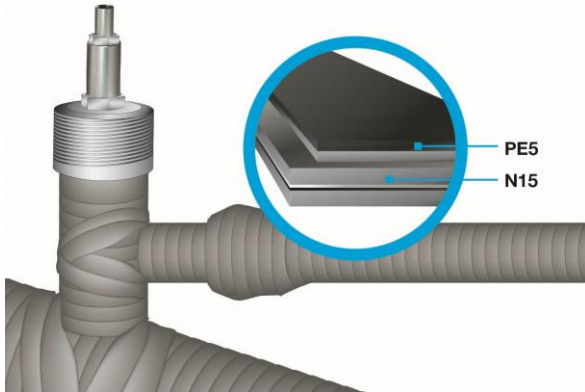


# DENSOLEN®-N15/-PE5



## Product information



### Special advantages:

- ✓ Especially thick and adaptable inner layer made from butyl rubber tape with a thickness of 1.5mm.
- ✓ Ideal for uneven surfaces.
- ✓ Excellent corrosion protection and exceptionally easy to apply.
- ✓ **C30**  
EN 12068 Fulfills EN 12068-C30 and DIN 30672-C30.
- ✓ Compatible with factory coatings made of PE, PP, FBE, PU, CTE and bitumen.

## Two-tape system for the corrosion prevention coating of metal pipes, pipelines and containers in accordance with DIN 30672, EN 12068, ASTM and AWWA. For extreme corrosion conditions and mechanical stresses on uneven substrates.

For a century now, DENSO Group Germany has been representing experience, quality and reliability for corrosion prevention and sealing technology. The success of the internationally leading corporation is based on the development of the "DENSO-Tape", which was already patented in 1927 as the first product worldwide for the passive corrosion prevention of pipelines. Since then, the DENSO Group Germany has been establishing and guaranteeing the highest quality standards with technically trend-setting products. Research, development and production take place exclusively in Germany. Our employees continuously implement safe and individual solutions in a personal cooperation with the customer.

## Description

**DENSOLEN®-N15/-PE5** is a cold applied two-tape system for corrosion prevention of metal pipes and moldings with special qualification for the application of uneven substrates and complicated geometries.

A flexible butyl rubber adhesive layer with a thickness of 1.5 mm makes it possible for **DENSOLEN®-N15** to adapt optimally to uneven substrates even with complicated geometries.

DENSOLEN®-N15/-PE5 is essentially impermeable for water vapor and oxygen and it is resistant against soil bacteria and electrolytes.

DENSOLEN®-N15/-PE5 is compatible with factory coatings made of PE, PP, FBE, PU, CTE and Bitumen.

The system DENSOLEN®-N15/-PE5 consists of: **DENSOLEN®-HT Primer** is a solvent containing primer in accordance with EN 12068 and DIN 30672 for corrosion prevention with **DENSOLEN®** tapes. Please refer to the separate product information of the DENSOLEN®-HT Primer.

**DENSOLEN®-N15** is a real co-extruded 3-ply butyl rubber tape with butyl rubber adhesive on both sides and a carrier film made from stabilized polyethylene film. DENSOLEN®-N15 has a thickness of  $\geq 1.5$ mm. DENSOLEN®-N15 fulfills the international standards DIN 30672, EN 12068, ASTM and AWWA.

**DENSOLEN®-PE5** is a real co-extruded two-ply plastic tape made from stabilized black polyethylene carrier film with a butyl rubber adhesive on one side. The thickness is  $\geq 0.5$  mm.

Outstanding connection between the adhesive and the carrier film due to the co-extruded intermediate layer. The adhesive layer grows completely together with the outside layer of DENSOLEN®-N15. DENSOLEN®-PE5 fulfills the international standards DIN 30672, EN 12068, ASTM and AWWA.

