



Pipeline Accessories

Heat Shrink Products  
and Adhesives 4 pipes



# Heat Shrinking Tape NW 1250 4 pipes



## Description

Heat shrink tape **NW 1250** is used for **high-quality sealing** of components on pipe systems, e.g. from the jacket to the carrier pipe on a pre-insulated pipe. Designed as a 2-layer system, it is made from a high-quality, crosslinked polyethylene retainer coated with a special butyl rubber-based adhesive. The retainer material ensures **mechanical strength while the butyl rubber adhesive ensures optimal adhesion and tightness**. The system is **activated by heating**. Under pressure from the heat shrinking retainer, the softened butyl rubber adheres firmly to the pipe surface evenly and without gaps.

## Properties

NW 1250 tape offers a **secure seal on pipes and cables** as well as **high chemical resistance** to alkalis and many acids. The system is also suitable for buried applications. Retainer thickness has been optimized and requires little heat input during processing. Together with a low preheating temperature assembly is very user-friendly, simple and fast.

## Structure of shrinkable tape

Retainer (crosslinked polyethylene)

Adhesive (butyl rubber based)

## Installation

The **pipe surface** must be **cleaned, degreased and dried**. After that it has **to be roughened**, e.g. with an emery cloth (grit 40 – 60), and **preheated to 60°C**. **Remove the protective foil** and wrap the shrink tape, adhesive side facing the pipe surface, centrally over the connection (at least 150 mm overlap). First shrink the tape on the large diameter and then heat it up on the small diameter. Use a soft propane gas flame and heat pipe circumference. The shrinking process is finished when the shrink tape lies flat and wrinkle-free.

### Technical Properties

	Value	Test method
Retainer thickness (as supplied)	approx. 0.3 mm	ASTM D 1000
Adhesive thickness (as supplied)	approx. 0.7 mm	ASTM D 1000
Tensile strength	240 N / 25 mm	ASTM D 1000
Shrink rate	approx. 50%	

### Dimensions

Type	width x length	Art.-No.
Roll	160 mm x 10 m	16210
Roll	200 mm x 10 m	16211
Roll	250 mm x 10 m	16212
Roll	400 mm x 10 m	16213

## Filling Blocks DS 4 pipes



### Description

4 pipes filling blocks for pre-insulated twin pipes, together with a regular shrink system, ensure a uniform insulation end cap. The filling block is „clamped“ between the protruding carrier pipes and thus enables the shrink system to be flush with the resulting ellipse. They are made from high-quality EPDM and are characterized by a high accuracy of fit and a long service life.

### Properties

The filling blocks provide a visual and physical closure to the twin pipe system for non-critical applications. Due to their high thermal resistance up to +130°C, high UV resistance as well as a **high chemical resistance** to alkalis and many acids, a long service life is ensured. The standard range includes sizes from DN 20 to DN 200.

Special sizes are possible on request.

### Processing

**Pipe surface** must be **cleaned, degreased and dried**. Correct size shall be selected from our size chart. Filling block is placed between the carrier pipes so that it will be completely covered by the heat shrinking wrap being applied afterwards.

Any tolerances can be compensated by using a butyl tape. When applying the shrinking system, please make sure that the filling block is not directly exposed to flames.



