



Silfast 501

Fast Cure Impact Glazing
Silicone Sealant/Adhesive

Technical Data Sheet

DESCRIPTION

BONDAFLEX Sil 501 is a fast curing, one-component, non-sag, elastomeric, neutral cure silicone sealant/adhesive. Meets the requirements of ASTM C-920, Type S, Grade NS, Class 25, Use NT, T, M, G, A, O; TT-S-00230C, Type II, Class A; TT-S001543A, Class A; CAN/CGSB-19.13-M87, AAMA 802.3 Type I and II, AAMA 803.3 Type I, AAMA 805.2, AAMA 808.3 and California Air Resources Board 2003 requirements for Volatile Organic Compound content. **Bondaflex Silfast 501** is formulated for window fabrication and has passed the Florida Hurricane Glazing Code when used in designed systems.

WHERE TO USE

Construction Application

- Window and door fabrication
- Back bedding for caps, toe and heels
- In shop perimeter sealing of windows, doors and skylights
- Conventional glazing
- Impact glazing

Industrial Application

- OEM Window doors, skylight manufacturing

Structure

- Buildings
- Schools
- Stadiums
- Prisons

Location

- Horizontal and vertical
- Interior and exterior
- Above grade

Substrate

- Vinyl, glass, aluminum, anodized, painted and powder coated aluminum, painted metals, tile, fiberglass, plastic, ceramic and wood

FEATURES

- Unaffected by most atmospheric conditions
- Excellent unprimed adhesion to PVC/vinyl, most aluminum finishes
- Unmatched high early green strength
- Fast curing neutral cure
- Compatible with insulated glass sealant
- Joint movement $\pm 25\%$
- Excellent adhesion
- One-component
- Medium modulus
- Superior properties to conventional two-parts

BENEFITS

- Extremely long service life
- Superior window fabrication
- Faster production of curtainwall and metal windows without problems of two-part pumps
- Faster production capability
- Faster shipping of finished unit
- Component flexibility
- Excellent flexibility for dynamic joint movement, impact & seismic stresses
- Bonds to most substrates without priming
- Ready to use, labor cost reduction
- High durability while providing flexibility
- Better performance and ease of use for impact security glazing systems

TYPICAL PROPERTIES

Cured (7 days @ 77°F (25°C) and 50% RH)

TYPICAL PROPERTIES		TEST METHOD
Movement Capability, %	± 25	ASTM C-719
100% Modulus, psi (MPa)	125 (0.86)	ASTM D-412
Hardness, Shore A	35 \pm 5	ASTM C-661
Tensile Strength, psi (MPa)	300 (2.07)	ASTM D-412
Elongation at Break, %	325	ASTM D-412
Bond durability on glass, aluminum and concrete	± 25	ASTM C-793
Accelerated Weathering 10,000 hrs.	No change	QUV Weatherometer

Uncured

Skin-Over Time	5 min.	MNA METHOD
Tack-Free Time	10	ASTM C-679
Cure Rate	1/8 inch/24 hrs.	MNA CTM
Extrusion Rate g/min 1/8" orifice @ 90 psi	250	ASTM C-1183 modified
Slump of Sealants	nil	ASTM D-2202
Rheological, Vertical @ 120°F (49°C)	non-sag	ASTM C-639
Volatile Organic Content:	1.48 % by wt. 21 g/L 0.18 lbs/gal	

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

PACKAGING

- 10.1 fl. oz. (300 ml) disposable cartridges
- 4.5 gal (17 L) in a 5 gal pail
- 52 gal (197 L) in 55 gal drum

Special packaging available upon request – ask your local Representative for more information.

STORAGE/SHELF LIFE

When stored in the original, unopened containers at or below 90°F (32°C), shelf life is one year. A product skin may form in pails and drums, remove prior to use.

COLORS

White, Grey Bronze and Black. Custom colors are available upon request - ask your local Representative for more information.

EXPANSION JOINT DESIGN

1. The number of joints and the joint width should be designed for a maximum of $\pm 25\%$ movement of joint width at time of installation.
2. The depth of the sealant should be 1/2 the width of the joint. The maximum depth is 1/2 inch (13mm) and the minimum is 1/4 inch (6mm).
3. To control joint depth, use closed cell polyethylene, non-gassing polyolefin or open cell polyurethane backer rod. If joint depth does not allow for backer rod, use polyethylene bond breaker tape to prevent three-sided adhesion.
4. Closed cell backer rod should be 25% larger than joint width; do not compress more than 40%. Open cell should be compressed 40%.

STRUCTURAL JOINT DESIGN

1. Technical Services should be contacted to review structural site calculation for all structural silicone glazing application.
2. Obtain lite size, wind load and other project details for support and approval.

SURFACE PREPARATION

The substrate must be clean, dry, frost free, sound and free of any oils, greases or incompatible sealers, paints or coatings that may interfere with adhesion.

POROUS SUBSTRATES – clean by mechanical methods to expose a sound surface free of contamination and laitance.

NON-POROUS SUBSTRATES – for cleaning non-porous substrates, use two cloth wipe method using xylene or an approved commercial solvent. Allow solvent to evaporate prior to sealant application.

PRIMING

BONDAFLEX Silfast 501 is designed to obtain adhesion without the use of a primer; however, certain substrates may require a primer. Test by applying the sealant and/or primer sealant combination to confirm results and proposed application methods. Refer to Technical Data Sheet for primers **BONDAFLEX Sil 2000**, **BONDAFLEX Sil 2100** or **BONDAFLEX Sil 2300** and contact Technical Service for additional information.

APPLICATION

Expansion Joint

1. Ready to use, apply using professional caulking gun. Do not open product container until preparation work has been completed.
2. Apply sealant using consistent, positive pressure to force sealant into the joint.
3. Tool sealant to create a concave joint shape and maximum adhesion. Dry tooling is recommended. **DO NOT** use soapy water or other liquids when tooling.

CLEAN UP

Remove excess sealant from substrate while uncured using a commercial solvent, such as xylene. Cured sealant may be removed by mechanical means.

LIMITATIONS

- Do not allow sealant to come in contact with solvent during cure.
- Do not allow sealant to come in contact with curing polyurethane sealants during cure.
- Not intended for immersion.
- Sealant may be applied below freezing temperatures if substrates are completely dry, frost free and clean. Contact Technical Service for more information.
- Not recommended for structural glazing without prior approval from May National Technical Service department.
- Not recommended for horizontal traffic.
- Not recommended for absorptive surfaces such as limestone or marble where staining may occur.
- Do not apply to surfaces that will be painted.
- Do not apply to substrates that bleed oil, plasticizers or solvent.
- Do not apply to damp or wet substrates.
- Lower temperature and humidity will extend tack free and cure rates.

- Allow treated wood to age six months before application.
- Test sensitive substrates, such as mirror backings for compatibility before use.

FIRST AID

In case of eye contact, flush thoroughly with water for at least 15 minutes. **SEEK IMMEDIATE MEDICAL ATTENTION.** In case of skin contact, wash affected areas with soap and water. If irritation persists, **SEEK MEDICAL ATTENTION.** Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, **SEEK IMMEDIATE MEDICAL ATTENTION.** Refer to Material Safety Data Sheet (MSDS) for further information.

PRECAUTIONS

KEEP OUT OF THE REACH OF CHILDREN. Use only with adequate ventilation. Keep container closed. Prevent contact with skin, eyes and clothing. Wash thoroughly after handling. **DO NOT** take internally. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

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