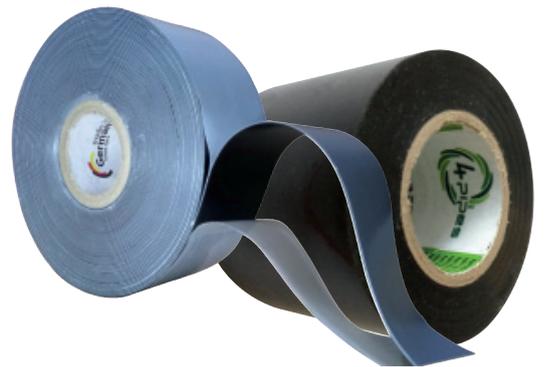




Pipeline Accessories

Corrosion Protection Tapes
4 pipes



Corrosion Protection Tape DUO40 4 pipes



Product information

DUO40 4 pipes is a high quality cold applied corrosion protection tape, especially for welded joints and bends on underground steel pipelines. Because of its asymmetric construction with a thick (pipe side) and a thinner outer butyl rubber layer on the PE-carrier material, the overlap amalgamates perfectly.



Butyl rubber

PE-foil

Butyl rubber

The corrosion protection system is certified as a system with the primer HT accord. to Class C/50 with 4 layers and the class B/50 with 3 layers accord. to EN12068/DIN 30672.

DVGW No. B/50 (3 layers) NV-5180AR0756

DVGW No. C/50 (4 layers) NV-5180AL0188

Technical data

Total thickness	0.8 mm ± 0.15 mm
Elongation at break accord. EN12068	≥ 600%
Tear strength accord. EN12068	11 N/mm
Peel resistance accord. EN12068	46N/10mm at 23°C
Tensile shear resistance on steel	0.2 N/mm ²
Colour butyl outside	black
Colour butyl inside	light grey
Core inner diameter	42 mm
Width of roll	30, 50 oder 100 mm
Length of roll	15 m*

* Special lengths are possible on request

Application rate table

pipe diameter		OD pipe	width	primer consumption/ joint	when 2 x 50% overlap (4-layers)	
DN	inch	mm	mm	liter	total length	m ²
25	1	33.7	30	0.01	5.93	0.18
40	1.5	48.3	30	0.02	8.50	0.25
50	2	60.3	30	0.02	10.61	0.32
65	2.5	76.1	50	0.02	8.03	0.40
80	3	88.9	50	0.03	9.39	0.47
100	4	114.3	50	0.04	12.07	0.60
150	6	168.3	50	0.05	17.77	0.89
200	8	219.1	50	0.07	23.13	1.16
250	10	273.1	100	0.09	14.42	1.44
300	12	323.9	100	0.10	17.10	1.71
350	14	355.6	100	0.11	18.77	1.88
400	16	406.4	100	0.13	21.45	2.15
450	18	457	100	0.14	24.12	2.41
500	20	508	100	0.16	26.82	2.68
600	24	610	100	0.19	32.20	3.22
700	28	711	100	0.22	37.53	3.75
800	32	813	100	0.26	42.91	4.29
900	36	914	100	0.29	48.25	4.82
1000	40	1016	100	0.32	53.63	5.36
1100	44	1118	100	0.35	59.01	5.90
1200	48	1219	100	0.38	64.35	6.43
1300	52	1321	100	0.42	69.73	6.97
1400	56	1422	100	0.45	75.06	7.51
1500	60	1524	100	0.48	80.45	8.04
1600	64	1626	100	0.51	85.83	8.58