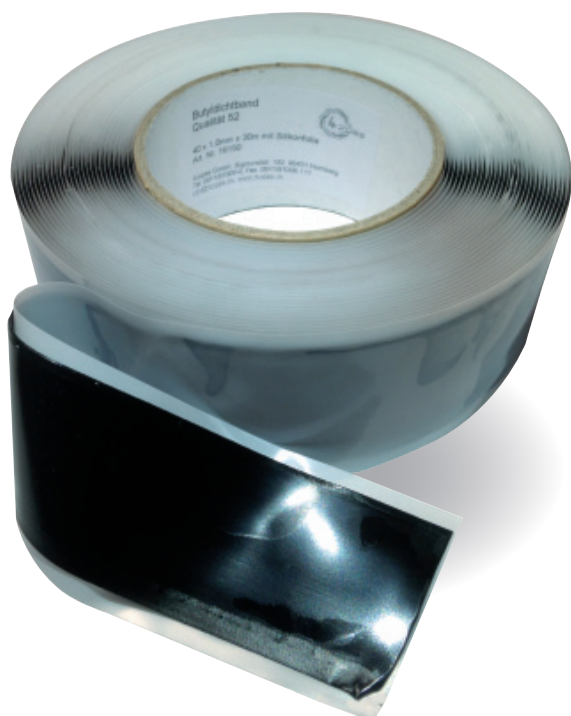
### Technical properties

Material	EPDM
Shore A	approx. 65
Thickness	approx. 40 mm
Colour	black

Title	Steel pipe sizes	Clearance between carrier pipe	Art.-No.
Filling block DN 20	OD 26.9 mm	20 mm	11040
Filling block DN 25	OD 33.7 mm	20 mm	11041
Filling block DN 32	OD 42.4 mm	20 mm	11042
Filling block DN 40	OD 48.3 mm	20 mm	11043
Filling block DN 50	OD 60.3 mm	25 mm	11044
Filling block DN 65	OD 76.1 mm	25 mm	11045
Filling block DN 80	OD 88.9 mm	30 mm	11046
Filling block DN 100	OD 114.3 mm	30 mm	11047
Filling block DN 125	OD 139.7 mm	35 mm	11048
Filling block DN 150	OD 168.3 mm	45 mm	11049
Filling block DN 200	OD 219.1 mm	45 mm	11050

Other sizes are possible on request

# 4 pipes Butyl Rubber Adhesive Tape Quality 52 Self-amalgamating



## Properties

- self-amalgamating
- high resistance to thermal distortion
- good ageing-resistance

## Applications

- Sealing tape for preinsulated pipe joints and shrinkable end caps
- Sealing tape for end seals

## Handling

Processing by hand at least 5 °C

**Surfaces** have to be clean, dust-free, and dry and must show bearing strength.

**Attention:** Roughen the surface and preheat it to min. 40°C for a proper bond

Peel resistance at 23°C: 30-35N/10mm

On porous surfaces a butyl primer is recommended.

## Dimensions

**Strings** 1 x 40 mm, 1 x 50 mm and 1.5 x 100 mm  
special profiles possible

## Comments

### Safety

Avoid skin and eye contact.

For further information, see safety data sheet.

No hazard warnings necessary.

Risk of burning at high application temperatures.

### Disposal

As domestic or hazardous waste in accordance with local official regulations.

Technical data	
Base thermoplastic	butyl rubber
Colour	black
Density	1.5 (g/cm³) - DIN 53479 B
Solids concentration	25 (1/10 mm) - DIN 51580 (5)
Thermal distortion	0 (mm) - IPM 5010
Solid content	> 99 (%) - IPM 5003
Ageing resistance	very good, unless exposed to UV light
Temperature resistance	-40 °C to + 90 °C, no shrinking, drying-out or embrittlement A short-term high temperature, e.g. installation of shrinking sleeves does not affect the tape negatively
Storage time	24 months
Storage	in original carton 10 °C up to 25 °C





## Heat Shrink Sleeve 4PMS and 4PMSA 4 pipes



### Product description 4PMS and 4PMSA

Medium wall polyolefin tubular heat-shrinkable sleeve with excellent mechanical and electrical properties. Made for various applications, for low voltage electrical cable isolation or mechanical protection on pipes or pipe ends. Ideal as a **sealing system** and **corrosion protection system**, especially where low shrink temperatures, easy application and high flexibility are required.

- **Type 4PMSA = with adhesive**
- **Type 4PMS = without adhesive**
- medium wall thickness
- shrink ratio: 3:1
- climate and weather proof
- Standard colour black
- max. temperature +110°C
- minimum shrink temperature: 120°C
- moisture tight isolation
- high mechanical protection

Under 4PMS an additional, separate butyl adhesive can be applied. Butyl adhesive quality 22 with PP mesh inlay 50 x 1 mm x 15 m.  
**4 pipes Art. No. 16169**

**Application with a soft propane flame on a clean, dry and fat free surface.**



### Technical data 4PMS and 4PMSA

Test	Result
Operating temperature IEC 216	-55°C to +110°C
Tear resistance ASTM D 638	>14 MPa
Elongation at break ASTM D 638	>400%
Density ASTM D 792	1.05g/cm <sup>3</sup>
Change in length UL 224	0 bis up to 10%
Concentricity ASTM D 2761	<30%
Electrical resistance IEC 243	>20KV/mm
Copper-resistance ASTM D 2671	non corrosive
Water absorption ISO 62	<0.15%
Resistance to fungal attack ISO 846	passed
Peel resistance (PE) DIN 30672 *	4 N/cm (4PMSA)
*without adhesive - Type 4PMS	

Type	Diameter as supplied min.	Diameter fully shrunk max.	wall thickness max.	standard length*	Art. No. 4PMS	Art. No. 4PMSA
	mm	mm	mm	mm		
95/25	95	25	3.0	1000	15531	15504
115/34	115	34	3.0	1000	15532	15505
140/42	140	42	3.0	1000	15533	15506
160/50	160	50	2.9	1000	15534	15507
180/60	180	60	2.9	1000	15536	15511
235/65	235	65	2.9	1000	15538	15508
265/65	265	65	3.0	1000	15539	15509
300/90	300	90	2.8	1000	15540	15510
350/150	350	150	2.8	1000	15541	on request
400/150	400	150	4.0	1000	15543	on request

Further colours, lengths and dimensions on request



# Sealing Adhesive Quality 22 4 pipes Special Butyl Tape with PP Mesh Inlay



## Product information

Sealing adhesive Q22 4 pipes is a high performance sealing and corrosion protection tape, which sticks on both sides. The integrated PP-mesh gives high cohesive stability to the system and avoids unwanted overstretch during the easy application process.

