

Corrosion Protection for Piping System

管道用防腐蝕產品



PLASTELEN® VERTE-HK PETROLATUM TAPE 牛油布



PLASTELEN®-AQ PRIMER-HK 底油

PLASTELEN®-PF MASTIC HT-HK 泥



DISTRIBUTOR:



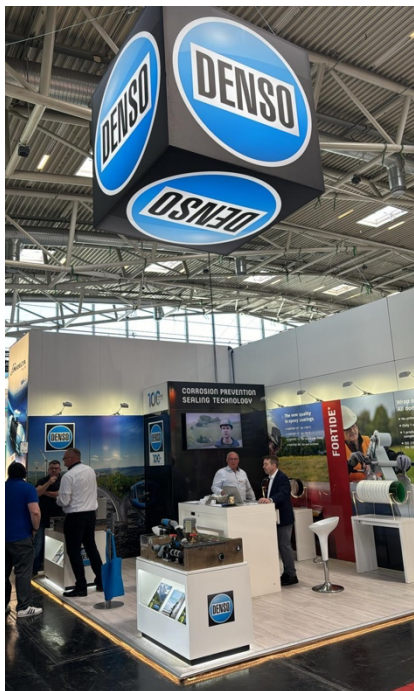
中華五金有限公司
CHUNG WAH METAL CO., LTD.

CORROSION PROTECTION SYSTEMS



Company History

Since a century we give this promise to our customers for all of our corrosion prevention products and innovative sealants for roads, railways, buildings, installations and pipelines. Our innovative products and systems help to ensure safe energy transport and durable roads. Protecting people, the environment and resources are our top priority.



Invention of the Petrolatum-Tape

Chemist Paul Schade develops “Schade’s plastic protective tape”. As the world’s first petrolatum tape, this now PLASTELEN®-Tape becomes a generic synonym for reliable passive corrosion prevention for pipelines.

The company name is born

The brand name, from the Latin word “densus” for “seal” is registered. The new brand is used as the name for the first product and is later applied also as the name for the mother company.

“DEKOTEC” CORROSION PROTECTION SYSTEM

1. *Plastelen – Verte – HK / Petrolatm Tape*
2. *Plastelen – AQ Primer - HK*
3. *Plastelen – PF Mastic - HT - HK*



Major Usage (Corrosion Protection):

1. Used on pipes, valves, flange joints, slip-on type couplings and flanges adaptors
2. Oil, gas, water, wastewater and chemical pipelines
3. Buried and exposed pipe work
4. Tie bars, rods, cables, tanks and handrails

Benefits:

1. Easy to apply with minimum surface preparation
2. Gives long-lasting protection
3. Easy to repair or replace after inspection
4. Non-cracking and Non-absorbent to moisture



Application Guideline:

1. Surface Preparation

- a) The Surface should be dry and clean, mechanical cleaning is to be applied if the surface has loose rust, scale, old coating and dirt
- b) Apply a thin layer of the PLASTELEN AQ PRIMER – HK by brush is highly recommended to further improve the effectiveness of the corrosion resistance
- c) The use of the PLASTELEN PF MASTIC – HT- HK is greatly recommended in the area of irregular shapes (especially area around flange joint with bolt and nut), to minimize the air space in between, thus maximize the protection effectiveness of such area



a. Surface Clean



b. Application of plastelen AQ primer



c. Application of PF Mastic



d. Wrapping

2. Wrapping

Apply **PLASTELEN - VERTE - HK PETROLATUM TAPE** spirally with a 25mm or 55% overlap, unless otherwise specified, taking care to prevent air pockets. Note that all overlaps should be facing downwards.

3. Finishing

Smooth out and press down well over the tape surface to ensure overlap seal.



