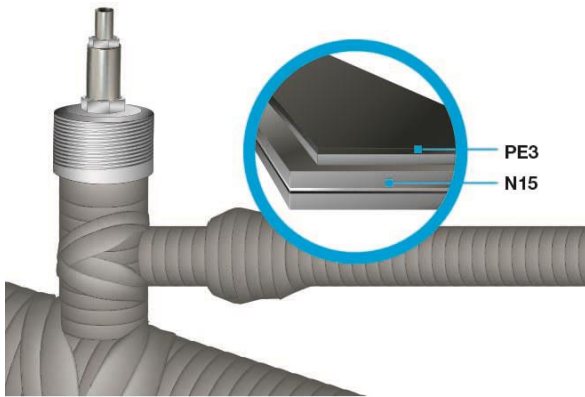


# DENSOLEN®-N15/-PE3

## Product Information



### Special advantages:

- ✓ Especially thick and adaptable inner layer made from butyl rubber tape with a thickness of 1.5mm.
- ✓ **B30**  
EN 12068 Fulfills EN 12068-B30 and DIN 30672-B30.
- ✓ Outstanding formability offered by inner and outer tape.
- ✓ Ideal for coatings in distribution networks.
- ✓ Compatible with factory coatings made of PE, PP, FBE, PU, CTE and bitumen.

## Two-tape system for corrosion prevention coating of metal pipes, pipelines, containers and fittings according to EN 12068 and DIN 30672.

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/-PE3** is a cold-applied two-tape system for the corrosion protection of metal pipes and fittings. DENSOLEN®-N15/-PE3 is optimized to meet the requirements of municipal supply networks. The great flexibility and elasticity shown by **DENSOLEN®-N15** and **DENSOLEN®-PE3** enables rapid and reliable application of coating system on pipeline parts such as T-fittings and house connection valves. The system is also ideally suited to pipes with small nominal pipe sizes, even in tight construction site conditions. DENSOLEN®-N15/-PE3 is effectively impermeable to water vapor and oxygen, and is resistant to soil bacteria and electrolytes.

DENSOLEN®-N15/-PE3 is compatible with factory coatings made from PE, PP, FBE, PU, CTE and bitumen.

As an inner tape, **DENSOLEN®-N15** assumes the major corrosion prevention properties of the system. DENSOLEN®-N15 consists of a double-sided butyl rubber adhesive coating, which is applied to the co-extruded PE film located on the inside. In the overlapping area of the tape, this 3-ply design establishes a wrapping that is effectively impermeable to gas and water by means of the self-amalgamation of the upper and lower butyl rubber layer. The adaptable butyl rubber adhesive layer makes it possible for DENSOLEN®-N15 to adapt optimally to uneven substrates.

**DENSOLEN®-PE3** is a genuine co-extruded 2-ply polymeric tape made from a stabilized black polyethylene carrier film with a butyl rubber adhesive on one side. The thickness is  $\geq 0.4$  mm. The co-extruded intermediate layer ensures an outstanding bond between the adhesive and the carrier film. The adhesive layer fuses completely with the outer layer of DENSOLEN®-N15. DENSOLEN®-PE3 is used as the outer tape in the wrapping system. A simple layer (wrap with approx. 1 cm of overlap) of DENSOLEN®-PE3 tape is sufficient to satisfy the medium stress class B of EN 12068 and DIN 30672.

Both **DENSOLEN®** tapes can be effectively processed with the **DENSOMAT®** wrapping machines.

## Typical product properties

Property	Unit	DENSOLEN®-N15 Typical value	DENSOLEN®-PE3 Typical value	Test method
Carrier film color	-	Black	Black	-
Butyl adhesive color (inner)	-	Grey	Grey	-
Butyl adhesive color (outer)	-	Grey	-	-
Total thickness	mm	≥ 1.5	≥ 0.4	ISO 4591 ASTM D1000
Carrier film thickness (approx.)	mm	≥ 0.07	≥ 0.22	
Inner adhesive layer thickness (approx.)	mm	≥ 0.75	≥ 0.18	
Outer adhesive layer thickness (approx.)	mm	≥ 0.68	-	
Elongation at break	%	-	≥ 250	DIN 30672
Tensile strength	+23°C (+73°F) N/cm	-	≥ 40	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
Water vapor permeability	g/m <sup>2</sup> 24 h	≤ 2 * 10 <sup>-1</sup>	-	DIN 53122
Brittleness temperature	°C	-46±4 (-50.8±7.2)	-	DIN 53372
		-58±4 (-72.4±7.2)	-	GOST 10354

Property	Unit	Typical value	Required value	Test method	
System design	Prime coat	DENSOLEN®-HT	-	-	
	Inner tape	DENSOLEN®-N15, 2 layers	-	-	
	Outer tape	DENSOLEN®-PE3, 1 layer	-	-	
Total thickness	mm	≥ 3.4	-	-	
Electrical wrapping resistance	Ω m <sup>2</sup>	≥ 10 <sup>11</sup>	≥ 10 <sup>6</sup>	EN 12068	
Peel resistance +23°C (+73°F)	Steel	N/cm	≥ 15	≥ 4	EN 12068
	PE factory coating	N/cm	≥ 15	≥ 2	EN 12068
Peel resistance layer/layer	N15/N15	N/cm	≥ 30	≥ 8	EN 12068
	N15/PE3	N/cm	≥ 15	≥ 8	
	PE3/PE3	N/cm	≥ 2	≥ 2	
Indentation resistance (residual layer thickness)	+23°C (+73°F) (1 MPa) mm	≥ 1.2	≥ 0.6	EN 12068/ RV02	
Impact resistance	J	≥ 8	≥ 8	EN 12068	
cathodic disbondment resistance	mm	<13	≤20	EN 12068	
Lap shear strength	on steel N/cm <sup>2</sup>	≥ 10	≥ 5	EN 12068	

DENSOLEN® tapes can easily be applied manually. Application is even more efficient with original DENSO MAT® wrapping machines. For DENSOLEN® tapes with widths >50 mm, we recommend the deployment of a DENSO MAT® wrapping machine, to ensure final workmanship is of a superior quality.

## Ordering information and packaging

	Core diameter (mm)	Width (mm)	Tape length (m)	Tape area/rol l (m <sup>2</sup> )	Contents per box			
					Number of rolls	Total tape area (m <sup>2</sup> )	Total tape length (m)	Weight (kg) (approx.)
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®-PE3	41	30	20	0.6	18	10.8	360	5
		50	20	1	12	12	240	6
		100	20	2	6	12	120	6

Other dimensions are available on request.

## Storage

When stored in its original, unopened packaging, DENSOLEN®-N15/-PE3 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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