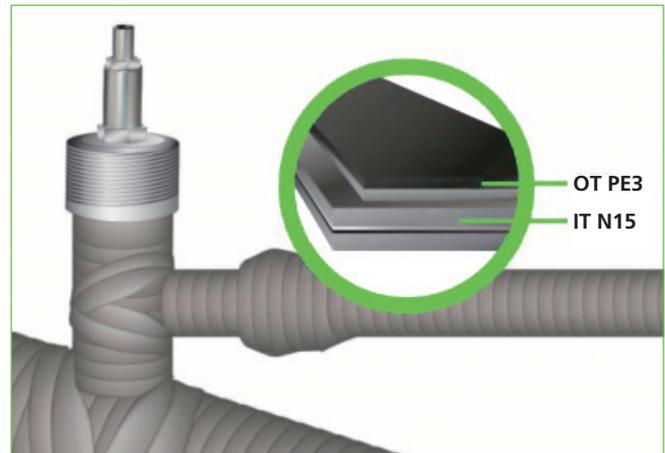
- Length of tape is calculated with an extra amount of 5%
- Consumption of tape and primer can slightly differ in practice.
- **Estimated wrapping width of 400 mm per joint**

Two-Tape System 4 pipes IT N15/OT PE3



IT N15

OT PE3

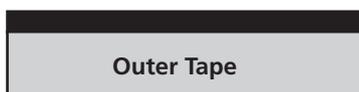


Highly flexible two tape system for the corrosion protection of steel pipes, pipelines and moulded parts according to DIN 30672 and EN 12068.

Product information

4 pipes IT N15 / OT PE3 is a cold-processable two tape system for the corrosion protection of metal pipes and fittings. 4 pipes IT N15 / OT PE3 is optimized for the requirements in urban supply networks. The high flexibility and elasticity of 4 pipes IT N15 and 4 pipes OT PE3 enable a quick and safe application of the after-wrapping system to pipeline components such as T-pieces and house connection fittings. Also suited for pipes with small nominal widths, even in tight construction site conditions. The top layer PE3 is a two-layer tape with the carrier on the outside.

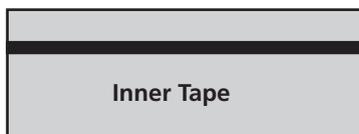
OT PE3



Outer Tape

PE backing
Butyl rubber

IT N15



Inner Tape

Butyl rubber
PE backing
Butyl rubber

4 pipes IT N15 / OT PE3 is practically impermeable to water vapour and oxygen and is resistant to soil bacteria and electrolytes. 4 pipes IT N15 / OT PE3 is compatible with factory coatings made of PE, PP, FBE, PU, CTE and bitumen.

Advantages:

- Especially thick and supple inner layer made of 1.5 mm butyl rubber tape
- DIN-DVGW approved system: B 30 (EN 12068)
- Excellent formability of the inner and outer tape
- Ideal for wrapping in distribution networks
- Compatible with factory coatings made of PE, PP, FBE, PU, CTE and bitumen

Technical data	
DVGW Reg. Nr.	NV5180CQ0257
Thickness adhesive	IT N15 = 1.5 mm ± OT PE3 = 0.4 mm ±
Thickness PE backing	IT N15 = 0.07 mm ± OT PE3 = 0.22 mm ±
Tear strength accord. EN 12068	10 N/cm ² on steel
Peel resistance accord. EN 12068	15 N/10 mm at 23°C on steel
Colour backing	black
Colour butyl outside	grey
Colour butyl inside	grey
Core diameter	41 mm
Roll width	30, 50 or 100 mm
Roll length	IT N15 = 7.5 metre OT PE3 = 20 metre
Max. operation temperature	85°C for the whole system

Type	Art.-No.
4 pipes IT N15 grey 30 mm x 7.5 m	16660
4 pipes IT N15 grey 50 mm x 7.5 m	16661
4 pipes IT N15 grey 100 mm x 7.5 m	16662
4 pipes OT PE3 black 30 mm x 20 m	16665
4 pipes OT PE3 black 50 mm x 20 m	16666
4 pipes OT PE3 black 100 mm x 20 m	16667
Primer HT, 1 litre can	16580
Primer HT, 5 litre can	16581

Application:

with Primer HT, IT N15 with 50 % overlap (two layers), and OT PE3 with 10 mm overlap (one layer) on top.

