



BSF ProCore-430

Engineered PU Sealant for Precast Concrete & Civil Applications

DESCRIPTION

BSF ProCore-430 is a one-component, gun-grade, non-sag polyurethane sealant that cures with moisture, providing rapid skin formation and fast curing. It delivers long-term durability, excellent UV resistance, and consistent performance in demanding construction joint applications.

KEY FEATURES & BENEFITS

- Paintable – Compatible with most standard coatings
- Single Component & Convenient Packaging – No mixing required, easy to use on-site
- Excellent Adhesion Without Priming – Bonds strongly to concrete, masonry, metals, and GRC/GRP surfaces
- Chemical & Water Resistant – Withstands seawater, diluted acids, and alkalis
- Odourless – Safe and comfortable for on-site application
- UV Resistant & Fast Curing – Maintains performance and appearance under sunlight
- Low VOC – Environmentally friendly and compliant with regulations

PERFORMANCE EXCELLENCE

- High Movement Capability: Accommodates $\pm 25\%$ joint movement
- Long-Lasting Flexibility: Permanently elastic with excellent weather and UV resistance
- Easy Application: Smooth gun-grade consistency, easy to apply and tool
- Durable Performance: Cures to a tough, elastic sealant with excellent cut and tear resistance
- Clean Finish: Non-sticky after curing for a neat, professional result

TECHNICAL SPECIFICATION

Physical Properties	Test Method	Typical Value
Tensile Strength (N/mm ²)	ASTM D412	0.6 - 1
Elongation at break, %	ASTM D412	>250
Flow (sag or slump)	ASTM C639	Non Sag
Movement Capability, %	ASTM C719	± 25
Specific Gravity @ 25°C, g/ml	ASTM D1475	1.10 - 1.20
Hardness : Shore A	ASTM D2240	27 - 33
Peel Strength (N), concrete	ASTM C794	>30
Effects of Accelerated Ageing @ 300 hrs. UV exposure	ASTM C793	No deterioration
VOC, (g/L)	USEPA Method 24	<25
Skin Over Time @ 25°C, Minutes	-	15 - 25
Shrinkage,%	-	<5
Application Temperature (°C)	-	+5 to + 40

KEY APPLICATIONS

BSF ProCore-430 is engineered for movement and connection joints in precast concrete structures and is ideal for:

- Joints in GRC (Glass Reinforced Concrete) and GRP (Glass Reinforced Plastic) components
- Concrete, masonry, and blockwork joints
- Vertical and horizontal construction joints
- Expansion and control joints in concrete structures
- Roof joints and terminations
- Perimeter sealing around windows and doors in concrete structures
- General joint sealing in precast yards and construction sites

THEORETICAL COVERAGE

The approximate yield of a 600ml sausage of BSF ProCore-430 can be calculated using the following formula:

$$L = \frac{600}{W \times D}$$

Where:

L = Length of sealant (meters) obtained per 600ml sausage

W = Width of the joint (mm)

D = Depth of the joint (mm)

Note: This is a guideline for estimating coverage. Actual yield may vary depending on joint geometry, surface conditions, and application technique.

Meter per 600 ml

Joint Width (mm)	10	12	15	20	25
Joint Depth (mm)	6	8	8	10	12
Joint Length (m)/600 ml	10	6.2	5	3	2

RECOMMENDED JOINT DESIGN

BSF ProCore-430 can be used in any joint designed according to accepted architectural and engineering practices. Proper joint dimensions are essential for optimal performance:

- Minimum Joint Width: Should be at least 4 times the anticipated movement, and not less than 5mm.
- Joint Depth (D):
 - o For joints less than 10mm wide, depth should be equal to the width.
 - o For wider joints, maintain a width-to-depth ratio of 2:1.
- Maximum Joint Width: Should be determined based on substrate movement, structural requirements, and sealant capability.

STANDARDS & COMPLIANCE

BSF ProCore-430 meets or exceeds the requirements of the following international specification:

- ASTM C 920 – Type S, Grade NS, Class 25

PACKAGING

- Size: 600ml sausage - Carton Quantity: 20 units

COLOUR

- Available in White, Off-White, Grey, and Black
- Custom colours available on request – please contact your local BSF representative

BACKING MATERIAL

For optimal performance of BSF ProCore-430, the following joint backing guidelines should be followed:

- Preferred Backing: Use a closed-cell polyethylene backer rod to control sealant depth and ensure full contact of the sealant with joint walls during tooling.
- Alternative Backing: If the joint depth is insufficient for a backer rod, use an adhesive-backed polyethylene bond breaker tape to prevent three-sided adhesion.
- Application Notes: Ensure all backing materials are dry at the time of sealant application. Avoid using sharp tools that could damage the backing.

