

# TENAGLASS®-PU

## GENERAL DESCRIPTION

Tenaglass-PU is a two component, polyurethane based secondary sealant for production of insulating glass units. Component B (curing agent) can be supplied as a liquid or paste on client's request.

## MAIN PROPERTIES

- Good adhesion to glass and metal spacer materials (aluminium, galvanized steel, stainless steel)
- Durable in normal weathering conditions
- Low gas and water vapour permeability
- Excellent compatibility with polyisobutylene-based primary sealant
- Solvent – free

## APPLICATION

Surfaces must be dry and free from any oil, grease and dust. Remove glass coating at the edge of glass pane unless indicated otherwise by glass supplier. Use standard insulating glass production machines for mixing and application of sealant.

Avoid contamination of component B with moisture. It is essential to apply component A of Tenaglass-PU only in mixture with component B of Tenaglass-PU. Avoid contamination of Tenaglass-PU with previously used sealants. Always follow advised mixing ratio given on packaging to obtain the best results. Apply methods for mixing quality control in accordance with EN 1279-6 or similar. For machine adjustment check the mix properties in mixing ratio range  $\pm 10\%$ .

## CLEANING

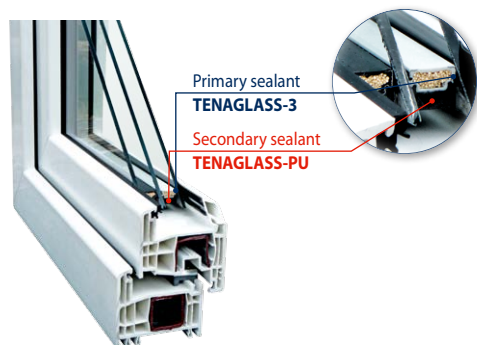
Please refer to user manual of dispensing equipment manufacturer as well as special instructions for Tenaglass-PU application.

## HEALTH AND SAFETY MEASURES

Please refer to information given in safety data sheet for Tenaglass-PU. Follow actual legislation requirements in the place of product application. Always use individual protection measures when working with sealant. Avoid uncured material contact with skin.

## PROTECTION OF ENVIRONMENT

Waste of sealant and materials contaminated by it have to be collected and turned to waste deposit area. Contact your local or regional authorities for disposal options.



## TECHNICAL DATA

Appearance	Component A (base) – light grey, thixotropic compound Component B (curing agent) – black (liquid or paste on request)	
Mixing ratio A : B by volume	10 : 1	
Cure mechanism	Cold curing, polyaddition caused by curing agent	
Pot life	30 to 90 min (at +23 °C and 50 % relative humidity) With temperature decrease the pot life increases With temperature increase the pot life decreases	
Edge seal strength (EN 1279-4 A)	$\geq 0,6$ MPa	
Elongation at break (EN 1279-4 A)	$\geq 50\%$	
Hardness, Shore A (EN 1279-6)	$\geq 40$ after 3 h (at +23 °C and 50 % relative humidity) $\geq 45$ after 24 h (at +23 °C and 50 % relative humidity)	
Resistance to flow (ASTM D 2202-93a)	$\leq 2$ mm	
Packaging	Total set	• Material volume 220 L
	On one pallet	• 2A + 2B
	Component A	• Material volume 200 L • Packaging – 210 L metal drum, $\varnothing (571 \pm 2)$ mm
	Component B – liquid or paste	• Material volume 20 L • Packaging – 21 L metal drum ( $\varnothing (280 \pm 1)$ mm, with two closures or with lid and ring)
	Special packaging on client's request is possible	
Shelf life/storage	6 months from production date in unopened, undamaged original packaging, in dry place in temperature range from +5 °C to +30 °C	

## ATTESTATION OF CONFORMITY

Tenaglass-PU is tested at TNO Quality services B.U. and ift Rosenheim GmbH laboratories. Results conform to standard EN 1279, Parts 2, 3 and 4.

## LEGAL NOTES

TENAX reserves the right to change the properties of its products. In all cases the most recent version of product description applies.

# TENAGLASS®-3

## GENERAL DESCRIPTION

Tenaglass-3 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 together with compatible secondary polysulphide sealant, such as Tenaglass-2 or polyurethane sealant, such as Tenaglass-PU. The resulting sealed units are then capable to comply with requirements of EN 1279, Parts 2 and 3.

## 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

## TECHNICAL DATA

Packaging	7 kg cylindrical slug
Chemical base	Compounded polyisobutylene containing non-volatile materials
Colour	Black
Appearance	Solid resin
Density	1,2 kg/liter
Application temperature	120 °C to 150 °C
Recommended consumption	2 to 4 g per linear metre on each side of the spacer bar, depending upon spacer profile type
Shelf life/storage	12 months from production date in unopened, undamaged original packaging, in cool, dry place in temperature range from +5 °C to +25 °C

## HEALTH AND SAFETY MEASURES

Please refer to information given in safety data sheet for Tenaglass-3. Follow actual legislation requirements in the place of product application. Always use individual protection measures when working with sealant. Avoid uncured material contact with skin.

## LEGAL NOTES

TENAX reserves the right to change the properties of its products. In all cases the most recent version of product description applies.



## INSTRUCTIONS FOR USE

### Important

Before starting any work with Tenaglass-3 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-3 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 and dry. Remove the coatings from the edge of glass pane unless indicated otherwise by glass supplier.

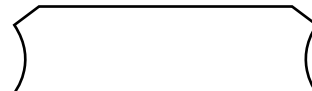
### Typical application together with Tenaglass-PU or Tenaglass-2

Tenaglass-3 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 2 to 4 g/m on each side of the spacer. Additionally, it should be as uniform as possible on front and rear sides of the spacer bar, with weight difference not exceeding 0,5 g/m.

The spacer bar profile also determines the coating weight to be achieved. Spacer bars for dual seal system can accommodate higher coating weight. For the straight sided spacer bar lower coating weight (from 2 to 3 g/m) than for the dual seal system spacer bar (see figure) will be required.



Straight-sided spacer bar



Dual-seal spacer bar

**Specific weight of coating below 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 4 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.

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-3 please contact our local representatives.