Class:

- wrapping EN 12068 - B 30
- wrapping DIN 30672 - B 30



Two-Tape System 4 pipes IT N15/OT PE5



IT N15

OT PE5



Flexible two tape system for the corrosion protection of steel pipes, pipelines and fittings according to DIN 30672 and EN 12068. For **extreme corrosion conditions and mechanical loads**, also on uneven surfaces.

Product information

4 pipes IT N15 / OT PE5 is a cold-processable two tape system for high-quality corrosion protection of metal pipes and fittings with particular suitability for use on uneven surfaces and with complicated geometries. A highly flexible butyl rubber adhesive layer of 1.5 mm thickness enables the 4 pipes IT N15 to adapt optimally to uneven surfaces, even with complicated geometries. The top layer PE5 is a two-layer tape with the carrier on the outside.

OT PE5

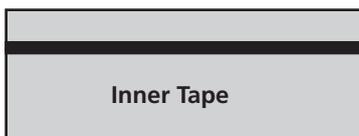


Outer Tape

PE backing

Butyl rubber

IT N15



Inner Tape

Butyl rubber

PE backing

Butyl rubber

4 pipes IT N15 / OT PE5 is practically impermeable to water vapour and oxygen and is resistant to soil bacteria and electrolytes. 4 pipes IT N15 / OT PE5 is compatible with factory coatings made of PE, PP, FBE, PU, CTE and bitumen.

Advantages:

- Especially thick and supple inner layer made of 1.5 mm butyl rubber tape
- Excellent for uneven surfaces
- Excellent corrosion protection with particularly easy application
- DIN-DVGW approved system: C 30 (EN 12068, DIN 30672)
- Compatible with factory coatings made of PE, PP, FBE, PU, CTE and bitumen

Technical data	
DVGW Reg, Nr.	NV5180AL0257
Thickness adhesive	IT N15 = 1.5 mm ± OT PE5 = 0.5 mm ±
Thickness PE backing	IT N15 = 0.07 mm ± OT PE5 = 0.3 mm ±
Tear strength accord. EN 12068	10 N/cm ² on steel
Peel resistance accord. EN 12068	15 N/10 mm at 23°C on steel
Colour Backing	black
Colour butyl outside	grey
Colour butyl inside	grey
Core diameter	41 mm
Roll width	30, 50 or 100 mm
Roll length	IT N15 = 7.5 Meter OT PE5 = 15 alt. 30 Meter
Max. operation temperature	85°C for the whole system

Type	Art.-No.
4 pipes IT N15 grey 30 mm x 7.5 m	16660
4 pipes IT N15 grey 50 mm x 7.5 m	16661
4 pipes IT N15 grey 100 mm x 7.5 m	16662
4 pipes OT PE5 black 30 mm x 15 m	16675
4 pipes OT PE5 black 50 mm x 15 m	16676
4 pipes OT PE5 black 50 mm x 30 m	16677
4 pipes OT PE5 black 100 mm x 30 m	16678
Primer HT, 1 liter can	16580
Primer HT, 5 liter can	16581

Application:

with Primer HT, IT N15 and OT PE5 with 50 % overlap each (two layers).

Class:

- wrapping EN 12068 - C 30
- wrapping DIN 30672 - C 30



MonoTape 710.35 4 pipes



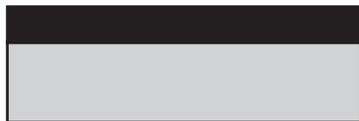
Product information:

Monotape 710.35 is a highly flexible corrosion-protection and sealing tape with excellent mechanical properties and stability. The tape system ist DIN DVGW certified acc. to class B/30 DIN 30672 / EN 12068 with only two layers as a minimum.

MonoTape 710.35 is especially designed for hand application, often necessary on e.g. bend and elbows.

The system is first choice for coating of bends end elbows on steel pipelines.

