



Sil 290 FPS-NB

Modulus Neutral Cure
Silicone Sealant Field
Pigmentable, No Bleed



Technical Data Sheet

DESCRIPTION

BONDAFLEX Sil 290 FPS-NB is a field pigmentable, no bleed, low modulus, one-component plus color pack, non-sag elastomeric, neutral cure silicone sealant. Meets the requirements of ASTM C-920, Type S, Grade NS, Class 100/50, Use NT, M, G, A, O; TT-S-00230C, Type II, Class A; TT-S-001543A, Class A; CAN/CGSB-19.13-M87, AAMA 808.3 and California Resource Board 2003 requirements for volatile Organic Compound content.

WHERE TO USE

Construction Application

- Installation and Perimeter sealing of windows, doors and skylights
- Conventional glazing
- Expansion joints
- EIFS systems
- Precast expansion joints
- Curtainwall

Structure

- Buildings
- Schools
- Parking
- Plazas
- Stadiums
- Prisons

Location

- Vertical and horizontal
- Interior and exterior
- Above grade

Substrate

- Glass, aluminum, metal, tile, fiberglass, plastic, ceramic, masonry, concrete, brick, fluoropolymer painted surfaces, vinyl, PVC, granite, limestone, sandstone, marble and wood

FEATURES

- Unaffected by most atmospheric conditions
- Non-staining
- Joint movement +100 / -50%
- Excellent adhesion
- One-component, plus color pack
- Excellent gunnability in all temperatures
- Ultra low modulus
- 16 Bondaflex standard, custom colors plus 52 Ucolors

BENEFITS

- Extremely long service life
- Compatible with natural stone and masonry
- Excellent flexibility for dynamic joint movement
- Bonds to most substrates without priming
- Minimizes need for custom colors, error with mixing two-parts, reducing lead time & lowering waste
- All season ease of application
- Minimal stress on bond line
- Matches a variety of substrates & other Bondaflex products.

TYPICAL PROPERTIES

Cured (21 days @ 77°F (25°C) and 50% RH)

TYPICAL PROPERTIES		TEST METHOD
Movement Capability, %	+100 / -50	ASTM C-719
100% Modulus, psi (MPa)	30 (0.25)	ASTM D-412
Hardness, Shore A (Full Cure)	15	ASTM C-661
Tensile Strength, psi (MPa)	165 (1.14)	ASTM D-412
Elongation at Break, %	1200	ASTM D-412
Peel Strength, pli	20-40 range	ASTM C-794
Accelerated Weathering 10,000 hrs.	No change	QUV
Staining	passes	Weatherometer ASTM C1248

Uncured

Skin-Over Time	30 min.	MNA CTM
Tack-Free Time	50 min.	ASTM C-679
Cure Rate	1/16 inch/24 hrs.	MNA CTM
Extrusion Rate g/min 1/8" orifice @ 90 psi	65	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:	2.58 % by wt. 29 g/L 0.25 lbs/gal	
Service Temperature	-80°F to 350°F -62.2°C to 176.6°C	

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

PACKAGING

- 1.5 white base for Ucolor
- Ucolor Packs sold separately

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 – Ucolor in the field

Adobe Tan, Almond, Aluminum, Beige, Black, Bronze, Colonial White, Dusty Rose, Gray, Hartford Green, Ivy Green, Limestone, Medium Bronze, Quarry Red, Sandstone and White, plus the full range of 52 Ucolors. 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 +100 and -50 % 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%.
5. Do not use open cell rod in horizontal on grade joint or with E.I.F.S.
6. When installing during time of large temperature swings such as spring or fall, and in joints designed for movement greater than $\pm 25\%$, be aware of the significant joint movement before cure, that may cause aesthetic issues such as ripples in the sealant surface. Performance will not be affected.

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 Sil 290 FPS-NB 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. After mixing, 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.
- Do not apply when substrate temperatures are below -20°F or above 130°F.
- Not intended for structural glazing.
- Not recommended for horizontal vehicular traffic.
- Do not apply to surfaces that will be painted as sealant surface will not hold paint.

- 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.
- Brass and copper may be discolored. Test apply prior to 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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