Coupling



Filling with Mastic



Wrapping

Calculation

$$\text{ROLLS} = \frac{0.3416 \times \text{OD (mm)} \times \text{Length 9M}}{\text{Tape Width (m)} - \text{Overlap (mm)}}$$



Storage:

PLASTELEN PETROLATUM TAPE, PASTE and MASTIC should be stored in their original cartons until required for use. Store in dry, cool, well-ventilated conditions out of direct sunlight and other major sources of heat; the temperature should not exceed 70°C.

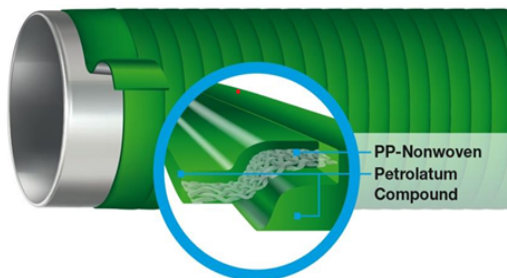
Health and Safety:

Material safety data sheets giving full information are available upon request; please contact our local distributor for further information.

Technical Data Sheet

Product: PLASTELEN® - Verte - HK / Petrolatum Tape

Special advantages:



For temperatures of
 -20°C to $+70^{\circ}\text{C}$



Flexible and adaptable.



Resistant against acids, lyes and salts.



Impermeable for water and gas.



Fulfills GrDF standard MBAA023 and BAA023.

Properties:

Plastelen - Verte - HK is a cold applied corrosion prevent tape based on petrolatum in accordance with EN12068 and it fulfills the standards MBAA023 and BAA023 of Gaz Réseau distribution France (GRDF).

It consists of an impregnated polypropylene carrier nonwoven, which is coated on both sides with a corrosion prevention petrolatum mastic, the petrolatum mastic is stabilized by polymer and mineral additives, which means that it can be used for resistant against acids and salts.

CORROSION PROTECTION SYSTEMS



Roll Length: 10M

Roll Width: 50, 80, 100, 150, 200, 300 (mm)

Property	Unit	Test Method	Typical Value
Total Thickness	mm	ISO 21809-3	1.1
Color	-	-	Brown-green
Carrier	-	-	Polypropylene Nonwoven
Mass	kg/m ²	-	1.44
Tape Strength	N/cm	EN12068	≥60
Impact Resistance	J / mm	ISO 21809-3	≥0.8
Elongation at Break	%	DIN30672	≥7
Peel Strength to pipe surface 28-Day Hot water	23°C 30°C	ISO 21809-3 ISO 21809-3	Leave a film of compound on the substrate
Dielectric Strength (Single Layer)	kV/mm		≥9
Temperature Range Wrapping In Service	°C °C	N/A N/A	-5 to +55 -20 to +70
Electrical insulation resistance	Ωm ²	EN12068	≥10 ¹⁰
Indentation resistance	N/mm ²	ISO 21809-3	0.1
Cathodic disbondment resistance at 28 days	mm	ISO 21809-3	<20
Dripping Point	°C	-	App. +60
Saponification number	mg KOH / g	EN 12068	≤0.25

Important the information given in this brochure is intended as a general guide. All product data supplied is based on tests carried out in controlled conditions at time of manufacture and is believed to be true and is offered for the buyer's evaluation and verification but does not constitute a warranty. Whilst DEKOTEC endeavors to ensure that any information, specification advice it may give is correct, as the conditions of transit, storage and use are beyond the company's control it cannot accept any liability either directly or indirectly arising from the use of the products. Products are sold subject to our standard terms and conditions for the sales of goods, copies of which are available on request.

PLASTELEN® - AQ Primer - HK

Special advantages:



AQ Primer



For operating temperatures up to +80°C (+176°F).



Outstanding surfaces wetting of moist surfaces.



Rust removal with a wire brush is adequate as the surfaces pre-treatment.



No pipe interruption during rehabilitation of pipes in operation.



Solvent-free.

Petrolatum-based corrosion prevention mastic for coating wet metal substrates.