A wrapping machine can also be used on site or in the factory.



PE backing

Butyl adhesive

The High quality PE-Compound backing and the special butyl adhesive allow applications up to 80°C permanent pipeline temperature. This level is beyond the DIN approval and rated internally by the manufacturer.

Smart packaging without release liner makes this system very user-friendly on site.

The consumption for the various pipe dimensions is shown in our tables. Consider half the volume for 1x50% overlap only. Please use our **online tape calculator** under www.4pipes.de

Application:

Application of the tape is done acc. to DVGW GW15 regulations, with a minimum of 1x50% overlap (two layers) and primer IW 700-23.



Technical data

Tape thickness	0.9 mm ± 0.15 mm
Thickness adhesive	0.66 mm
Thickness backing	0.24 mm
Colour backing	black
Colour butyl inside	black
Elongation at break	400%
Peel resistance	17N/10 mm at 23°C
Operation temperature	-35°C bis 80°C intern
Core diameter	41 mm
Class	B/30 DIN 30672 / EN 12068

Standard dimensions Monotape 394.40

Roll width (mm)	50	100
Rolls/Carton	24	12
Length/Roll (m)	15	15

Other lengths and widths are available on request.
Recommended Primer: Primer 700

Storage:

These products should be stored without exposure to UV at a temperature between 10°C and 30°C.

The 4 pipes warranty only applies to faulty material. Checking the suitability of the product for the individual application is solely the responsibility of the user.



Registration No. DVGW:
DV-5180CP0096

DUO40 4 pipes and MonoTape 710.35 4 pipes



Application Instructions

Pipe surface has to be dried, cleaned and degreased according to DVGW-regulation GW15. PE-cleaner is recommended for degreasing. Roughen the dry pipe surface with emery cloth. The temporary edge protection paint at the transition from PE to steel has to be removed.

Drying the surface should be done using a soft propane flame. The temperature of the pipe surface has to be $\geq 5^{\circ}\text{C}$ and the tape has to be warmer than 10°C . At the transition to steel the PE-coating has to be beveled at an angle of max. 30° , preferably with a PE rasp. All loose parts, as well as polish and emery flakes, have to be removed.

The dry and clean surface including about 100 mm of the factory coating has to be painted with **Primer HT** well before handling (**Primer 700 for MonoTape 710.35**).

The primer drying time is about 5 to 10 min. On average, the consumption is about 0.25l/m^2 . After about 6 hours or a new contamination, the priming process has to be repeated. Higher profiles, e.g. a welded seam, have to be adjusted with a filler to guarantee smooth application.

Wrap the tape under slight tension with 50% overlap (first layer), in doing so remove release layer. Overlap starting end of the wrapping with itself and minimum 50mm on the factory coating. Overlap the first wrapping of a new roll when attached and also include the end piece of the previous roll 100 mm.

