PRODUCT DATA SHEET

DUROSEAL FC PRO

ONE COMPONENT, FAST CURE POLYURETHANE SEALANT

DUROTECH
Engineered Construction Chemicals
Made In Australia For Over 45 Years

DESCRIPTION

Duroseal FC Pro is a high performance, fast cure one component polyurethane sealant. When cured, it will form a tough and flexible seal and bond capable of cyclic, expansion and compression movement. It is virtually unaffected by normal weathering conditions such as rain, sunlight, snow, sleet, ultra-violet radiation, ozone, atmospheric contamination, and pollution. Its excellent weather ability enables it to retain its original properties after years of exposure.

FEATURES

- One component, no mixing required
- Fast tack-free time and cure rate
- Internal and external bonding
- High bond strength
- Excellent adhesion to most materials
- Excellent acoustic properties
- Paintable*
- ± 25% joint movement
- Non-slumping
- Resistant to fungal attack
- Water potable
- Excellent resistance against hydrolysis, aging, and a wide range of chemicals
- Made in Australia

PACKAGING

600 ml

USE AREA

- Sealing gaps, adhering most façade, and cladding panels to various building materials*
- Sealing construction and expansion joints
- Sealing floor and concrete joints
- Trafficable areas including plats, stairs, roads,
- runways, aprons, and pavements
- GRC, fibreglass and most specialty panel systems*
- Vertical-Precast, block work, plasterboard, and most common building substrates
- Pick resistant areas including prisons, cells, schools, and public amenities
- Chemical resistant areas including service stations, hangers, aprons and bunded areas
- Potable water tanks
- Perimeter sealing of door and window framing*
- For new construction and remedial applications
- Adhesive for wide range of building and construction applications

TOOLS

Duroseal FC Pro should be dispensed from either the cartridge or sausage by means of a caulking gun.

SINCE 1977

TECHNICAL INFORMATION

Appearance	Grey
Viscosity	Non-sag, smooth thixotropic past
Cure method	Moisture curing
Coverage	Refer to table
Application temperature	5 to 35°C
VOC, (g/L)	78g/L
Temperature resistance	-40 to 70°C
Skin time	45 mins
Cure rate	2.5-3mm/24 hours
Full cure	7 days
Specific gravity	1.25-1.35 g/ml
Shore A hardness	45
Tensile strength	2.5 to 3.0 N/mm²
Elongation at break	> 450%
Total joint movement	± 25%
Maximum joint width	Up to 50mm on horizontal substrates Up to 20mm on vertical substrates

PREPARATION

- Clean and dry all surfaces by removing foreign matter and contaminants such as laitance oil, dust, grease, frost, water, dirt, old sealants, curing agents and any protective coating.
- Porous substrates should be cleaned by grinding saw cutting or blast cleaning (sand or water).
- Non-porous and plastic surfaces should be cleaned by solvent or mechanical means.
- Dust and loose particles should be vacuum cleaned
- Cleaning solvents should not be allowed to air dry or evaporate without being wiped with a clean, dry cloth

PRIMING

Duroseal FC Pro adheres without the use of a primer to standard concrete or mortar, and bare Aluminium*. Always conduct P.A.T.S. (Pre-tested Adhesion to Substrate) prior to application.

*Aluminium coated panel has a protective coating (wax or plastic) on the surface of composite or cladding panels; therefore, check the compatibility of sealants. Doing this check beforehand is advisable.

IMPORTANT: For optimum adhesion and in areas of critical, high-performance applications such as high stress joints, extreme weather exposure, or surfaces that are too porous, the use of substrate primer is required.

Porous Substrates:

- Absorbent or porous substrates will allow a bead of water to easily soak into and wet out the surface of the substrate.
- For maximum performance on porous surfaces and in all periodically immersed and submerged applications, use Durotech Primer.
- Porous substrates not subject to immersion or ponded water e.g., vertical expansion joints in concrete or masonry structures does not require priming if clean, dry, and uncontaminated.

Non-Porous Substrates:

- Non-absorbent substrates will cause a bead of water to be retained on the surface of the substrate as a raised droplet. The droplet does not easily soak into the surface of the substrate.
- Durotech Etch primer is recommended for non-porous plastic and metal substrates e.g., u-PVC outlets and pipe work, brass, copper fittings, stainless steel trays and flashings (refer to the Durotech Etch primer Technical Data Sheet).
- Prime all plastics and metallic non-porous substrates with Durotech Etch primer using the two-cloth method described in the Durotech Etch primer Technical Data

APPLICATION

Cartridge Application

- Pierce the membrane at the top of the cartridge and screw on the nozzle.
- Cut the nozzle to give the required angle and bead size.
- Place the cartridge in a caulking gun and squeeze the trigger

Sausage Application

- Clip the end of the sausage and place in a barrel gun.
- Screw the end cap and nozzle onto the barrel gun.
- Use the trigger to extrude the sealant. To stop; depress the catch plate.

Apply Duroseal FC Pro in a continuous operation using enough pressure to properly fill the joint. Tool off the surface of the sealant with an appropriately sized spatula or trowel. Apply sufficient pressure to leave a smooth, consistent surface and ensure maximum contact with the interface of the joint.

Construction Adhesive Applications

Duroseal FC Pro does not need to be applied to both surfaces to be bonded, but both surfaces must be prepared in accordance with preparatory work. Apply in beads to the prepared substrate. Materials being adhered can be bonded immediately or left open for up to 15 minutes after application prior to bonding. If no mechanical fixing is to be used in conjunction with adhesive, clamping is necessary until full cure is achieved. Use only enough sealant to achieve adequate bond (dependent on surface texture). Excess sealant can be removed by dry cloth or solvent wipe before curing. If adhesive is to be exposed, smooth off with spatula or putty knife to flush finish.

