

Dow Corning[®] TSSA – Transparent Structural Silicone Adhesive

FEATURES & BENEFITS

- Crystal clear, transparent, high strength silicone film adhesive for point fixed frameless glazing applications
- 1.3MPa (190 psi) dynamic design stress, 9.5 times higher compared to conventional structural glazing silicones
- 0.6 MPa (90 psi) dead load design stress
- Silicone film adhesive – clean non-messy application
- Suitable for factory glazing with cure in an autoclave
- Precatalyzed, ready to cure
- No by-products during cure
- UV- and weather –resistant
- Excellent, wide range temperature stability suitable for exterior facades: -50°C (-58°F) to +150°C (+300°F)
- Ready to use 50mm (2 inch) diameter circular buttons
- No glass drilling allows for uninterrupted glass interlayers
- Suitable for use with laminated glass
- Can be cured simultaneously with PVB and DuPont™'s SentryGlas[®] Plus interlayers
- Suitable for annealed, heat strengthened and tempered glass
- Suitable for single and double glazed units
- Suitable for use with 316 alloy stainless steel
- Slim point fixing – for filigree façade aesthetics

High strength structural glazing silicone film adhesive

APPLICATIONS

- *Dow Corning*[®] TSSA - Transparent Structural Silicone Adhesive is 1mm thick, transparent silicone film adhesive tailor made for structural point fixed frameless interior and exterior glazing applications. *Dow Corning* TSSA is suitable for laminated glass with different functional interlayers as well as point fixed frameless systems with gas filled insulating glass units. *Dow Corning* TSSA provides a design strength for dynamic loads which is 9.5 times higher than a conventional structural glazing silicone.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Test*	Property	Unit	Result
	As supplied – uncured state		
	Color		Crystal clear
CTM 97B	Specific gravity	g/ml	1.01
	Film Thickness	mm	1
	Curing Time at 120°C to 130°C (250°F to 266°F)	min	30
	Autoclaving temperature range	°C (°F)	120 to 150 (250 to 300)
	As cured		
	Service temperature range	°C (°F)	-50 to 150 (-58 to 300)
ASTM D2204	Durometer Hardness	A scale	75
ASTM D412	Maximum Tensile strength	MPa (psi)	8.5 (1230)
ASTM D412	Elongation at maximum tensile	%	250
ASTM D412	Modulus at origin	MPa (psi)	9 (1300)
ASTM D412	Tensile strength at 100% elongation	MPa (psi)	4.5 (650)
ASTM D3165	Shear strength in lap shear	MPa (psi)	5.7 (825)
ASTM D3165	Shear modulus in lap shear	MPa (psi)	2.5 (360)
	As cured on typical hardware		
	Tensile strength 50mm button	MPa (psi)	4.5 (650)
	Shear strength 50mm button	MPa (psi)	5.0 (725)

*CTM: Corporate Test Method, copies of CTM's are available on request.

ASTM D: American Society for Testing and Materials.

DESCRIPTION

Dow Corning TSSA is for point fixed frameless glazing and an addition cure silicone requiring heat to cure. There are no by-products released during the curing process. The product must be kept refrigerated at temperatures below +5°C (41°F) until application and cure.

HOW TO USE

Dow Corning TSSA must only be applied by properly trained personnel per the Dow Corning Quality Bond program.

APPLICATION

Dow Corning TSSA is supplied in round shaped buttons and packaged between PETP layers which are removed prior to application.

Dow Corning TSSA has a designed tack to ensure the properly placed hardware will stay in place during autoclaving. A pre-shaped form tool is suggested to position buttons correctly before curing.

After heat cure, *Dow Corning* TSSA provides full strength and adhesion to substrates and is ready for erection.

CLEANING AND PRIMING

The technical manual for *Dow Corning* TSSA has detailed instructions on proper surface preparation for glass and metal substrates. *Dow Corning*® R40 Cleaner is recommended for cleaning of metal and glass surfaces. Alternatively, Isopropanol or Acetone may be used for cleaning. Please contact Dow Corning Technical Service for more information.

MAINTENANCE

No maintenance is needed once the adhesive has been properly applied and cured. If glass units need to be replaced or the *Dow Corning*® TSSA becomes damaged e.g. during installation, the adhesive can be cut and removed from the glass. After careful and proper cleaning, glass and hardware can be re-used.

HANDLING

PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEB SITE AT DOW CORNING.COM, OR FROM

YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

USABLE LIFE AND STORAGE

When stored between 0°C and +5°C in the original unopened containers, *Dow Corning* TSSA for point fixed glazing has a usable shelf life of 4 months from the date of production.

Recommended storage conditions must be maintained to ensure quality.

COLOR AND PACKAGING INFORMATION

Dow Corning TSSA is transparent and supplied as a 1mm thick film shaped in 50mm diameter buttons. The buttons are packaged between layers of PETP film and are ready to apply.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Dow Corning TSSA – Transparent Structural Silicone Adhesive must be not intended for:

- Constant water immersion
- Substrates not tested for adhesion
- In applications without approval by Dow Corning Technical Service
- In any medical or pharmaceutical applications
- Designs above suggested design stress in live and dead loads.

HEALTH AND ENVIRONMENTAL INFORMATION

To support Customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our Web site, dowcorning.com or consult

your local Dow Corning representative.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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