One-component, polyisobutylene based primary sealant for insulating glass

TENAGLASS®-PIB

GENERAL DESCRIPTION

TENAGLASS®-PIB is a polyisobutylene based hot melt sealant specially formulated for use in the production of insulating glass units. It should always be used as a primary sealant in combination with compatible secondary polysulphide or polyurethane sealant. TENAGLASS®-PIB is used with all common spacer systems, especially in combination with "warm edge" spacer systems. The resulting sealed units are then capable to comply with requirements of EN 1279, Parts 2 and 3. TENAGLASS®-PIB is compatible with all TENAGLASS® secondary sealants.

MAIN PROPERTIES

- Excellent adhesion to glass and metal spacer materials (aluminium, galvanized steel, stainless steel)
- Very low moisture vapour transmission rate
- Very low gas permeability
- Acts as a thermal break
- No cleaning or purging of dispensing equipment required
- High ageing resistance
- No shrinkage
- Good compression resistance
- Solvent-free

TECHNICAL DATA

Packaging	7 kg cylindrical slug
Chemical base	Polyisobutylene-based
Colour	Black
Consistency	Permanent plastic
Density (ISO 1183-1)	approx. 1.15 kg/l
Application temperature	+120°C to +140°C
Recommended consumption	1.2 to 3.0 g per linear metre on each side of the spacer bar
Water vapour transmission rate for 2 mm thick film (EN 1279-4)	<0.1 (g H_2O) × m^{-2} × $(24h)^{-1}$
Temperature resistance	-40°C to +90°C
Shelf life/storage	3 years in original packaging. Material must be stored at application conditions prior to use to avoid condensation. Recommended storage temperature range from + 10 °C to + 30 °C

HEALTH AND SAFETY MEASURES

Please refer to information given in safety data sheet for TENAGLASS®-PIB. Follow actual legislation requirements in the place of product application. Avoid uncured material contact with skin. TENAGLASS®-PIB is not classified as a dangerous good, however, the normal safety measures for handling chemical goods must be observed.

INSTRUCTIONS FOR USE

IMPORTANT

Before starting any work with TENAGLASS®-PIB carefully read safety data sheet. Ensure that only instructed persons are allowed to work with the product. Gloves and eye protection are recommended.

UNIT PREPARATION

TENAGLASS®-PIB shows excellent adhesion to cut, ground or polished glass as well as all metallic materials traditionally used for spacer bars. It is essential that all surfaces are clean, dry and free of grease. Remove the coatings from the edge of glass pane unless indicated otherwise by glass supplier. During the application of insulated glass units only sealants which do not contain solvents or plasticisers may be used. If these are in direct contact with the outer seal the compatibility must be checked. This also applies to paint or varnish coatings and all materials which may be in contact with the outer seal.

SEALANT APPLICATION

TENAGLASS®-PIB is suitable for use with all types of primary seal dispensing equipment. Due to specific minor differences in dispensing machinery, the best performance is achieved by assessing the specific weight of coating (grams per metre of joint) on each side of the spacer bar rather than by specific temperature and pressure settings. Specific weight of coating should be within the range from 1.2 to 3.0 g/m on each side of the spacer. Additionally, it should be as uniform as possible on each side with the front and back coating weight as close to each other as possible (no greater than 0.5 g difference).
The application must be semi-circular in cross section and free of grooves or other discontinuities as shown in Fig. 1.

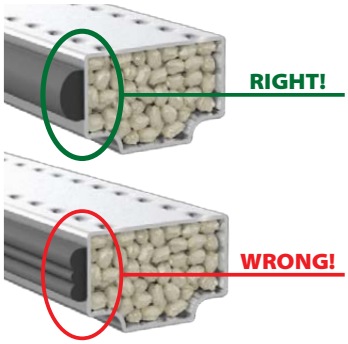


Figure 1

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ISO 9001 BUREAU VERITAS Certification
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Butyl should be applied directly on the centre line of spacer edge in a way that after pressing together the glass and the spacer butyl would not get into the space between the glass sheets (Fig. 2).

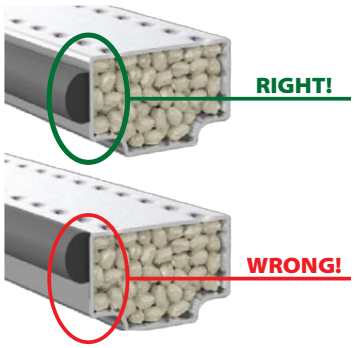


Figure 2

Butyl application machine must apply butyl equally on the both sides of the spacer. The butyl layer must be continuously equal on all spacer length (Fig. 3).

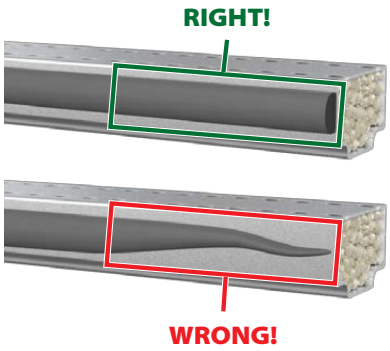


Figure 3

Specific weight of coating below 1.2 g/m will lead to uncoated surface areas of glass and spacer substrates and imperfections in the bulk of the sealant layer. Specific weight of coating exceeding 3.0 g/m will lead to penetration of excess material into insulating glass cavity. Excess consumption of material will also change required force to press the unit which can lead to drop of edge seal strength and/or excessive unit thickness.

After application of TENAGLASS®-PIB on the spacer adjust the pressure applied to glass planes to obtain at least 4 mm wide and not less than 0.25 mm thick layer of primary sealant (Fig. 4). Glass sheets and spacer must be compressed for at least 3 seconds to ensure that butyl could fill all micro-size undulations of the glass surface.

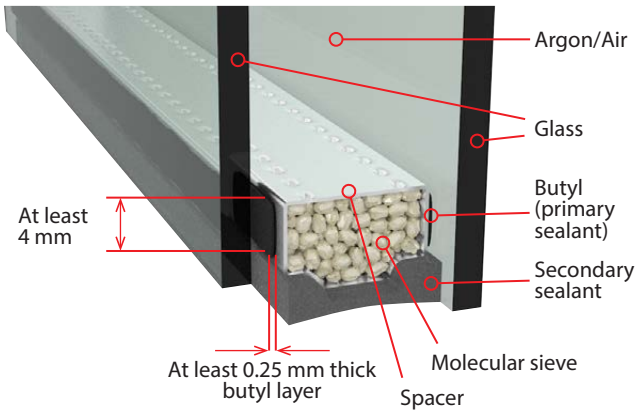


Figure 4

It is important to obtain continuous, uniform layer of primary sealant and to dispense additional material into the cavity where the corner keys are connected or a bent spacer system used. Ensure the extruded sealant is not touched as this may adversely affect the wetting of the substrates and adhesion of sealant in the compressed primary seal. For further recommendations on particular aspects of handling and application of TENAGLASS®-PIB please contact our local representatives.

LEGAL NOTES

The information given above, and, in particular, the recommendations relating to the application and end-use of SIA "TENACHEM" products, is based on SIA "TENACHEM" current knowledge and experience. The information remains valid only as long as the product is stored, handled and applied in accordance with manufacturer's recommendations. In praxis the conditions on site as well as substrate properties will differ significantly. Therefore the user of the product must test the product's suitability for the intended application and purpose. SIA "TENACHEM" reserves the right to change the properties of its products. In all cases the most recent version of product description applies.

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