

technical data sheet

MATRIX FC

Single Component PU Adhesive

PRODUCT

Matrix FC is a high performance, fast cure, single component polyurethane adhesive and sealant.

DESCRIPTION

A one component, high performance, fast curing non-sag polyurethane adhesive and sealant formulated to provide a flexible and durable seal

Matrix FC exhibits exceptional adhesion capabilities and is suitable for a wide range of industrial and automotive adhesion applications for internal and external uses.

RECOMMENDED USES

- Automotive structural adhesive in bus, truck and industrial vehicle assembly.
- Marine commercial and pleasure craft
- Air-conditioning and refrigeration industrial and commercial applications
- Metal working, joining and sealing metal panels storage vessels, heavy shipping container vessels requiring sealing or panel installation
- General industrial and maintenance
- Perimeter sealing of door and window framing
- For sealing gaps and adhering façade and cladding panels to various building materials
- Adhering common building materials such as metals, enameled substrates, concrete, masonry, brick and most plastics
- For bonding sheet metal, aluminium, stainless steel, ABS, GRP, injection moulding PU and PVC as well as timber.
- Mining applications where sealing of cavities (joints) and adhering panels.

FEATURES & BENEFITS

- Fast tack free time and cure speed
- Very high bond strength
- Excellent adhesion and sealing properties
- Good chemical resistance
- Excellent water resistance
- Paintable
- May be used in contact with both sea and fresh water
- One component, no mixing required
- Excellent resistance to weathering and aging
- Sandable
- Exceptional noise vibration and impact dampening characteristics
- Internal and external application
- Excellent acoustic properties
- Slump resistant
- Resistant to fungal attack

PERFORMANCE PROPERTIES

Typical properties after seven days cure at 25°C
50% RH

Appearance	Non-sag smooth Thixotropic paste
Stain and colour change	None
Chemical type	Polyurethane (1 component Moisture cure)
Chemical resistance	Good
Specific Gravity	1.23 ± 0.03
Shore A Hardness	Approx. 45 - 50
Tensile strength at break	> 2.5 N/mm ²
Tool working time	30 Minutes
Tack-free time (skin time)	45 Minutes
Full cure	7 days at 25° C and 50% RM
Service temperature	-40°C to + 80°C continuous
Application temperature	+ 5°C to + 35°C
Elongation modules at 100%	> 600%
Colour	Black, grey and white
Chemical resistance	Resistant to dilute acids & alkalis, some solvents, intermittent contact with diesel and petroleum
Potable water approval	AS4020

Matrix FC is tested to International and Australian Standards AS 1527, ASTM D412, ASTM C719 and ASTM C793

PACKAGING

Matrix FC is available in 380gm (310ml) cartridges, 720gm (600ml) sausages and 360gm (300ml) sausages (on request)

COVERAGE

The coverage below is approximate and is dependant on substrate conditions.

Pack Size	Lineal mtrs 3mm bead	Lineal mtrs 6mm bead	Lineal mtrs 20mm bead
380gm ctg.	43	10	2.3
720gm sge	81	19	4.4

APPLICATION INSTRUCTIONS

Remove all dirt, dust, laitence and loose materials by vigorous wire brushing. Remove all rust, scale and protective coating from metal surfaces and clean off any oil or grease using Bostik 9907 solvent or Bostik 5077 Cleaner.

All surfaces to be treated must be structurally sound and all previous coatings and adhesives should be removed by scraping, chipping, abrasive blast cleaning or other suitable means.

PRIMER

Prior to application for specific primer recommendation refer to Bostik Primer Selection Guide available from a Bostik representative.

Prior to primer application ensure the appropriate primer selection Technical Data Sheet is referred to.

Matrix FC polyurethane adhesive and sealant generally does not require priming. For maximum performance and long term integrity the use of a primer is recommended.

When applying primer, coat substrate thoroughly ensuring a glossy wet appearance. Do not allow puddles of primer to form. Excess primer should be removed from substrate by buffing with clean cloth.

Extremely porous substrates may require two coats of primer. If a second coat is required, allow one hour for drying of first coat, prior to application of second coat. If ambient temperature is below 20°C, drying time may be longer. Ensure primer is tack-free prior to application of Matrix FC.

If sealing cannot be completed with four hours after primer application, lightly sand the pre-applied primer and re-apply primer.

On non-porous surfaces such as metal, plastic etc use Bostik N41 Primer.

Refer to Technical Data Sheet on N41 for more detailed application instructions.

APPLICATION

Pierce the membrane completely from the top of the cartridge and screw on the supplied nozzle. (Having previously cut this to give the required angle and bead size.)

Place the cartridge in a suitable Bostik extrusion skeleton type gun and press the trigger. For sausages, a barrel gun is required, which is also available from Bostik. Clip/cut the end of the sausage and place complete sausage with pierced end located at the top of the nozzle. Screw top of nozzle and housing on barrel of gun. Using the trigger on the gun, extrude product from the sausage. To stop product flow, depress using the thumb on to catch plate mechanism located at the very rear of the gun, directly above the trigger.