SUBSTRATE PREPARATION

To ensure optimal adhesion and long-term performance of BSF ProCore-430, all surfaces must be sound, clean, and dry.

- Remove all release agents, dust, loose mortar, laitance, paints, or other contaminants.
- Cleaning can be done using wire brushing, sanding, or solvent washing, depending on the type and extent of contamination.
- Surface temperature should be below 40°C during sealant application.

APPLICATION INSTRUCTIONS

BSF ProCore-430 can be applied easily using conventional caulking equipment. Follow these steps for optimal results:

- Ensure the backer rod is properly friction-fitted into the joint.
- Mask joint edges with tape for a clean, professional finish.
- Fill the joint completely, maintaining the correct width-to-depth ratio, and tool to ensure full contact of the sealant with joint walls.
- Dry tooling is preferred for finishing.
- If needed, a small amount of xylene can be used to slick the spatula after initial dry tooling.

PRIMING

BSF ProCore-430 generally adheres well to common construction substrates without the use of primers.

- For critical applications, it is recommended to conduct a mock-up or field adhesion test on the actual materials being used to determine if a primer is necessary.

FOR OPTIMUM PERFORMANCE

To achieve the best results with BSF ProCore-430, follow these recommendations:

- Storage: In cool or cold weather, store the sealant at room temperature for at least 24 hours before use.
- Restoration Applications: BSF ProCore-430 can adhere to residual sealants. For best results, clean the joint as advised in the Surface Preparation section. Conduct a field adhesion test to confirm suitability for the specific application.
- Traffic-Bearing Joints: For horizontal joints subject to traffic, use a firmer backing (e.g., neoprene rod or polyethylene foam block) and recess the sealant surface by 3–6mm.
- Painting/Coating Over Sealants: Flexible sealants can move, which may affect adhesion of rigid paints or coatings. If painting/coating is required, on-site compatibility testing is recommended.
- Application Responsibility: Proper application is the responsibility of the user. Field visits by BSF personnel provide technical guidance only and do not constitute supervision or quality control.

CLEANUP

- Before curing: Excess sealant and smears adjacent to the joint can be carefully removed using xylene or mineral spirits.
- Tools: All utensils and tools used for application or tooling can also be cleaned with xylene or mineral spirits before the sealant cures.

LIMITATIONS

- Surface Conditions: Do not apply over damp or contaminated surfaces.
- Structural Use: BSF ProCore-430 is not a structural (load-transferring) sealant and should not be used in applications where it would bear structural loads.

STORAGE AND SHELF LIFE

- Shelf Life: 12 months from the date of manufacture.
- Storage Conditions: Store in tightly closed original containers, in a dry place at temperatures between +5°C and +25°C.

CURING TIME

- Typical Cure Rate: Approximately 2mm per day at 25°C and 50% relative humidity.
- Environmental Factors: Lower temperatures and humidity levels will slow the curing process.

HEALTH & SAFETY

- Use only with adequate ventilation.
- Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling.
- Do not inhale vapors and do not ingest.
- Wear impervious gloves and eye protection if exposure limits (TLV) are exceeded or if working in poorly ventilated areas.
- Always consult the Safety Data Sheet (SDS) for detailed guidance on Personal Protective Equipment (PPE) and potential health hazards.

Disclaimer/Important note:

All technical data in this Product Data Sheet are based on laboratory tests, and actual performance may vary due to conditions beyond our control. Performance may differ from country to country, so always consult the local Product Data Sheet for the exact description of application fields. The information provided is subject to change without notice and should not be solely relied upon for writing specifications. Materials and site conditions may vary, so sufficient testing is strongly recommended to verify the suitability of BSF ProCore-430 for the intended application. Legal liability cannot be accepted based on the contents of this datasheet or verbal advice, except in cases of willful misconduct or gross negligence. This datasheet supersedes all previous editions, and BSF reserves the right to change product properties while respecting third-party proprietary rights. All orders are subject to BSF's current terms of sale and delivery, and users should always refer to the most recent local Product Data Sheet, available upon request.

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