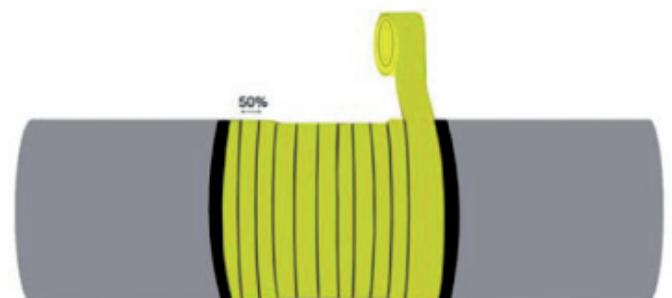
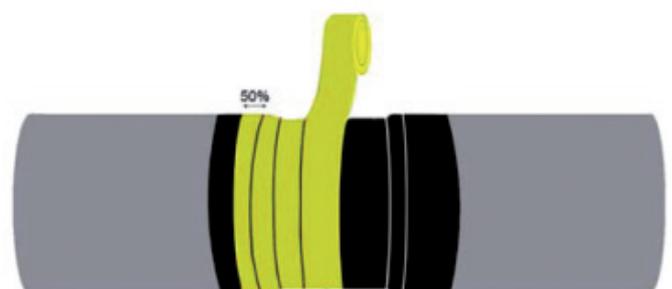
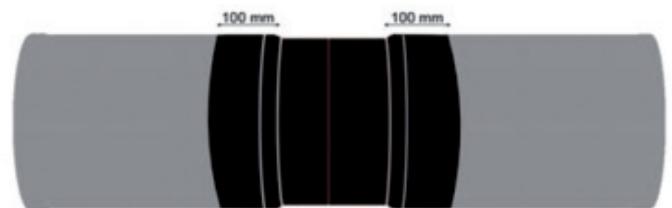
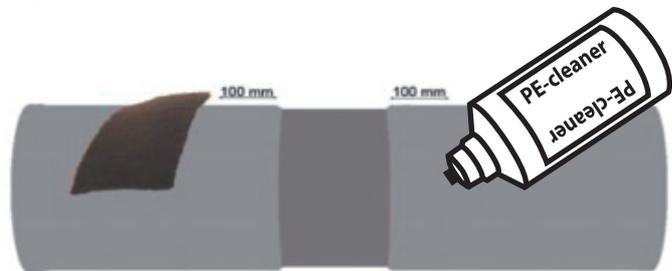
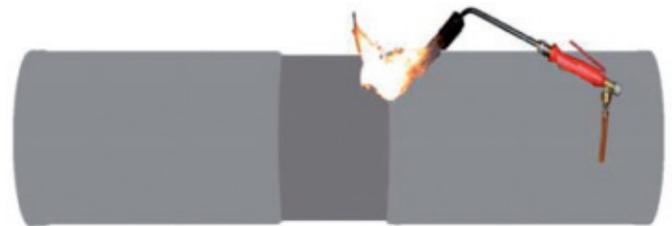
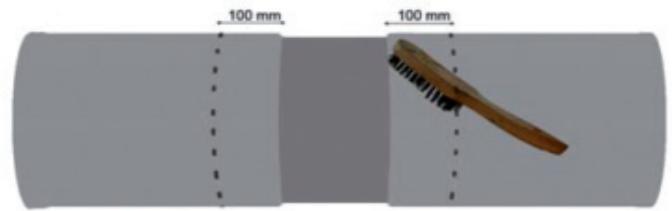
As an outer layer, apply a further wrapping on top under slight tension. The class C/50 is reached with minimum overlap of 50% (altogether 4 layers) and the class B/50 with an overlap of about 10 mm (altogether 3 layers). The outer wrapping should cover the inner one by about minimum 10 mm at both ends.

Class B/30 can be achieved with 1 x 50% MonoTape 710.35.

The end of the tape should point down without tension and be pressed on firmly.

Before back filling or performing a destruction test, the corrosion protection system should amalgamate for **minimum one hour**.

The 4 pipes warranty only applies to faulty material. Checking the suitability of the product for the individual application is solely the responsibility of the user.



ATTENTION:
Always use safety
equipment!



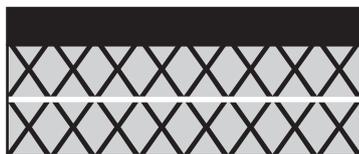
ISO-Petrolatum Tape 4 pipes - Type PE 1,5



Petrolatum corrosion protection coating accord. to EN 12068/DIN 30672 class A/30 - 2 layer system

Composition

4 pipes petrolatum tape is a corrosion protection tape consisting of a synthetic fibre inlay (185g/m²), both sides coated with a modified petrolatum filler with high adhesion and flexibility applied on a HDPE-foil.



HDPE-foil

Fabric soaked with petrolatum

Application area

For coating of welded joints and fittings as well as valves, house connections, flanges and lightning-protection system. The ISO-petrolatum tape is especially suitable for complicated parts in connection with the petrolatum filler ISO-Mastic. DIN class A, operating temperature up to 30°C.