Product Description

PLASTELEN® - AQ Primer is a corrosion protection mastic based on petrolatum. More than 90 years of experience, especially with the petrolatum tapes invented by us, have been utilized for the development of **PLASTELEN® - AQ Primer**.

PLASTELEN® - AQ Primer was developed especially for the coating of moist pipelines and components. Such moist surfaces can be found, for example, on pipelines or coolant lines that are under load or also when the humidity in the environment is high.

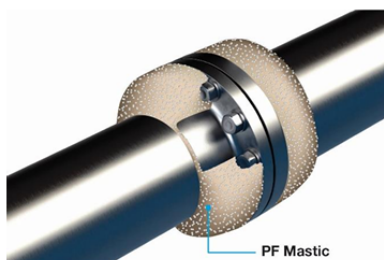
Normal anti-corrosion coatings cannot be used under these conditions. The high costs for line disconnections or long waiting times for rehabilitation measures can be avoided by using **PLASTELEN® - AQ Primer**.

Typical product properties

Properties	Unit	Typical value	Test method
Processing temperature	°C (°F)	-10 to +50 (+14 to +122)	-
Operating temperature	°C (°F)	-30 to +80 (-22 to +176)	-
Dripping point PLASTELEN®-AQ Primer	°C (°F)	>+100 (>+212)	DIN 51801
Cathodic disbondment resistance 28 days, +23°C / +73,4 °F	mm (Radius)	≤7	EN 12068
Resistance against microorganism (peel test)	-	Cohesive separation pattern	EN 10329
Thermal aging 100d at +80°C (+176°F)	-	Cohesive separation pattern	EN 12068

PLASTELEN® – PF Mastic HT - HK

Special advantages:



For operating temperatures of
-20 to +70°C



Easiest manual application.



Solvent-free.



Cold application.

Styrofoam ball-containing petrolatum-based mastic filler for filling cavities and smoothing uneven surfaces for subsequent coverage with a PLASTELEN® petrolatum tape.

Product description

PLASTELEN® - PF Mastic - HK is a hydrophobic, petrolatum-based mastic filler for filling cavities and smoothing uneven surfaces on buried pipeline components (e.g. flanges and fittings).

Thanks to its Styrofoam ball content, **PLASTELEN® - PF Mastic – HK** is easier to apply at low temperatures than Traditional petrolatum mastic fillers.

PLASTELEN® - PF Mastic – HK offers outstanding formability and permits the easy filling of cavities such as gaps between flange plates. This reliably prevent cavities and forms a complete corrosion prevention coating.

Consumption

Nominal diameter DN		Typical consumption (litres)
mm	inches	
25	1"	1
50	2"	2
80	3"	3
100	4"	4
200	8"	6
300	12"	8
400	16"	11
500	20"	13
600	24"	17

The low density makes transport easier and permits outstanding stability even on the bottom of the pipe.

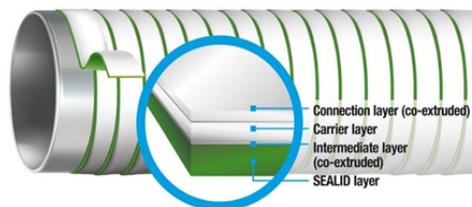
Typical product properties

Properties	Unit	PLASTELEN®-PF Mastic	Standard
		brown	
Colour	-	brown	-
Density	g/cm³	0.5 - 0.55	ISO 2811
Saponification number	mg (KOH)/ g	≤2	DIN EN 12068
Dripping point (Ubbelohde)	°C (°F)	≥+65 (≥+149)	DIN 51801
Cone penetration	1/10 mm	85	DIN 51804
Processing temperature	°C (°F)	-5 to +55 (+23 to +131)	-
Operating temperature	°C (°F)	-20 to +70 (-4 to +158)	-

CORROSION PROTECTION SYSTEMS



SEALID®-Tape



Corrosion and mechanical protection in a single product with just one wrapping process.