Even at higher temperatures, the special butyl gets softer, but does not flow or melt.

The material keeps its function when there are no additional mechanical stresses.

As a sealing and corrosion protection tape, under heat-shrinkable joints on preinsulated pipes as well as a separate adhesive under various shrink sleeve, the tape has high performance for various applications in the pipeline and cable industry.

Sealing adhesive Q22 is self amalgamating and to be used without primer on metal and prepared plastic surfaces. High adhesion and flexibility as well as the special temperature resistance are the significant properties of the system.

## Application

Surfaces must be clean, dry, stable and fat/grease free.

**Attention: For a perfect adhesion, the pipe-cable surfaces need to be roughend with sand paper and preheated up to 40°C minimum.** On porous surfaces (e.g. concrete) the bonding surface need to be prepared with 4 pipes butyl primer first.

## Technical data

Inlay	PP-mesh reinforcement
Thickness mesh	approx. 0.1 mm
Colour special Butyl adhesive Q22	black
Tear resistance	≥ 70N/25mm, DIN EN 14410*
Elongation at break	approx. 15 %, DIN EN 14410*
Interleaf	foil siliconised
Adhesive basis	Butyl rubber
Aging resistance	very good, when not exposed to direct sunlight and weather
Not resistant against	oils and liquids, such as gasoline
Peel resistance	≥ 15N/25mm, IPM 5009**
Stickiness	very high
Temperature range	-30°C to +120°C, No shrink, no dry out, no cracking. The short term exposure to higher temperatures, e.g. during the deventilation process of district heating pipelines, has no influence on the long term function.
Stock	in original carton at +10°C to max. +25°C

\* in accordance with the relevant DIN

\*\* at 100mm/min, 90° tear angle

## Dimensions

roll 1,0 x 100 mm x 15 m Art. No. 16170

roll 1,0 x 50 mm x 15 m Art. No. 16169

roll 0,6 x 50 mm x 30 m Art. No. 16171

Other length and width on request for example :

roll 1,5 x 100 mm



# 4 pipes Butyl Rubber Adhesive Tape Quality 52 Certificate



## TEST CERTIFICATE

489 1208 109bA

Tests according to EN 489:2003  
for  
non-welded joint system for district heating pre-insulated pipeline systems type  
**„Non-crosslinked shrinkable joint according to EN489 with  
4pipes sealing tape quality 52“**

by order of

**4pipes GmbH**

Test sample No. 3553, 3554, 3576:

Joint type

„Isojoint with 4pipes sealing tape quality 52“  
on 2x DN 80/160 and 1x DN 150/250

Test report 1081E5034

The following tests have been completed in accordance with the European Standard  
EN 489:2003 at the FFI for three non-welded joints in August 2012:  
Soil stress tests and water impermeability tests.

**The joints have passed the tests successfully and without damage.**

Hemmingen, 2012-08-15

Dipl.-Ing. Thomas Grage  
Managing Director



Fernwärme-Forschungsinstitut GmbH  
Max-von-Laue-Str. 23  
30960 Hemmingen  
Germany  
www.fernwaerme.de

Managing Director  
Thomas Grage

Reg. at  
District Court  
Hanover  
HRB 257980

VAT ID No.  
DE280615721

Dipl.-Ing. (FH) Volker Herbst  
Project Manager



## CO-TEST CERTIFICATE

to 489 2301 183a

System test  
according to DIN EN 489-1:2020-03  
for

the PE shrink joint casing system with sleeves type  
"SUPERSEAL/T" and Butyl adhesive tape "4 pipes Quality 52"  
in the Dimension DN 80/160 and DN 150/250 with following components:

- PE shrink joint casing
- Butyl adhesive tape "4 pipes Quality 52"
- Shrink sleeves type "SUPERSEAL/T"
- Two welding plugs
- Thermal insulation foamed in the joint casing

By order of

**4 pipes GmbH**

Test report 1755\_5487

**The PE shrink joint casing system with shrink sleeves type  
"SUPERSEAL/T" and Butyl adhesive tape "4 pipes Quality 52"  
has passed the system test successfully.**

Hemmingen, 2023-02-06

Thomas Grage  
Managing Director



Fernwärme-Forschungsinstitut GmbH  
Max-von-Laue-Str. 23  
30960 HEMMINGEN  
GERMANY

Managing Director  
Thomas Grage

VAT ID No. DE280615721  
District court  
HANNOVER  
HRB 257980

Volker Herbst  
Project Manager

