron	④	0,500	21064



## Manhole cover hooks

Remark	Material	Fig	Length overall cm	Article no.
T-Haken	Galvanised steel	①	80	80003-080-T
U-Haken	Galvanised steel	②	80	80003-080-U
U-Haken (kurz)	Galvanised steel	③	80	80003-080-U-K
U-Haken	Stainless steel	④	80	80003-080-U-VA



## Standpipes for underground hydrants

Size	Outlet	Description	Article no.
DN 50	2x Storz B	Two outlets with shut-offs head swive	21090-075-050-01
	2x Storz C		21090-052-050-01
DN 80	2x Storz B (DIN 14375)		21090-075-080-01
	2x Storz C		21090-052-080-01
DN 100	2x Storz B		21090-075-100-01
DN 50	1x Storz C	One outlet with shut-off head swive	21091-052-050-01
DN 80	1x Storz C		21091-052-080-01
DN 50	1x Storz B	One outlet without shut-off head swive	21092-075-050-01
	1x Storz C		21092-052-050-01
DN 80	1x Storz B		21092-075-080-01
	1x Storz C		21092-052-080-01



# CARDAN COUPLINGS SYSTEM PERROT

## Technical characteristics

Material: Steel, galvanised | also available in stainless steel

Seal: Material according to requirements

## with beaded hose shank

Also available with pipe socket turned or serrated hose shank.



### Male part

DN mm	Ø-hose shank mm	Weight/piece kg	Article no.
50	50	0,420	23300-050-050-04
89	75	1,040	23300-089-075-04
108	100	1,620	23300-108-100-04
133	125	2,040	23300-133-125-04
159	150	2,700	23300-159-150-04
216	200	8,550	23300-216-200-04



### Female part

DN mm	Ø-hose shank mm	Weight/piece kg	Article no.
50	50	0,980	23301-050-050-04
89	75	1,600	23301-089-075-04
108	100	2,820	23301-108-100-04
133	125	4,020	23301-133-125-04
159	150	8,080	23301-159-150-04
216	200	20,750	23301-216-200-04

## Bend

Also available as 30° and 60° bends.



### Bend 45°

DN mm	Weight/piece kg	Article no.
50	1,340	23335-45-050-04
70	2,350	23335-45-070-04
89	3,900	23335-45-089-04
108	5,800	23335-45-108-04
133	8,480	23335-45-133-04
159	10,800	23335-45-159-04
216	33,500	23335-45-216-04



### Bend 90°

DN mm	Weight/piece kg	Article no.
50	1,480	23335-90-050-04
70	2,280	23335-90-070-04
89	3,870	23335-90-089-04
108	5,600	23335-90-108-04
133	7,860	23335-90-133-04
159	11,700	23335-90-159-04
216	27,080	23335-90-216-04

## with round flange DIN 2576

Also available with drilled square flange



### Male part

DN mm	Flange DN mm	Weight/piece kg	Article no.
50	50	3,080	23340-050-050-04
70	65	3,780	23340-070-065-04
89	80	4,350	23340-089-080-04
108	100	5,290	23340-108-100-04
133	125	7,580	23340-133-125-04
159	150	10,360	23340-159-150-04
216	200	15,700	23340-216-200-04



### Female part

DN mm	Flange DN mm	Weight/piece kg	Article no.
50	50	3,620	23341-050-050-04
70	65	4,640	23341-070-065-04
89	80	6,340	23341-089-080-04
108	100	8,500	23341-108-100-04
133	125	12,330	23341-133-125-04
159	150	15,700	23341-159-152-04
216	200	26,100	23341-216-200-04



## with male threaded hose shank



### Male part

DN mm	Thread Inch	Weight/piece kg	Article no.
50	1 1/2	0,390	23310-050-14-04
	2	0,490	23310-050-20-04
70	2	0,580	23310-070-20-04
	2 1/2	0,650	23310-070-24-04
89	2 1/2	1,150	23310-089-24-04
	3	1,210	23310-089-30-04
108	3	1,640	23310-108-30-04
	4	2,100	23310-108-40-04
133	4	2,190	23310-133-40-04
	5	2,220	23310-133-50-04
159	4	2,650	23310-159-40-04
	6	2,840	23310-159-60-04