Construction Sealant Applications

Duroseal FC Pro is especially suitable for vertical joint sealing or in flooring applications such as saw cuts jointing. More joint movement can be accommodated in a thin bead of sealant than in a thick bead.

The ratio of joint width of sealant to depth should be 2:1. The use of a bond breaker prevents undesirable three-sided adhesion. Open cell polyurethane foam or closed cell polyethylene foam rod is the recommended back up material to control correct sealant geometry. Install back up material or joint filler, as specified.

Apply Duroseal FC Pro continuously using positive pressure to properly fill and seal the joint. Tool the sealant with adequate pressure to spread the sealant against the back up material and onto the joint sides. Excess sealant should be wiped from all surfaces while still uncured. Remove any masking tape prior to sealant curing.

JOINT SEALING

A joint with the correct dimensions can absorb movements between building materials. Always use a backing rod for correct sealant geometry and contact with the substrate.

- Prime after the installation of backing rod
- Ensure maximum adhesion to bond face and depth to width ratio of 1:1 up to 12mm and 1:2 from 12– 50mm
- Tool sealant to achieve concave shape

COVERAGE

The estimated lineal metre yield per pack size is recommended in the following table. No allowance has beenmade for waste or irregular joint geometry

Joint Size (DxW)	5mm x 6mm	20mm x 10mm
300ml cartridge	10 Lineal metre	1.5 Lineal metres
600ml sausage	20 Lineal metre	3 Lineal metres

PRE-TESTED ADHESION TO SUBSTRATE (P.A.T.S.)

Durotech offers a service to eliminate potential field problems by pre-testing Durotech sealants with building materials to which the sealant 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 Durotech Technical Department for further information.

IN-HOUSE P.A.T.S. PROCEDURE

A simple bonding test can be done on a flat test surface e.g., concrete, aluminium etc. A test piece like that shown is recommended.

- Clean the surface following the project-specific recommendations
- Place a piece of polyethylene sheet or bond breaker tape across the flat test surface.
- Apply a bead of sealant and tool it to form a strip approximately 200mm long, 25mm wide and 3mm thick. At least 50mm of the sealant should be applied over the polyethylene sheet or bond breaker tape.
- After cure of the sealant, pull the sealant perpendicular to the substrate until failure. Record the mode of failure of the test sealant.

CLEANING

The use of protective goggles, barrier creams and ointments, gloves and protective clothing is recommended. Cured material can be removed by mechanical means only. Clean off uncured material and equipment immediately after use using Durotech Handy Wipe towels to remove adhesive from skin.

PAINTABILITY

Duroseal FC Pro can be painted after a minimum of 24 hours using water borne coatings and most epoxy flooring systems. Coatings containing high solvent contents such as gloss enamels or high oil-based undercoats may cause the surface of the sealant to react creating a tacky surface to develop.

A field test is recommended to ensure compatibility. To obtain best appearance and performance the paint must approximate the elongation capabilities of the sealant. 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.

LIMITATIONS

- Use in highly chlorinated areas such as swimming pools, spas, etc.
- Glazing applications subject to UV light radiation or direct sunlight exposure
- Should not be applied or finished with wet tooling techniques, using solvents, water, or detergent / soap solutions
- Should not be applied to unpredictable absorptive surfaces such as marble, limestone, or granite unless a standard of appearance has been agreed on as a result of testing for stain and/or discolouration
- Application onto or near any bitumen products
- Interior or exterior structural sealing below the waterline in maritime applications
- Surfaces with special protective or cosmetic coating such as mirrors, reflective glass or surfaces coated with Teflon, polyurethane, or polypropylene.
- Will not adhere to polyethylene, polypropylene, or PTFE
- Applications less than 5mm in width or less than 6mm in depth

Duroseal FC Pro may yellow or discolour if exposed to UV Light for prolonged periods of time.

As all substrates and conditions are different, it is strongly recommended that the applicator or end user conducts their own tests and ensure the product meets their own end use requirements.

STORAGE & SHELF LIFE

Store in cool (between 5°C to 30°C) dry, well- ventilated area out of direct sunlight. Shelf life is 15 months from production date in original unopened packaging and correct storage conditions.

Shelf life is 12 months in original unopened container.

Empty cartridges and foils may be disposed via local landfill. If spilt, absorb with clay, sand, or earth. Collect and seal inproperly labeled metal container. Dispose of according to local authority regulations. Do not dispose of down drains or into local waterways.

HEALTH & SAFETY

CAUSES SKIN IRRITATION.
MAY CAUSE AN ALLERGY OR ASTHEMATIC SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED.

Keep out of reach of children. Read label before use. Avoid breathing dust, fume, gas, mist, vapours, or spray. Wash hands, face, and all exposed skin thoroughly after handling. Wear protective clothing, gloves, eye/face protection and suitable respirator. In case of inadequate ventilation wear respiratory protection.

Fire: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Spills & Leaks: Clear area of all unprotected personnel. Slippery when spilt. Wear protective equipment. Absorb with sand or soil. Collect and seal in properly Label drums. Dispose of contents/container in accordance with local, regional, national, and international regulations.

Swallowed: If swallowed, do NOT induce vomiting. Give a glass of water. Seek medical advice.

Eye: Hold eyes open, flood with water for at least 15 minutes and see a doctor.

Skin: If skin contact occurs, remove contaminated clothing and wash skin thoroughly. If irritation occurs seek medical advice.
Inhaled: Remove from contaminated area. Apply artificial respiration if not breathing. Seek medical advice.

CLEANING

The use of protective goggles, barrier creams and ointments, gloves and protective clothing is recommended. Cured material can be removed by mechanical means only. Clean off uncured material and equipment immediately after use using Durotech Handy Wipe towels to remove adhesive from skin.

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