Primer-free, solvent-free and environmentally friendly.



For operating temperatures up to **+70°C (+158°F)**.



Fulfils the requirements of **ISO 21809-3** Type 12A-2 at **+70°C (+158°F)**, with just a 2-ply application (in a single wrapping process).



Fulfils the requirements of **EN 12068-C 50** and **DIN 30672-C 50** in a single wrapping process.

Primer-free all-in-one solution for permanent corrosion prevention of steel pipes and pipelines at operating temperatures up to +70°C (+158°F).

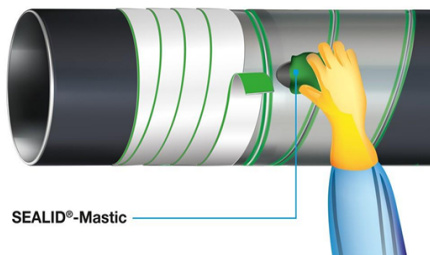
Product description

SEALID®-Tape is a patented global innovation. Secure corrosion prevention and also long-term protection against mechanical loads are ensured with one single product without primer, extensive surface preparation or additional application tools. **SEALID®-Tape** fulfils the world's leading standards and differs from all existing solutions.

SEALID®-Tape has outstanding surface wetting characteristics. The two layers of the spiral-wrapped tape quickly fuse together and form a closed and durable protective hose. The system is impermeable for water vapour and oxygen and it is resistant against soil bacteria and soil electrolytes.

Property	Unit	Typical value	Test method
Outside colour	-	white	-
Inside colour	-	green	-
Total thickness	mm	≥ 1.30	ISO 4591 ASTM D1000
Outside adhesive layer thickness	mm	≥ 0.08	
Carrier film thickness	mm	≥ 0.38	
Inside adhesive layer thickness	mm	≥ 0.84	
Elongation at break	%	600	EN 12068
Tear resistance	+23°C (+73°F) N/cm	140	
Electrical insulation resistance	Ω m ²	≥ 10 ¹⁰	
Dielectric strength	kV/mm	≥ 40	
Water absorption	+23°C (+73°F) 1 day/30 days	% ≤ 0.1 / ≤ 0.4	DIN 53495 ASTM D570
Brittleness temperature	°C (°F)	-46±4 (-50.8±7.2)	DIN 53372
		-58±4 (-72.4±7.2)	GOST 10354

SEALID®-Mastic



For operating temperatures up to **+70°C (+158°F)**.



Primer-free, solvent-free and environmentally friendly.



Seals perfectly irregularities.



Easy application on chamfers and irregular surfaces.



Permanent plasticity.

SEALID®-Mastic for the filling of cavities and transitions of corrosion prevention coatings with **SEALID®-Tape**.

Product description

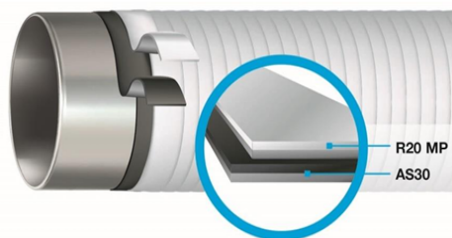
SEALID®-Mastic is a permanently flexible, hand-moldable filler for smoothing out uneven surfaces prior to the application of **SEALID® tapes**. It is ideal for smoothing out high weld seams, for example. It can be applied with minimal surface preparation like surface cleanliness of ST2.

SEALID®-Mastic is easy to apply by hand without additional primer or use of equipment. No time-consuming preparatory work or multi-stage application steps are required.

Typical product properties

Property	Unit	Typical value
Density	g/cm ³	> 1.4
Consistency		Good form stability, plasticity and easily formable
Operating temperature	°C (°F)	-40 to +70 (-40 to +158)

BUTYLEN-AS30/-R20 MP



No spiral corrosion hazard as compared to a two-ply tape.



Fulfills EN 12068-B50.



Fulfills ISO 21809-3, Type 12A-1.