### Female part

DN mm	Thread Inch	Weight/piece kg	Article no.
50	1 1/2	1,150	23311-050-14-04
	2	1,200	23311-050-20-04
70	2	1,820	23311-070-20-04
	2 1/2	2,550	23311-070-24-04
89	3	2,600	23311-089-30-04
108	3	4,600	23311-108-30-04
	4	5,000	23311-108-40-04
133	4	7,500	23311-133-40-04
159	4	8,700	23311-159-40-04
	6	9,000	23311-159-60-04

## with female threaded hose shank



### Male part

DN mm	Thread Inch	Weight/piece kg	Article no.
50	2	0,490	23355-050-20-04
89	3	1,210	23355-089-30-04
108	4	2,100	23355-108-40-04
159	6	2,840	23355-159-60-04



### Female part

DN mm	Thread Inch	Weight/piece kg	Article no.
50	2	0,490	23357-050-20-04
89	3	1,210	23357-089-30-04
108	4	2,100	23357-108-40-04
159	6	2,840	23357-159-60-04

## Expansion



### Male to female part

Size male mm	Size female mm	Weight/piece kg	Article no.
50	70	1,960	23337-070-050-04
	89	3,200	23337-089-050-04
70	89	3,460	23337-089-070-04
	108	4,860	23337-108-070-04
89	108	4,960	23337-108-089-04
	133	7,220	23337-133-089-04
	159	9,600	23337-159-089-04
108	133	7,500	23337-133-108-04
	159	9,380	23337-159-108-04
133	159	9,300	23337-159-133-04
159	216	20,170	23337-159-216-04

## Reducer



### Male to female part

Size male mm	Size female mm	Weight/piece kg	Article no.
70	50	1,440	23336-050-070-04
89		2,180	23336-050-089-04
89	70	2,660	23336-070-089-04
108		3,220	23336-070-108-04
108	89	3,920	23336-089-108-04
133		4,600	23336-089-133-04
133	108	5,880	23336-108-133-04
159		6,980	23336-108-159-04
159	133	8,200	23336-133-159-04
216	159	15,200	23336-159-216-04

# TANK TRUCK COUPLINGS

## Brass

Max. working pressure: 25 bar  
 Temperature range: -30 °C to +120 °C  
 Norm: EN 14420-6 / DIN 28450  
 Seal coupling: NBR  
 Seal thread: PU

## Stainless steel

Max. working pressure: 25 bar  
 Temperature range: -20 °C to +80 °C  
 Seal coupling: Hypalon  
 Seal thread: PTFE

## Male part with female thread

DN Inch	DN mm	Thread Inch	Brass		Stainless steel	
			Weight piece/kg	Article no.	Weight piece/kg	Article no.
2	50	G 2	0,300	24454-050-20-02	0,320	24454-050-20-03
3	80	G 3	0,780	24454-080-30-02	0,740	24454-080-30-03
4	100	G 4	1,220	24454-100-40-02	1,250	24454-100-40-03



## Crown part with female thread

DN Inch	DN mm	Thread Inch	Brass		Stainless steel	
			Weight piece/kg	Article no.	Weight piece/kg	Article no.
2	50	G 2	0,230	24456-20-02	0,200	24456-20-03
3	80	G 3	0,550	-	0,490	24456-30-03



## Crown part with female thread, locking ring and lever

DN Inch	DN mm	Thread Inch	Brass		Stainless steel	
			Weight piece/kg	Article no.	Weight piece/kg	Article no.
2	50	G 2	0,740	24455-050-20-02	0,630	24455-050-20-03
3	80	G 3	1,460	24455-080-30-02	1,300	24455-080-30-03
4	100	G 4	2,710	24455-100-40-02	2,160	24455-100-40-03