## Typical product properties

Property	Unit	DENSOLEN®-N15 Typical value	DENSOLEN®-PE5 Typical value	Test method
Carrier film color	-	black	black	-
Butyl adhesive color inside	-	grey	grey	-
Butyl adhesive color outside	-	grey	-	-
Total thickness	mm	≥ 1.5	≥ 0.5	ISO 4591 ASTM D1000
Carrier film thickness app.	mm	≥ 0.07	≥ 0.3	
Inside adhesive layer thickness app.	mm	≥ 0.75	≥ 0.2	
Outside adhesive layer thickness app.	mm	≥ 0.68	-	
Elongation at break	%	-	≥ 450	DIN 30672
Tape strength	+23°C (+73°F) N / cm	-	≥ 60	EN 12068
Dielectric strength	kV / mm	≥ 40	≥ 40	DIN 53481
Water absorption	+23°C (+73°F) 1 day / 30 days %	≤ 0.1 / ≤ 0.4	≤ 0.1 / ≤ 0.4	DIN 53495 ASTM D570
Brittleness temperature	°C	-46±4 (-50.8±7.2)	-46±4 (-50.8±7.2)	DIN 53372
		-58±4 (-72.4±7.2)	-58±4 (-72.4±7.2)	GOST 10354

### DENSOLEN®-N15/-PE5 (2+2 layers) with DENSOLEN®-HT Primer

Property	Unit	DENSOLEN®-N15/-PE5 Typical value		Required value	Test method
Specific electrical insulation resistance	Ohm m <sup>2</sup>	≥ 10 <sup>12</sup>		≥ 10 <sup>8</sup>	EN 12068
Volume resistivity	Ohm cm	≥ 10 <sup>15</sup>		Not stated	DIN 53482 ASTM D257
Peel strength metal/primer/tape	N / cm	<b>+23°C (+73°F)</b>	<b>+30°C (+86°F)</b>	≥ 10   ≥ 1	EN 12068
		≥ 15   ≥ 18	≥ 1.5   ≥ 1.8	Not stated	ASTM D1000
Peel strength layer to layer	N / cm	<b>+23°C (+73°F)</b>	<b>+30°C (+86°F)</b>	≥ 10   ≥ 2	EN 12068
		N15 / N15	≥ 30	≥ 2	
		N15 / PE5	≥ 15	≥ 2	
		PE5 / PE5	≥ 2	≥ 2	
Indentation resistance - residual layer thickness for stamp load (stamp-Ø 1.8 mm)	mm / N/mm <sup>2</sup>	<b>+30°C (+86°F)</b>		> 0.6	EN 12068
Impact resistance	J	≥ 15		≥ 15	EN 12068
Cathodic disbondment resistance	mm	≤ 10		Not stated	ASTM G8
Total system thickness 2 layers DENSOLEN®-N15 2 layers DENSOLEN®-PE5	mm	≥ 4.00		Not stated	ISO 4591 ASTM D1000
		≥ 3.00			
		≥ 1.00			
Lap shear strength	on steel N/cm <sup>2</sup>	≥ 10		≥ 5	EN 12068

DENSOLEN® tapes can be easily applied manually. The processing with the original DENSOEMAT® wrapping devices is even more efficient. For DENSOLEN® tapes with widths of > 50 mm, we recommend the use of the DENSOEMAT® wrapping device to guarantee an excellent processing quality.

## Ordering information and packaging

	Core diameter (mm)	Width (mm)	Tape length (m)	Tape area (m <sup>2</sup> )	Content per box			
					Number of rolls	Total tape area (m <sup>2</sup> )	Total tape length (m)	App. Weight (kg)
DENSOLEN®-N15	41	30	7.5	0.225	18	4.05	135	9.5
		50	7.5	0.375	12	4.5	90	10.5
		100	7.5	0.75	6	4.5	45	10.5
		150	7.5	1.125	6	6.75	45	15.5
DENSOLEN®-PE5	41	30	15	0.45	18	8.1	270	6.0
		50	15	0.75	12	9.0	180	6.0
		50	30	1.5	12	18.0	360	11.0
		100	30	3	6	18.0	180	11.0
		150	30	4.5	6	27.0	180	16.5

Additional lengths and widths are available on request.

## Storage

When stored in its original, unopened packaging, DENSOLEN®-N15/-PE5 can be stored for at least 60 months after the manufacturing date.

Storage temperature: ≤ +50°C (+122°F)

Store in a dry location and do not rest anything against the front of the product.

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