Compatible with factory coatings made of PE, PP, FBE, PU, CTE and bitumen.



Outstanding tape elasticity and elongation at break.



Cost-effective system with outstanding price/performance ratio.

Two-tape system for the corrosion prevention coating of metal pipes and pipelines in accordance with DIN 30672 and EN 12068.

Description

BUTYLEN-AS30/-R20 MP is a cold applied tape system for corrosion prevention of metal pipes and pipelines with outstanding economic and qualitative properties. Due to the innovative formula, the tapes grow completely together in the overlapping area and create a long-lasting hose-type encasement.

BUTYLEN-AS30/-R20 MP fulfills the requirements of the impact resistance of class B 50 in accordance with EN 12068 and even the indentation resistance of class C 50.

BUTYLEN-AS30/-R20 MP is basically impermeable for water vapor and oxygen and it is resistant against soil bacteria and electrolytes.

BUTYLEN-AS30/-R20 MP is compatible with factory coatings made of PE, PP, FBE, PU, CTE und Bitumen.

The system **BUTYLEN-AS30/-R20 MP** consists of:

■ BUTYLEN- HT Primer

A solvent containing primer for corrosion prevention in combination with **BUTYLEN** tapes. For the processing in hot environments, the **BUTYLEN-MT25 Primer** can be used as an alternative.

Please refer to the separate product data sheet **BUTYLEN- Primer**.

■ BUTYLEN-AS30

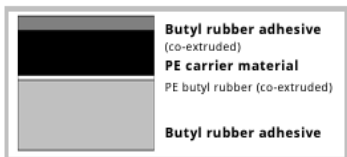
A real co-extruded 3-ply plastic tape made from stabilized polyethylene carrier materials with butyl rubber adhesive on both sides. **BUTYLEN-AS30** grows completely together in the overlapping area and creates a hose-type encasement, which

results in a reliable and durable corrosion protection.

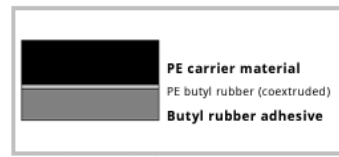
An outstanding connection between the adhesive and the carrier film is guaranteed by the co-extruded intermediate layer.

■ BUTYLEN-R20 MP

A co-extruded two-layer plastic tape made from robust white polyethylene carrier film with a single side butyl rubber coating. An outstanding connection between the adhesive and the carrier film is achieved by the co-extruded intermediate layer. The butyl rubber adhesive layer grows completely together with the outside layer of **BUTYLEN-AS30**.



Schematic cross section of BUTYLEN-AS30



Schematic cross section of BUTYLEN-R20 MP

Typical product properties

Property	Unit	BUTYLEN-AS30 Typical value	BUTYLEN-R20 MP Typical value	Test method
Carrier film color	-	Black	White	-
Butyl adhesive color inside	-	Gray	Black	-
Butyl adhesive color outside	-	Black	-	-
Total thickness	mm	≥ 0.5	≥ 0.5	ISO 4591 ASTM D1000
Carrier film thickness app.	mm	≥ 0.18	≥ 0.3	
Inside adhesive layer thickness app.	mm	≥ 0.24	≥ 0.2	
Outside adhesive layer thickness	mm	≥ 0.08	-	
Elongation at break	%	≥ 600	≥ 500	DIN 30672
Tensile strength	+23°C (+73°F) N / cm	≥ 65	≥ 65	EN 12068
Dielectric strength	kV / mm	≥ 40	≥ 50	ASTM D149