## Locking ring with lever for crown part

DN Inch	DN mm	Thread Inch	Brass		Stainless steel	
			Weight piece/kg	Article no.	Weight piece/kg	Article no.
2	50	G 2	0,510	24457-20-02	0,430	24457-20-03
3	80	G 3	0,930	-	0,910	24457-30-03



## Dust cap for male part

also available in aluminium

DN Inch	DN mm	Brass		Stainless steel	
		Weight piece/kg	Article no.	Weight piece/kg	Article no.
2	50	0,370	24458-050-02	0,350	24458-050-03
3	80	0,880	24458-080-02	0,810	24458-080-03
4	100	1,140	24458-100-02	1,210	24458-100-03



## Dust plug for female part

DN Inch	DN mm	Brass		Stainless steel	
		Weight piece/kg	Article no.	Weight piece/kg	Article no.
2	50	0,360	24459-050-02	0,300	24459-050-03
3	80	0,890	24459-080-02	0,710	24459-080-03
4	100	1,100	24459-100-02	0,990	24459-100-03



## Screw hose couplings, male threaded

### Brass

Norm: EN 14420-5 / DIN 2817

Thread: EN ISO 228-1, BSP

Material: Brass

Working pressure: 16 bar

### Stainless steel

Norm: EN 14420-5 / DIN 2817

Thread: EN ISO 228-1, BSP

Material: Stainless steel

Working pressure: 16 bar

## Serrated hose shank for clamp binding

Thread Inch	DN mm	For hose mm	Hex. mm	Brass		Stainless steel	
				Weight piece/kg	Article no.	Weight piece/kg	Article no.
2	50	50	65	0,500	24424-20-050-02	0,540	24424-20-050-03
3	80	75	100	1,000	24424-30-075-02	0,960	24424-30-075-03
4	100	100	125	1,890	24424-40-100-02	1,840	24424-40-100-03



## Smooth hose shank with safety collar for safety clamp assembly

Thread Inch	DN mm	For hose mm	Hex. mm	Brass		Stainless steel	
				Weight piece/kg	Article no.	Weight piece/kg	Article no.
G 2	50	50	65	0,460	24421-050-20-02	0,430	24421-050-20-13
G 3	80	75	100	0,910	24421-075-30-02	0,910	24421-075-30-13
G 4	100	100	125	1,930	24421-100-40-02	1,176	24421-100-40-13



## Safety clamps

Material: Aluminium

Material: Stainless steel

For hose mm	Clamping range mm	Aluminium	Stainless steel
		Article no.	Article no.
50 x 8	63 - 67	24430-050-008-01	24432-050-008-03
75 x 8	89 - 93	24430-075-008-01	24432-075-008-03
100 x 8	114 - 119	24430-100-008-01	24432-100-008-03





# CAM & GROOVE COUPLINGS

## Female Coupler with hose shank

### Type C

#### Standard seal:

NBR I also in FEP, Hypalon and PTFE

For PP: EPDM



DN	Size Inch	For hose mm	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	38	18	22004-040-01	18	22004-040-13*	18	22004-040-02	7	22004-040-07
50	2	50	18	22004-050-01	18	22004-050-13*	18	22004-050-02	7	22004-050-07
65	2 1/2	63	11	22004-065-01	11	22004-065-13*	11	22004-065-02	-	-
80	3	75	9	22004-080-01	9	22004-080-13*	9	22004-080-02	4	22004-080-07
100	4	100	7	22004-100-01	7	22004-100-13*	7	22004-100-02	4	22004-100-07
125	5	125	5	22004-125-01	5	22004-125-13*	5	22004-125-02	-	-
150	6	150	5	22004-150-01	5	22004-150-13*	5	22004-150-02	-	-