Technical data

Weight: approx. 1.9 kg/m²
 Thickness: 1.5 mm ±0.1 mm
 Colour: beige to brown
 (colour difference doesn't affect quality)

Dimensions

Roll length 10 m
 Width 50, 100, 200 and 300 mm
 Packing unit/box 24, 12, 6 and 4 rolls

Advice for storage

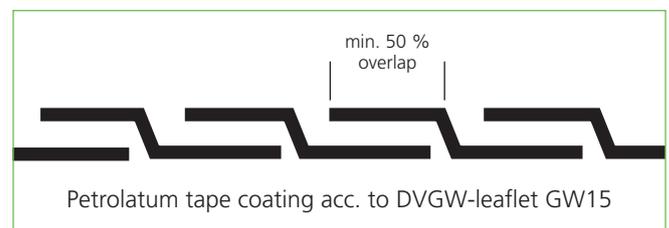
Protect from direct sunlight, store dry, standing on its cut edges, stacking height maximum 4 boxes.



Application

Use a wire brush to de-rust and clean the area which will be wrapped. The surface has to be free from grease, clean and dry. Spiral wrapping must then be performed under tension with at least **50% overlap (2 layers)**. It begins and ends with 50 mm overlap to the factory coating. The attached foil has to be on the outside. Please ensure a wrinkle-free wrapping without cavity setting. Press and smoothen tape especially in the area of overlap for the finish.

We recommend using the 4 pipes-rockshield fleece in addition when mechanical forces are expected.



**Registration No. DVGW:
 NV – 5180 BO 0011**

Butyl Filler 4 pipes

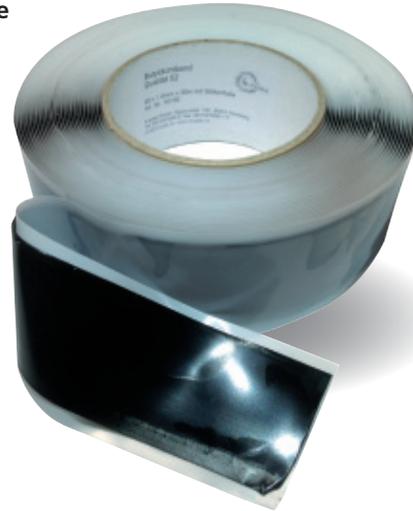


Filler Bars



Pic. 1

Filler Tape



Pic. 3



Pic. 2



Pic. 4

Product description

Butyl Filler 4 pipes is a highly flexible, moisture and aging resistant filling material that facilitates hollow-free, passive pipeline corrosion-protection coating on site for high-profile parts, such as flanges, bells or fittings. (Pic. 1)

The material can be quickly and easily moulded by hand into various shapes on site. (Pic. 2)

Butyl Filler 4 pipes is suitable to be used in combination with almost all standard passive corrosion protection systems like butyl, petrolatum or bitumen tapes as well as heat shrink materials. (Pic. 4)

Adhesion to the pipe surface and the good corrosion protection properties can be optimised by using a butyl primer before applying the filler. Pipe surfaces need to be dry, clean and fat free. 1 Kg bars, single packaged in special paper, make the filler easy to use on site.

To fill smaller gaps, e.g. around a welded seam, high quality butyl is available on rolls 40 mm x 1mm. The rolls per 30 m are supplied with an extra wide release foil. (Pic. 3)

Usage

The butyl filler has to be applied by hand. Use a proper amount of filler and shape it on the surface. Press the filler tightly in all gaps.