Apply Matrix FC in a continuous operation using positive pressure adequate to properly fill and seal a cavity in a forward motion.

MIXING

No mixing is required, simply use directly from cartridge or sausage.

PLACING

Apply Matrix FC with adequate pressure to spread the adhesive against the back-up material and onto the substrate surface. Ensure adhesive thickness is no less than 1mm thick.

Excess Matrix FC should be wiped from all surfaces while still uncured using Bostik 9907 solvent. Alternatively, mask all critical areas. Cured adhesive is usually very difficult to remove without altering or damaging the surface to which the adhesive has been incorrectly applied.

PRECAUTION

- May be used for joints subjected to constant immersion provided Matrix FC has achieved full cure (7 days at 20°C) prior to immersion.
- Do not apply Bostik Matrix FC to any material containing bitumen. **Do not** allow bitumen to contact Bostik Matrix FC.
- May be painted over after full cure however, Matrix FC is not recommended for use under solvent-based coatings such as gloss enamels. A field test is recommended to ensure compatibility.
- Matrix FC should not be applied with wet tooling techniques. Using solvents, water, detergent or soap solutions is not recommended.
- Matrix FC should not be applied to surfaces with special protective or cosmetic coatings such as mirrors, reflective glass surfaces coated with Teflon without prior consultation with a Bostik representative.
- Matrix FC should not be applied to un-predictable absorptive surfaces such as marble, limestone or granite unless a standard of appearance has been agreed upon following result of testing for stain and discoloration. Avoid contact with water prior to initial cure. Matrix FC can be affected by water before or during cure.
- Do not apply, store or cure Matrix FC in areas where unusually high humidity or free water are present during the application or initial cure.
- Matrix FC should not be used in highly chlorinated areas such as swimming pools, spas etc without prior consultation with a Bostik representative.
- Do not apply at temperatures below 5°C and temperatures above 35°C
- Ensure cartridge temperature and contents are between 10°C and 30°C prior to applications. This will eliminate curing problems.
- Not suitable for caulking timber decking
- Ensure Bostik Primer Selection Guide is referred to prior to application of Matrix FC.

PAINTABILITY

Matrix FC can be painted after fully curing by most conventional coating systems including epoxy resins and acrylic coatings. Coatings containing high solvent contents such as gloss enamels or high oil-based undercoats may cause the surface of Matrix FC to react resulting in a tacky soft surface.

A field test is recommended to ensure compatibility .

To obtain best appearance and performance the paint must approximate the elongation capabilities of Matrix FC. Thin or watered down coatings will surface craze very quickly upon movement.

For sections less than 3mm thickness Matrix FC may be painted in over 24 hours.

For sections greater than 3mm thickness Matrix FC may be painted 48 hours after application.

High build coatings with some elastomeric ability such as quality acrylic emulsions have the capability to absorb low movement without significant distortion of the paint film.

For additional information contact a Bostik representative.

P.A.T.S (Pretested Adhesion To Substrate) Programme

Bostik offer a service in which a program has been established to eliminate potential field problems by pre-testing Bostik adhesives with samples of building materials to which the adhesive will be applied. This service is available on large projects where pre-application testing will aid in determining the proper surface preparation method to achieve optimum adhesion. Consult a Bostik representative for further information.

HEALTH AND SAFETY

On contact, uncured sealant may cause irritation. Gloves and protective goggles must be worn during application and use.

- Avoid contact with skin, eyes and avoid breathing in vapour.
- Wear protective gloves when using
- If poisoning occurs, contact a doctor or Poisons Information Centre.
- If swallowed, do not induce vomiting. Give a glass of water.
- If skin contact occurs, remove contaminated clothing and wash skin thoroughly for a minimum of 15 minutes and see a doctor.
- For more detailed information refer to Material Safety Data Sheet.

CLEAN-UP

Clean up uncured material and equipment immediately after use using Bostik 9907 solvent. Do not use solvents on skin. Cured Matrix FC is difficult to remove via chemical means and mechanical means may be necessary.

STORAGE

Store between 5°C and 30°C.

Shelf life is twelve months in original unopened cartridge or sausage.

FIRE

Matrix FC is non-flammable

BOSTIK MATRIX FC

ITEM NO.	STOCK SIZE
258946	380gm (310ml) Cartridge Black
258911	380gm (310ml) Cartridge Grey
258938	380gm (310ml) Cartridge White
258970	720gm (600ml) Sausage Black
258954	720gm (600ml) Sausage Grey
258962	720gm (600ml) Sausage White
259241	360gm (300ml) Sausage Black
259276	360gm (300ml) Sausage Grey
259268	360gm (300ml) Sausage White

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