\*with safety collar

## Male Coupler with hose shank

### Type E



DN	Size Inch	For hose mm	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	38	18	22104-040-01*	18	22104-040-13*	18	22104-040-02*	7	22104-040-07*
50	2	50	18	22104-050-01*	18	22104-050-13*	18	22104-050-02*	7	22104-050-07*
65	2 1/2	63	11	22104-065-01*	11	22104-065-13*	11	22104-065-02*	-	-
80	3	75	9	22104-080-01*	9	22104-080-13*	9	22104-080-02*	4	22104-080-07*
100	4	100	7	22104-100-01*	7	22104-100-13*	7	22104-100-02*	4	22104-100-07*
125	5	125	5	22104-125-01*	5	22104-125-13*	5	22104-125-02*	-	-
150	6	150	5	22104-150-01*	5	22104-150-13*	5	22104-150-02*	-	-

\*with safety collar

## Coupler female threaded

### Type D

#### Standard seal:

NBR I also in FEP, Hypalon and PTFE

For PP: EPDM



DN	Size Inch	Thread EN ISO 228-1	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	G 1 1/2	18	22000-040-01	18	22000-040-13	18	22000-040-02	7	22000-040-07
50	2	G 2	18	22000-050-01	18	22000-050-13	18	22000-050-02	7	22000-050-07
65	2 1/2	G 2 1/2	11	22000-065-01	11	22000-065-13	11	22000-065-02	-	-
80	3	G 3	9	22000-080-01	9	22000-080-13	9	22000-080-02	4	22000-080-07
100	4	G 4	7	22000-100-01	7	22000-100-13	7	22000-100-02	4	22000-100-07
125	5	G 5	5	22000-125-01	5	22000-125-13	5	22000-125-02	-	-
150	6	G 6	5	22000-150-01	5	22000-150-13	5	22000-150-02	-	-

## Adaptor female threaded

### Type A



DN	Size Inch	Thread EN ISO 228-1	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	G 1 1/2	18	22100-040-01	18	22100-040-13	18	22100-040-02	7	22100-040-07
50	2	G 2	18	22100-050-01	18	22100-050-13	18	22100-050-02	7	22100-050-07
65	2 1/2	G 2 1/2	11	22100-065-01	11	22100-065-13	11	22100-065-02	-	-
80	3	G 3	9	22100-080-01	9	22100-080-13	9	22100-080-02	4	22100-080-07
100	4	G 4	7	22100-100-01	7	22100-100-13	7	22100-100-02	4	22100-100-07
125	5	G 5	5	22100-125-01	5	22100-125-13	5	22100-125-02	-	-
150	6	G 6	5	22100-150-01	5	22100-150-13	5	22100-150-02	-	-

## Coupler male threaded

### Type B

#### Standard seal:

NBR | also in FEP, Hypalon and PTFE  
For PP: EPDM



DN	Size Inch	Thread EN 10226-1	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	R 1 1/2	18	22001-040-01	18	22001-040-13	18	22001-040-02	7	22001-040-07
50	2	R 2	18	22001-050-01	18	22001-050-13	18	22001-050-02	7	22001-050-07
65	2 1/2	R 2 1/2	11	22001-065-01	11	22001-065-13	11	22001-065-02	-	-
80	3	R 3	9	22001-080-01	9	22001-080-13	9	22001-080-02	4	22001-080-07
100	4	R 4	7	22001-100-01	7	22001-100-13	7	22001-100-02	4	22001-100-07
125	5	R 5	5	22001-125-01	5	22001-125-13	5	22001-125-02	-	-
150	6	R 6	5	22001-150-01	5	22001-150-13	5	22001-150-02	-	-

## Adaptor male threaded

### Type F



DN	Size Inch	Thread EN 10226-1	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	R 1 1/2	18	22101-040-01	18	22101-040-13	18	22101-040-02	7	22101-040-07
50	2	R 2	18	22101-050-01	18	22101-050-13	18	22101-050-02	7	22101-050-07
65	2 1/2	R 2 1/2	11	22101-065-01	11	22101-065-13	11	22101-065-02	-	-
80	3	R 3	9	22101-080-01	9	22101-080-13	9	22101-080-02	4	22101-080-07
100	4	R 4	7	22101-100-01	7	22101-100-13	7	22101-100-02	4	22101-100-07
125	5	R 5	5	22101-125-01	5	22101-125-13	5	22101-125-02	-	-
150	6	R 6	5	22101-150-01	5	22101-150-13	5	22101-150-02	-	-

# WORKSHOP HOSE CRIMPERS

## Mobile and lubrication-free

Do workshops and mobile service teams have to do without the power and reliability of large, stationary presses? Not at all, says UNIFLEX, which proves with its compact, universal workshop presses that the legendary slide bearing technology can also demonstrate its advantages in lightweight, cost-effective equipment that fits into almost any vehicle and workshop.