Technical Specifications and Properties	
Basis	butyl rubber
Colour	beige
Density (DIN 53479/B)	1,9 g/ml
Aging resistance	very good if not exposed to direct weathering
Temperature resistance	-40°C up to +90°C, no shrinking, drying out or embrittlement
Storage	+5°C up to +25°C

Description	Art.No. 4pipes
Butyl filler bars 6 Kg	16636
Butyl Rolls 40 mm x 1 mm x 30 metres	16150
Butyl Rolls 50 mm x 3,5 mm x 7,5 metres	15410

The 4 pipes warranty only applies to faulty material. Checking the suitability of the product for the individual application is solely the responsibility of the user.

Espansit II Butyl Tape 4 pipes



Product information

Espansit II is a high quality butyl rubber tape for passive **corrosion protection on complicated steel fittings**.

The tape is also suitable as a repair system to seal surface defects e.g. on pre-insulated flexible pipe systems.

A simple and secure application on site without primer and a high flexibility of the polypropylene carrier material characterizes this tape. A siliconised release liner guarantees a user-friendly application.

This system ensures a complete water tight coating which is highly resistant against microorganism as well as thinned acids and alkalis. For mechanical protection the 4pipes-KU-protective tape or 4 pipes pipe protection fleece can be wrapped over the applied Espansit II tape in addition.

Application accord. DVGW GW 15, to be wrapped with minimum 50% overlap (2 layers) and slight tension on the clean, fat-free and dry pipe surface.

The tape has a good adhesion strength on metal and plastic surfaces.

The 4 pipes warranty only applies to faulty material. Checking the suitability of the product for the individual application is solely the responsibility of the user.



Technical data

Mechanical characteristics	
Colour	black
Length	10 m
Width	50/100 mm
Supporting material thickness	25 my
Total thickness DIN EN 1942*	ca. 2.0 mm
Elongation at break DIN EN 14410*	≥ 300 %
Tensile strength DIN EN 14410*	2.0 N/mm
Peel resistance	1.5 N/mm

Electrical characteristics		
Dielectric strength	15 KV/mm	ASTM D 149

* according to the particular DIN



Usage

The AluTape 4 pipes seals and sticks to metal, plastic, concrete, stonework, plaster, wood or glass. The application for pipeline construction is basically the **UV and corrosion protection for above-ground pipelines**. Furthermore the tape can be applied as a **diffusion barrier** on pipe systems.

It is also suitable for the sealing of joints, cracks, gutters, connections on roofs and walls, covers, glass roofs and greenhouses, steel constructions, roof coverings and flashing boards.

Application

The surfaces which have to be sealed should be clean, dry and free of frost, fat and silicone. Porous or dusty underground should be pretreated with a priming (about 200ml/m²) to get an optimum bonding.

When primer V is used, please mix well and paint the area where the tape should be applied. Let the primer cure for minimum 10 minutes until it is not sticky any more. If the tape is not applied within two hours, the priming process has to be redone.

The best processing temperature is between 5°C and 45°C, pipe-surface temperature. If it is colder the tape can be warmed up with a propane flame or hot air gun (attention: consider safety regulations).

The AluTape 4 pipes must be pressed on tightly to avoid air entrapment.

To be wrapped with min. 50% overlap (2 layers). Not approved for underground pipeline corrosion protection.

Storage

The product has to be stored away from sunlight at between 10°C to 30°C. The rolls should be kept dry and standing flat on their edges. This product is not sensitive to frost. The characteristics of the AluTape 4 pipes remain unchanged for a long time. An application within 12 month is recommended.

Technical data

AluTape 4 pipes is a self-adhesive and cold-applied sealing tape. The aluminium foil is specially plastic-finished on the surface, UV-resistant and therefore has a good mechanical stability. The adhesive consists of elastomeric bitumen and high quality adhesive resins, which are protected by a silicone-coated release foil.

