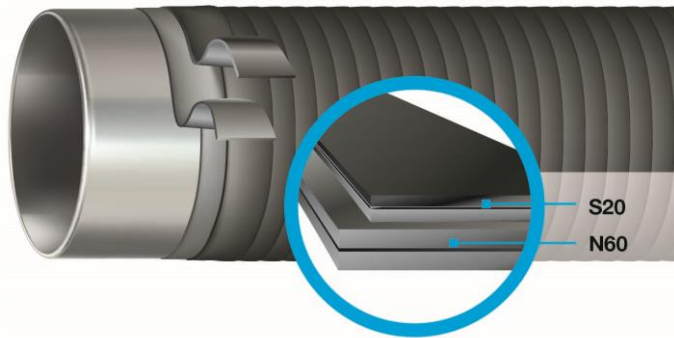


DENSOLEN®-N60/-S20



Product information



Special advantages:

- ✓ The system consists of two real co-extruded three-ply tapes.
- ✓ Adapts perfectly to large beads and edges.
- C50**
EN 12068 Fulfills EN 12068-C50 and DIN 30672-C50.
- 12A-1**
ISO 21809-3 Fulfills the requirements of ISO 21809-3; Type 12A-1.
- ✓ Compatible with factory coatings made of PE, PP, FBE, PU, CTE and bitumen.
- ≤ 70°C For temperatures up to +70°C (+158°F).

Two-tape system for the corrosion prevention of metal pipes and pipelines in accordance with DIN 30672, EN 12068, ASTM and AWWA. Based on the good adaptability to unevennesses, especially qualified for the demanding use on pipes with large diameters.

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®-N60/-S20 is a cold applied two-tape system for the corrosion prevention of metal pipes and pipelines with small to very large diameters.

By using 3-ply tape as inside and outside tape, each in 2 layers, all 4 tape layers of the system grow completely together due to the innovative formula.

DENSOLEN®-N60/-S20 is basically impermeable for water vapor and oxygen and it is resistant against soil bacteria and electrolytes.

DENSOLEN®-N60/-S20 is compatible with factory coatings made of PE, PP, FBE, PU, CTE and Bitumen.

The system **DENSOLEN®-N60/-S20** consists of:

DENSOLEN®-HT Primer

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®-N60

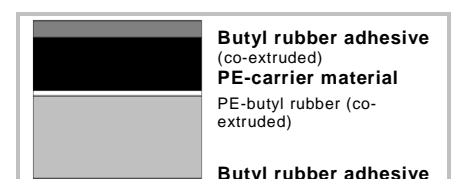
A real co-extruded three-layer plastic tape made from stabilized polyethylene carrier material with butyl rubber adhesive.

DENSOLEN®-N60 has a thickness of ≥ 1.2 mm. The butyl rubber adhesive layer is especially thick with ≥ 1.0 mm, providing the best corrosion protection.

DENSOLEN®-N60 fulfills the international standards DIN 30672, EN 12068, ASTM and AWWA.

DENSOLEN®-S20 A real co-extruded 3-ply plastic tape made from stabilized polyethylene carrier materials with butyl rubber adhesive. DENSOLEN®-S20 has a thickness of ≥ 0.5 mm. The adhesive layer grows completely together with the outside layer of DENSOLEN®-N60 and with itself in the overlapping area.

DENSOLEN®-S20 fulfills the international standards DIN 30672, EN 12068, ASTM and AWWA.



DENSOLEN®-N60 and DENSOLEN®-S20 design (different thicknesses)

Typical product properties

Property	Unit	DENSOLEN®-N60 Typical value	DENSOLEN®-S20 Typical value	Test method
Carrier film color	-	black	black	-
Butyl adhesive color inside	-	grey	grey	-
Butyl adhesive color outside	-	grey	black	-
Total thickness	mm	≥ 1.2	≥ 0.5	ISO 4591 ASTM D1000
Carrier film thickness app.	mm	≥ 0.14	≥ 0.28	
Inside adhesive layer thickness app.	mm	≥ 1.0	≥ 0.16	
Outside adhesive layer thickness app.	mm	≥ 0.06	≥ 0.06	
Elongation at break	%	≥ 450	≥ 600	
Tape strength	+23°C (+73°F) N / cm	≥ 40	≥ 100	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 (°F)	-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®-N60/-S20 with DENSOLEN®-HT Primer

Property	Unit	Typical value		Required value	Test method	
Specific electrical insulation resistance	Ohm m ²	≥ 10 ¹¹		≥ 10 ⁸	EN 12068	
Volume resistivity	Ohm cm	≥ 10 ¹⁵		Not stated	DIN 53482 ASTM D257	
Peel strength Metal/primer/DENSOLEN®-N60	N/cm	+23°C (+73°F)	+50°C (+122°F)	≥	≥ 1	EN 12068
		≥ 30	≥ 2,5	Not stated		ASTM D1000
Peel strength layer to layer	N/cm	+23°C (+73°F)	+50°C (+122°F)	≥	≥ 2	EN 12068
		N60 / N60	≥ 30	≥ 3.5	≥ 10	
		N60 / S20	≥ 25	≥ 3	≥ 10	
		S20 / S20	≥ 25	≥ 3	≥ 2	
Indentation resistance -residual layer thickness (1 N/mm ² stamp load, stamp-Ø 5.65 mm)	mm	+50°C (+122°F) ≥ 0.7 (class C)		> 0.6	EN 12068	
Impact resistance	J	> 15		> 15	EN 12068	
Cathodic disbondment resistance	mm	≤ 6		Not stated	ASTM G8	
Lap shear strength	N/mm ²	+23°C (+73°F)			EN 12068	
		on steel	≥ 0.15			0.05
		on PE factory coating	≥ 0.15			0.05

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

Ordering information and packaging

	Core diameter (mm)	Width (mm)	Tape length (m)	Tape area (m ²)	Number of rolls	Content per box		
						Total tape area (m ²)	Total tape length (m)	App. weight (kg)
DENSOLEN®-N60	41	50	10	0,5	12	6	120	8.0
		100	10	1.0	6	6	60	8.0
		150	10	1.5	6	9	60	12.0
	78	100	40-50	4-5	3	12-15	120-150	18-23
		150	40	6	2	12	80	18
DENSOLEN®-S20	41	50	24	1.2	12	14.4	288	9.0
		100	24	2.4	6	18	180	9.0
		150	24	3.6	6	27	180	13.5
	78	100	50-70	5-7	3	15-21	150-210	9.0-13.0
		150	50-70	7.5-10.5	2	15-21	100-140	9.0-13.0

Additional lengths and widths are available on request.

Storage

When stored in its original, unopened packaging, DENSOLEN®-N60/-S20 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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