## Hose Crimper SH 2 M Ecoline

**Inclusive:** Two-stage hand pump  
Pressing dies PB263 (Ø 14, 17, 20, 24, 28, 32, 40) in plastic case

Crimp force: 900/90 kN/t  
SAE R 12 / 4 SP\* 1 piece fitting: 1 1/4"  
SAE R 12 / 4 SP\* 2 piece fitting: 1"  
Industrial: 1 1/4"  
90° Elbows: 1"  
Max. Crimping range: 63 mm  
Opening: +22 mm

Opening without dies: 77 mm  
Type of dies: 263  
Drive: Manuell  
Oil: 0,75 l  
LxWxH: 170x220x330 mm  
Weight: 33 kg  
Article no.: 13000-S2MECO



## Hose Crimper SH 2 M H2

**Inclusive:** Two-stage hand pump  
Pressing dies PB263 (Ø 14, 17, 20, 24, 28, 32, 40) in plastic case

Crimp force: 900/90 kN/t  
SAE R 12 / 4 SP\* 1 piece fitting: 1 1/4"  
SAE R 15 / 4 SH\* 2 piece fitting: 1"  
Industrie: 1 1/4"  
90° Elbows: 1"  
Max. Crimping range: 63 mm  
Opening: +22 mm

Opening without dies: 77 mm  
Type of dies: 263  
Drive: Manuell  
Oil: 0,75 l  
LxWxH: 500x420x440 mm  
Weight: 32 kg  
Article no.: 13000-S2M



## Hose Crimper SH 2 A

**Inclusive:** Pressing dies PB263 (Ø 14, 17, 20, 24, 28, 32, 40) in plastic case

Crimp force: 900/90 kN/t  
SAE R 12 / 4 SP\* 1 piece fitting: 1 1/4"  
SAE R 15 / 4 SH\* 2 piece fitting: 1"  
Industrie: 1 1/4"  
90° Elbows: 1"  
Max. Crimping range: 63 mm  
Opening: +22 mm

Opening without dies: 77 mm  
Type of dies: 263  
Drive: 1 VAC  
Oil: 1,5 l  
LxWxH: 450x450x350 mm  
Weight: 41 kg  
Article no.: 13000-S2A

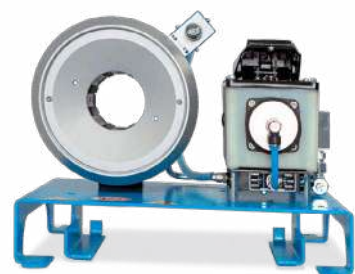


## Hose Crimper SH 2 P

**Inclusive:** Pressing dies PB263 (Ø 14, 17, 20, 24, 28, 32, 40) in plastic case

Crimp force: 900/90 kN/t  
SAE R 12 / 4 SP\* 1 piece fitting: 1 1/4"  
SAE R 15 / 4 SH\* 2 piece fitting: 1"  
Industrie: 1 1/4"  
90° Elbows: 1"  
Max. Crimping range: 63 mm  
Opening: +22 mm

Opening without dies: 77 mm  
Type of dies: 263  
Drive: Pneumatik (7bar/98 psi)  
Oil: 2 l  
LxWxH: 380x400x310 mm  
Weight: 33 kg  
Article no.: 13000-S2P





# GrüloSmellKiller

**Grüning & Loske GmbH** addresses the problem of unpleasant smells. Wherever disturbing smells occur there are ways to fight them. Following an onsite survey we develop a specific operational planning, support the application permanently and train yourself in the use of the product. The anti-smell plate **GrüloSmellPad** is particularly of use for sewer systems, treatment plants and waste disposal.