Complete tape thickness	1,1mm ± 0,15 mm
Colour outside	aluminium-blank or lead coloured*
Building material class	B2, normal inflammable DIN 4102
Softening point	≥ 85 °C DIN 52011
Cold bending behaviour	≥ - 30 °C DIN 52 123
Highest tensile strength	> 200 N DIN EN 12311-1
Water tightness	tight DIN EN 1928
Tearing strength	30 N DIN EN 12310
Steam transmission	sd > 1500 m DIN EN 1931

*special version

Standard delivery types

Roll width (mm)	50	100
Rolls/boxes	24	12
Length/roll (m)	10	10
Art. No.	16550	16551
Other packing units on request		
Recommend primer:	Primer V 1 liter	Art. No. 16595
	Primer V 5 liter	Art. No. 16596

The 4 pipes warranty only applies to faulty material. Checking the suitability of the product for the individual application is solely the responsibility of the user.

KU Self-adhesive Tape 228sk 4 pipes



Product description:

KU self-adhesive tape 228sk 4 pipes is a **highly flexible** multi-functional material.

The tape is a perfect **mechanical protection** on top of very soft corrosion protection systems, like e.g. petrolatum tapes or viscoelastic anti-corrosion tapes.

Because of its high flexibility it is suitable for applications on very complicated parts like T-pieces or elbows etc.

A unique feature is the tape's **flexibility** at low temperatures down to **minus 18°C**.

As a multi-purpose tape it is also used for all kinds of **sealing and fastening** in day to day applications.

KU tape is also perfectly suitable as an electrical isolation tape.

The outstanding characteristics of this tape are high resistance to abrasion, moisture, oils, mild acids and alkalis, as well as good resistance to weathering.



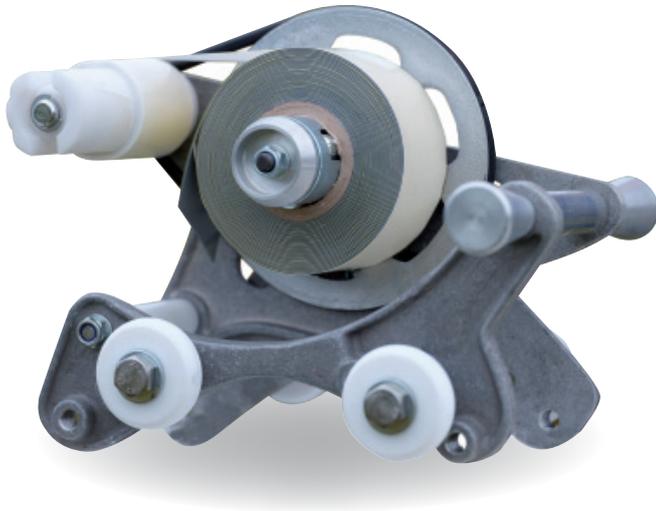
Technical data

Material	PVC
Thickness	0.19 mm ± 0.01 mm
Length	10 meters
Width standard	50 mm – (other on request)
Colour standard	black
Elongation at break	250 %
Adhesion layer/layer	1.9 N/10 mm
Electrical resistance	10,3 kV
Max. operating temperature	90°C
Self-extinguishing	-

Application

The tape should be applied on a dry, clean and fat free surface. To be wrapped with tension and minimum 50% overlap.

The 4 pipes warranty only applies to faulty material. Checking the suitability of the product for the individual application is solely the responsibility of the user.



- Wrapping machine for tape width up to 100 mm, for core 41 mm – Art.-No. 16600

Product information

The hand-wrapping machine is designed to apply corrosion protection tapes on pipelines and elbows of different kinds and dimensions.

The standard wrapping machine is suitable for tapes up to 100 mm width.

In the ditch a minimum space of 400 mm around the pipeline is required to work with best results.

Pay attention that all four rollers have contact to the pipe surface during the wrapping process to achieve best quality.

Advantages

- Easy effort-saving wrapping
- Continuous tension adjustable
- Quick change of tape-rolls
- Integrated automatic wrap-up of the release foil
- Overlap adjustable easily
- For 41 mm tape-core ID's
- For pipe dimensions DN 80

The machine can quickly be adjusted for different tape width. The necessary spare parts come as part of the kit.