

EPT-SEALER 685 SERIES

General description

EPT-Sealer 685 is a semi-closed cell EPDM foam with excellent sealing properties. The semi-closed cell structure combines the flexibility of open cell types with the excellent sealing capabilities of closed cell types (after compression). This unique foam can be laminated with Nitto's advanced adhesive technology to seal (complex) gaps against water, wind, dust, noise and heat.

Construction



685
- Semi-closed EPDM foam



686EP
- Semi-closed EPDM foam (685)
- Acrylic-based adhesive
- Non-woven carrier
- Acrylic-based adhesive
- Release liner

High-end tape for LSE (low surface energy)
EP-range available on separate datasheet



686P
- Semi-closed EPDM foam (685)
- Acrylic-based adhesive
- Polyester carrier
- Acrylic-based adhesive
- Release liner

Minimal stretch due to carrier stiffness



686
- Semi-closed EPDM foam (685)
- Acrylic-based adhesive
- Non-woven carrier
- Acrylic-based adhesive
- Release liner

General purpose



686T
- Semi-closed EPDM foam (685)
- Acrylic-based adhesive
- Release liner

More flexibility (complex shape)



687
- Semi-closed EPDM foam (685)
- Butyl-based adhesive
- Cloth carrier
- Butyl-based adhesive
- Release liner

Greasy, rough or rubber based substrates

Characteristics

- Resistant to UV, humidity, high and low temperatures (see properties).
- The flexibility of the foam ensures that the optimal sealing performance is obtained, even with expansion or contraction of the structure caused by temperature changes.
- Due to the low compression load, the foam can compensate for dimensional deviations in substrates and avoids, in common use, deformation of the structure after application.
- Combined with Nitto's advanced adhesive technology, the foam can be applied on greasy, rough, smooth and low energy surfaces. Depending on the type of substrate, different adhesives are available in combination with the EPDM foam.
- No heavy metals (such as Cd, Pb, Hg, Cr6) and no regulated substances (such as CFC's and halogen gases) are used during the manufacturing process nor in the product itself. These products comply with the RoHS and ELV directives. IMDS declarations are available upon request.

Application

EPT-Sealer 685 is especially designed to seal (complex) gaps against water, wind, dust, noise and heat. Depending on the applications, the foam needs to be compressed between 50-80% to activate its sealing properties.

AUTOMOTIVE – sealing of HVAC unit, dashboard, air duct, glass run, fire wall
BUILDING & CONSTRUCTION – sealing of exterior panel joints, solar panels
INDUSTRIAL – sealing of air-conditioners, mobile phones, refrigerators

CORE FUNCTION



TO BLOCK

Features

- semi-closed cell structure
- super soft / conformable
- low compression load
- ozone resistance
- good weatherability
- fungus free
- excellent ageing performance (dimensional heat stability)
- good water sealing
- excellent sound insulation
- wide range of performing tapes



Edition: January 2020
 Code: DS/02.08/ 685 series ENG
 This datasheet replaces all previous versions



Properties

Foam	Typical Value	Test Method
Thickness	3 to 30 mm*	ISO 1923
Density	130 kg/m ³	ISO 845
Elongation MD**	600 %	JIS K 6767
Tensile strength MD	125 kPa	JIS K 6767
50% compression load	6.9 kPa	Nitto Belgium Test Method
Water absorption (50%)	1.9%	Nitto Belgium Test Method
Water tightness (65%)	No leakage	Nitto Europe U-shape ***
Sound insulation performance	Excellent	Nitto Denko Test Method
Tape		
Adhesion to BA steel (180°)	min. 700 cN/20mm	EN 1939

* thicker material available on request ** MD = Machine Direction ***  Watertightness

Complex	Typical Value	Test Method
Adhesion to 2B steel (90°)	min. 400 cN/20mm	JIS Z 0237
Flammability (Ref 10mm)	< 100 mm/min	FMVSS 302
for other thicknesses, refer to customer product specification		
Weatherability	No cracks	Sunshine Weatherometer
After 1080 hours (equivalent to 10 years outdoor exposure), test condition: 63 °C, 12 min./60min. waterspray, test performed of stretched foam (elongated to 30%)		
Chemical resistance	Stable	Immersion at 20 °C for 7 days
Test solution: acid (1%H ₂ SO ₄) alkaline (1%NaOH), test performed on tensile strength and elongation acc. to JIS K6767.		
Temperature resistance	General -40 to 135 °C No. 687: -40 to 80 °C	Dimensional stability
In case of extreme temperatures, we recommend to perform application tests.		
Ozone resistance	No cracks	Visual inspection
Test conditions: 75 ppm ozone, 40 °C, 30 days, 20% elongated sample		
Watertightness (55%)	No leakage	Nitto U-shape method

Warranty

The product is guaranteed to be free from defect in material and workmanship at the time of delivery and will be suitable for use for a period of 6 months thereafter, subject to the conditions set out herein.

Availability

Rolls: widths: 250 mm, 330 mm, 500 mm, 1000 mm & lengths: 10 to 50 m depending on the thickness
Sheets: 1000 mm x 2 m

Application guidelines

- The performance of Nitto EPT-Sealer on specific substrate must be assured by the user before implementation.
- During storage and transport, do not over stack the product, as this may cause deformation.
- EPT-Sealer should be applied to clean and dry surface. Remove excess oil, moisture and dirt from the substrate surface to which the sheet is applied.
- In order to avoid entrapped air-bubbles, tension and shear, the customer should determine appropriate application conditions. The best application conditions are obtained at a temperature around 15 and 40 °C.
- Appropriate compression is needed to have sealing performance.
- In case of use of primer, check beforehand the impact of the primer to the performance of the EPT-Sealer. Wrong use of primer can lead to loss of adhesion.
- Please consult Nitto Belgium for any robotic application regarding more specific precautions.
- Thickness as referred in orders, article description and on the packaging is related to the foam and is excluding tape and release liner thickness.

If you require additional information on technical properties and application as well as product sampling or testing, please contact your local Nitto sales office.

General conditions of use and precautions:
The properties of the product might be adversely affected by various elements such as composition, condition and surface of and impurities in or on the substrate, temperature and humidity during storage, the surrounding environment at and after application and time of exterior use. When the product is used in combination with another material or process, the user shall assure the compatibility of the product in such combination and whether this combination results in the expected performance. The same principle applies in the event of product use in extreme conditions or circumstances, whether at or after the moment of application, including extended exposure to sunlight or extreme temperatures and pressure.

Packaging, transport and storage:
During transport and storage the product should always be protected against direct sunlight and extremes in temperature and humidity and contained in its original packaging. Once removed from its packaging, it should be promptly applied and remain shielded from direct sunlight and extreme temperature as well as protected against dust and other impurities.

Liability:
Except for its wilful misconduct, Nitto Belgium's liability shall be limited to a replacement, a reimbursement or an additional delivery of the product, and shall not exceed the purchase price of the products. In no event shall Nitto be liable in respect of any indirect or consequential damages, including loss of profits. The above limitations of liability shall equally apply if Nitto Belgium has assisted in any manner with the selection, treatment or application of the product.

Product information:
This datasheet provides a general description of the product properties and application scope. Full technical details in connection with this product are presented in the customer product specification, which is available upon request.

The information reflected in this datasheet is subject to change and the product described herein may be modified or discontinued without notice.

Nitto Belgium NV has obtained following certificates:

- ISO 9001
- ISO 14001
- IATF 16949

Please check our website for applicable scope

Edition: January 2020
Code: DS/02.08/ 685 series ENG
This datasheet replaces all previous versions



Innovation for Customers