**Minimum effort – maximum benefit!**



# SmellMasterTruck

## ODOUR NEUTRALISATION BY DRY STEAM-PROCEDURE



**SmellMasterTruck** is a simple way to neutralise odours. Designed to make work easier for disposers who deal with malodorous substances such as food waste tanks, grease separators or sewer cleaners.

A hydrophobic liquid is atomized into dry microparticles by compressed air through nozzles. This dry steam binds the gas molecules responsible for bad odours. The heavily polluted exhaust air is neutralised directly in the exhaust pipe. **SmellMasterTruck** can be used in continuous operation, but can also be switched off. In the case of new vehicles, installation is carried out directly by the vehicle body manufacturer; retrofitting is also possible.

### Advantages

- No emission of bad odorous substances
- Low consumption of absorption liquid
- Easy installation in authorized workshops
- Flexible disposal without stench
- Can be used both in continuous operation and at regular intervals
- Installation on all vehicles possible
- Can be used in odour-sensitive areas
- Money-back guarantee

### Procedure

- Operation with truck compressed air
- Odour neutralization during extraction
- No emission of bad odorous substances



# SmellPad

## ODOUR NEUTRALISATION IN THE SEWAGE SYSTEM

The **SmellPad** anti-smell plate is mainly used in sewers, sewage treatment plants and waste disposal areas. The polymer plates are attached to the top of the manhole treating there the foul-smelling air streams circulating in the duct and sump. The so treated air does not represent any more odour nuisance, neither at the outlet from the manhole covers, nor at the covers of the pump sump.

- Polymer plate with specific formula of odour neutralizing agents
- Proven against sulphur compounds, ammonia and nitrogen compounds
- Release of active agents for 3 to 4 months - 24-hour gas-to-gas treatment
- Installation in manholes above the waste water

### Advantage

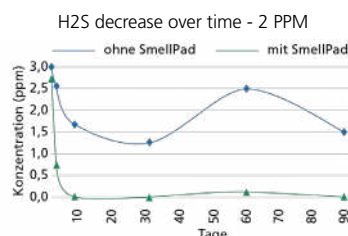
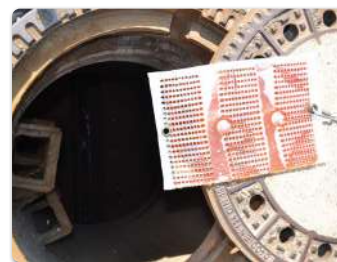
- Easy installation
- Powerful and economical treatment
- Maintenance-free and without power supply
- Usable in areas with limited space
- Long-lasting effect, low exchange rate

### Results

- No odour nuisance through air escaping out of manhole covers
- Neutralization of air inside the sewer
- Article No: 71600-400

### Application

- Sewer entry shafts
- Pump sumps
- Sewage treatment plants
- Storage and drying systems for sewage sludge
- Waste storage
- Waste management companies
- Composting plants
- Biogas plants
- Agriculture



# ABRASION AND CORROSION

In numerous industries, such as the raw materials and building materials industry, transport and wastewater disposal, various influences lead to signs of wear and corrosion. Heavy abrasion, hard impacts or aggressive liquids and chemicals lead to major damage and thus to high repair costs, considerable downtimes and plant stoppages as well as enormous economic losses. As a company specialising in high-quality wear protection for a wide range of stresses, we offer you extremely resistant and high-quality coating systems made of **rubber**, **ceramic** and **liquid plastic**.