BUTYLEN-AS30/-R20 MP with BUTYLEN-HT Primer

Property	Unit	BUTYLEN-AS30/-R20 MP Typical value		Required value		Test method
Specific electrical insulation resistance	Ohm m ²	≥ 10 ¹¹		≥ 10 ⁶		EN 12068
Volume resistivity	Ohm cm	≥ 10 ¹⁶		Not stated		ASTM D257
Peel resistance metal/primer/tape	N / cm	+23°C (+73°F)	+50°C (+122°F)	≥ 4	≥ 0.4	EN 12068
		≥ 15	≥ 2.0			ASTM D1000
		≥ 33	≥ 2.5	Not stated		
Peel resistance layer to layer	N / cm	+23°C (+73°F)	+50°C (+122°F)	≥ 8	≥ 2	EN 12068
AS30 / AS30		≥ 22	≥ 4.0			
AS30 / R20 MP		≥ 22	≥ 3.5			
R20 MP / R20 MP		≥ 4	≥ 3.5			
Indentation resistance - residual layer thickness	mm	+50°C (+122°F)		> 0.6	> 0.6	EN 12068
for stamp load 1N / mm², stamp-Ø 5.65 mm		> 1.3 (fulfills class B)				
for stamp load 10 N / mm², stamp-Ø 1.8 mm		> 0.6 (fulfills class C)				
Impact resistance	J/mm	≥ 7.5 J/mm (≥15 J)		≥ 4		ISO 21809-3
Cathodic disbondment resistance (radius)	mm	< 2		< 20		EN12068
Lap shear strength	N / cm ²	+23°C (+73°F)		5	5	EN 12068
on steel		≥ 8				
on factory coating		≥ 8				
Water vapor permeability	g / m ² 24h	< 0.2		Not stated		ASTM E96

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

Ordering information and packaging

	Core diameter (mm)	Width [mm]	Tape length [m]	Tape area per roll (m ²)	Number of rolls	Content per box		
						Total tape area (m ²)	Total tape length (m)	App weight (kg)
BUTYLEN-AS30	41	50	30	1.5	10	15	300	10
		100	30	3.0	5	15	150	10
		150	30	4.5	5	22.5	150	15
	78	100	70	7	3	21	210	13
		150	70	10.5	2	21	140	13
		50	30	1.5	12	18	360	11
BUTYLEN-R20 MP	41	100	30	3.0	6	18	180	11
		150	30	4.5	6	27	180	17
		50	30	1.5	12	18	360	11
	78	100	70	7	3	21	210	13
		150	70	10.5	2	21	140	13
		50	30	1.5	12	18	360	11

Additional dimensions available on request.



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Certificate of Compliance

Coating system	
Coating name	SEALID®-Tape
Manufacturer	DEKOTEC GmbH

Tested on behalf of : DEKOTEC GmbH
Felderstraße 24, D-51371 Leverkusen, Germany
Test laboratory : Element Amsterdam, The Netherlands
Report number : ERO033385-2
Dated: 12-01-2021

Element hereby certify that the above-named system has been tested in accordance with **DIN EN 12068-C50**.

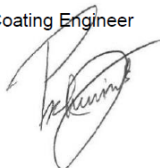
Samples were **prepared in a single wrapping process with 67% overlapping without a primer** and supplied by DEKOTEC, Element did not witness preparation and application of the tape.

Testing was performed between June 2020 and November 2020 at the Element facilities in Amsterdam.

The above coating scheme passed the tests and meets the requirements of **DIN EN 12068 class C 50**.

Author: P. Schurink

Coating Engineer



Authorised by: J.J. Rokx

Operations Manager



Certificate

Standard **ISO 9001:2015**

Certificate Registr. No. 74 210 0117

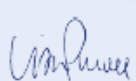
Certificate Holder: **DEKOTEC Dekorative Galvano- und
Oberflächentechnik GmbH**
Unterm Ruhestein 3
35764 Sinn
Germany

Scope: Surface treatment for customer supplied products with
electroplating, anodizing and chemical plating.
Also assembly for this kind of products

Proof has been furnished by means of an audit that the
requirements of ISO 9001:2015 are met.

Validity: The certificate is valid from 2024-01-09 until 2027-01-08.
First certification 2006

2023-10-31


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