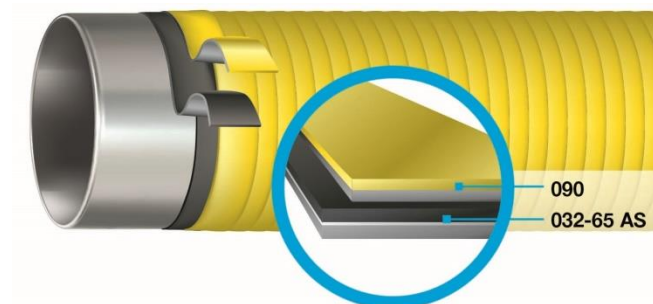


DENSOLEN[®]-System 4

DENSOLEN[®]-032-65 AS/-090

Product information



Special advantages:



For operating temperatures up to +50°C (+122°F).



Fulfills EN 12068-C 50.



Optimal for the coating of moulded parts.

Robust two-tape field coating system for the corrosion prevention of pipelines and pipeline components.

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[®] System 4 is a two-tape field coating system for the permanent corrosion prevention of pipelines and pipeline components. DENSOLEN[®] System 4 due to its design of two thin and well formable **DENSOLEN[®]** tapes is optimally qualified for the encasement of pipeline components such as T-fittings, flanges, sleeves or pipe elbows with small nominal pipe size. Based on the multi-layer design, a coating system is created for high mechanical and corrosive stresses.

DENSOLEN[®] System 4 features an ÖVGW approval for stress class C 50 in accordance with EN 12068.

Standard designation:

- EN 12068 - C 50



DENSOLEN[®] System 4 consists of the following **DENSOLEN[®]** tapes:

DENSOLEN[®]-032-65 AS as the inside tape, assumes the major corrosion prevention properties of the system.

DENSOLEN[®]-032-65 AS is a co-extruded 3-ply tape with an asymmetrical layer design. This design with a relative thin tape thickness of 0.65 mm provides nevertheless a thick butyl rubber coating on the pipe surface and therefore it provides an outstanding adhesive connection even if the pipe surface is uneven.

Due to the butyl rubber layer at the upper side of the tape, a self-amalgamation effect will be achieved in the overlapping area and an essentially gas and watertight as well as electrically high insulating encasement will be created.

In the DENSOLEN[®] System 4, **DENSOLEN[®]-032-65 AS** is used as corrosion prevention tape (winding with $\geq 50\%$ overlapping) as well as a tensioning tape (winding with $\geq 66\%$ overlapping).

DENSOLEN[®]-090 is used as the outside tape in the encasement system. DENSOLEN[®]-090 is a flexible two-ply tape with a polyethylene outside layer and an inside butyl rubber adhesive, which welds together with the outside layer of the inner tape. DENSOLEN[®]-090 acts as mechanical protection layer for the corrosion prevention tape located on the inside.

Both **DENSOLEN[®]** tapes can be processed efficiently with the **DENSOMAT[®]** wrapping devices.

Typical product properties

Property	Unit	DENSOLEN®-032-65 AS Typical value	DENSOLEN®-090 Typical value	Test method
Carrier film color	-	black	yellow	-
Butyl adhesive color inside	-	grey	grey	-
Butyl adhesive color outside	-	black	-	-
Tape thickness	mm	≥0.65	≥0.4	ISO 4591 ASTM D1000
Carrier film thickness app.	mm	≥0.18	≥0.26	
Inside adhesive layer thickness app.	mm	≥0.39	≥0.14	
Outside adhesive layer thickness app.	mm	≥0.08	-	
Elongation at break	%	≥550	≥400	DIN 30672
Tape strength	+23°C (+73°F) N/cm	≥50	≥35	EN 12068
Dielectric strength	kV/mm	-	-	ASTM D149

Property	Unit	DENSOLEN® System 4 Typical value	Required value	Test method
System design	Primer	DENSOLEN®-HT Primer	-	-
	Inside tape	DENSOLEN®-032-65 AS, 2 layers	-	-
	Tensioning tape	DENSOLEN®-032-65 AS, 3 layers	-	-
	Outside tape	DENSOLEN®-090, 2 layers	-	-
Total thickness	mm	≥4.1	-	-
Specific electrical insulation resistance	Ohm m ²	≥10 ¹⁰	≥10 ⁸	EN 12068
Peel strength on steel	+23°C (+73°F)	≥15	≥10	EN 12068
	+50°C (+122°F)	≥2	≥1	
Peel strength on PE	+23°C (+73°F)	≥10	≥4	EN 12068
Peel strength layer to layer	032-65 AS / 032-65 AS	≥22	≥15	EN 12068
	032-65 AS / 090	≥22	≥15	
	090 / 090	≥2	≥2	
Indentation resistance (residual layer thickness)	+23°C (+73°F) (10 MPa)	≥0.8	≥0.6	EN 12068
Impact resistance	J	≥15	≥15	EN 12068
Cathodic disbondment resistance	mm	<2	<20	EN 12068
Lap shear strength	on steel N/cm ²	≥8	≥5	EN 12068

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

Ordering information and packaging

	Core diameter (mm)	Tape length (m)	Width (mm)	Tape area (m ²)	Content per box			
					Number of rolls	Total tape area (m ²)	Total tape length (m)	App. weight (kg)
DENSOLEN®-032-65 AS	41	15	30	0.45	18	8.1	270	6
			50	0.75	12	9.0	180	6.5
			75	1.125	12	13.5	180	10.0
			100	1.5	6	9.0	90	6.5
DENSOLEN®-090	41	15	50	0.75	12	9.0	180	6,5
			75	1.125	12	13.5	180	10.0
			100	1.5	6	9.0	90	6,5

Additional lengths and widths are available on request.

Storage

When stored in its original, unopened packaging, DENSOLEN®-032-65 AS/-090 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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