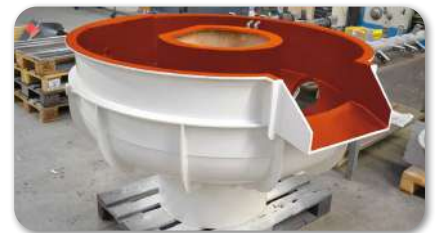
## What is polyurea

Polyurea is a modern coating material characterised by its exceptional durability and versatility. Originally developed in the 1980s, polyurea has quickly gained popularity, especially in industries that require robust and durable protective solutions. Polyurea is an elastomeric material created by a rapid chemical reaction between two components. This reaction occurs extremely quickly, making polyurea one of the fastest curing coatings.

Polyurea coatings are characterised by their high flexibility, elasticity and resistance to abrasion, chemicals and extreme temperatures. These properties make polyurea particularly suitable for applications where protection and durability are of paramount importance.

## Application areas:

- Inner pipes
- Bends and suction pipes
- Funnels and cyclones
- Deflector plates/metal sheets
- Containers and silos
- Inside of tanks
- Conveyor and transport systems
- Hose couplings
- Pulley lagging
- Working and storage areas
- Sewage plants
- Transport areas
- Screw conveyors and chutes
- Centrifuges
- Pump housings
- Flat roofs
- Floors
- and much more



## What Polyurea can do?

*See for yourself:*

### Merkmale



Food safe



Fire retardant



Abrasion resistant



UV resistant



Flexible



Slip resistant



Temperature resistant



Waterproof and root resistant



Crack bridging



Sea water resistant



Cut resistant



Impact resistant



Antistatic



Noise absorbing



Microbe stable



Wear resistant



Corrosion free



Chemical resistant



Approvals for  
Different areas



Seamless and joint-free  
Applicable



Stretchable 400 %



Fast reaction times



Applicable in different  
thicknesses



Available in all RAL colours

## Competence in Rubber Coating

### Soft Rubber Coating - Wear Protection

Rubber as protection against wear is an optimal cover for machines and plants. It is most suitable for coating of transport- and storage containers, chutes, gutters or funnels due to high tensile strength and elasticity.

We process natural rubber (NR) of 2, 5, 7 and 10 mm thickness in soft rubber coating. On demand we offer to choose between highly wear resistant 40° Shore A in blue or highly abrasion resistant 60° Shore A in black.

#### Advantages of Rubber Coating

- wear protection
- noise protection
- vibration protection
- higher lifetime
- lower caking

#### Application Areas

- road sweeper parts
- suction dredge wear parts
- engine pumps
- crushing plants
- lining for sandblast cabins
- gutters and chutes
- spiral pump shafts
- truck mixer gutters and chutes
- gravel excavator pumps
- deflection plates and deflector metal sheets
- pipe coating for sand- and gravel industry
- ventilation cases

### Hard Rubber Coating - Corrosion protection acc. EN 14879-1

The material characteristics of synthetic rubber – high ageing and weather resistance as well as an outstanding chemical resistance – offer optimal protection against aggressive media inside industrial plants.

Mostly a hard rubber coating with the materials Butyl rubber or Hypalon® is used, furthermore IR, BR, SBR, IIR, CR and NBR.

#### Application Areas

- flue gas desulfurisation plants
- pipe coating
- basins/tanks for chemicals
- basins for electroplating and much more







# OUR PRODUCT RANGE AT A GLANCE

Grünin **G+L**oske

Magdeburger Str. 1  
D-30880 Laatzen

Fon +49 (0) 51 02 - 91 99 - 01

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info@gruelo.de



## HOSE TECHNOLOGY

Technical advice, pressure testing,  
hose line assembly



## RENTAL PARK SERVICES

Hose management system



## FITTING TECHNOLOGY

Couplings, fittings



## FASTENING TECHNOLOGY

Hose clamps



## SEALING TECHNOLOGY

Individual solutions for industry



## PRODUCT DEVELOPMENT

Research and development, 3D scanning,  
3D printing



## METAL CONSTRUCTION AND DESIGN

Transport racks, component construction



## CORROSION AND WEAR PROTECTION

Sandblasting, painting, rubber coatings,  
PUA spray coatings



## ODOUR NEUTRALISATION

SmellMasterTruck, SmellPad



[www.gruelo.de](http://www.gruelo.de)