TECHNICAL DATA SHEET

# ShieldPatch™ X2

## Advanced Brush Grade Conveyor Repair

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## Product Description

ShieldPatch X2 is a fast and efficient solution for high abrasion, cut and impact situation repairs, our two-part polymer resin is specifically designed for conveyor belt repairs. Developed for use primarily on conveyor belts, it can also be used for repairs on concrete surfaces, rubber linings, and polyurea coatings. ShieldPatch X2 versatile formula ensures quick and hassle-free repairs.

X2 Suggested conveyor repair solutions: holes, rips, tears, gouges, worn patches, splice damage, edge damage, clip cover protection.

It is supplied in handy single-use, pre-measured blister packs of 350mL but we can manufacture larger volumes and sprayable versions on request.

## Technical/Performance Data

| | |
|---|---|
| Hardness, ASTM D-2240 | 80 – 90 Shore A |
| Mix Ratio by Volume | 100A:28B |
| Gel/Set Time | ~5-15 min @30°C ambient |
| Tack-free Time | ~45 min (temperature dependant) |
| Maximum Recoat Window | 24 Hours |
| Taber Abrasion Resistance; C-17,1000cycles, 1kg | 75 mg |
| Tensile Strength ASTM412-C | 10-15 MPa |
| Elongation, ASTM412-C | 450-600% |
| Tear, ASTM 624-86 | 30-40kN/m |
| Service Temperature | -40°C to 90°C |

## Benefits

**Application**

This product is supplied in handy blister packs, which allow easy storage, minimal wastage, hand mixing and ease of application.

**Toughness and Flexibility**

The high tensile strength and good elongation of this product provides protection from mechanical damage, abrasion, and resistance to puncture and compression.

**Increased Productivity and Economy**

This product may be applied to thicknesses up to 3-10mm per coat when reinforcement is used and is rain insensitive once tack free.

**Safety**

This product contains no volatile or flammable solvents. This reduces hazards during transport, storage, and application.

## Application Areas

- ✓ Conveyor belts
- ✓ Rubber lined surfaces
- ✓ Pipe spools
- ✓ Tanks & Launders
- ✓ Structural Steel
- ✓ Polyurea/Urethane Repair
- ✓ Penetration Sealing
- ✓ Mining Operations
- ✓ Marine Environments
- ✓ Industrial and Manufacturing Facilities

## Features

- ✓ In-situ repair
- ✓ 30-minute repair time
- ✓ Quick gel time
- ✓ High elongation & flexibility
- ✓ High abrasion & tear resistance
- ✓ Wet and dry process applications
- ✓ Zero VOC
- ✓ No toxic vapours
- ✓ 100% Solids
- ✓ Seamless

## Typical Wet Properties

| Material Property | Component A (Isocyanate) | Component B (Resin) |
|---|---|---|
| Density (kg/L) | 1.24 | 1.05 |
| Viscosity (Cps @ 21°C) | 350 | 10,000 |
| Mix ratio (by volume) | 100:28 | |
| Solids (mixed) by volume | 100% | |
| Flash Point (Pensky Martens Closed Cup) | >145°C | |
| Theoretical Coverage | 1L = 1mm thick over 1m$^2$. | |

## Application Guidelines

This coating is designed for application by brush or trowel.

It is imperative that the product is thoroughly mixed prior to application. This will require a minimum of 30 seconds aggressively massaging the blister pack after removing the separator.

1. Prepare the surface – clean and buff the repair area with a wire brush/wheel.

2. Ensure surface is rough and wipe down with Acetone, MEK, Xylene or similar solvent.

3. Prime the surface – Mix and brush on 1 coat of primer, allow adequate dry time, or tack free.

4. Open the blister pack, remove the separating clip and mix the two sides vigorously by hand for approx. 40 seconds.

5. Cut off the corner of the pack and either pour into a container and brush on or squeeze directly onto the surface and spread with a brush.

6. Finish the surface – use the scraper to smooth out the resin to repair the area or use a brush.

7. Allow to go tack free and gel before returning to service, although full strength will take ~8hrs.

### Surface Preparation

The surface must be clean and free from mill scale, corrosion by-products, oil, grease, salts, and other contaminants. Use a low-speed rubber buffing disk to prepare the rubber surface and roughen with a recommended buffing disk of 12 or 24 grit. Ensure surface is rough and wipe down with Acetone, MEK, Xylene or similar solvent.

For any steel surface substrates, the surface should be cleaned to SA 2.5 with a minimum surface profile of 50 microns.

If being used as a repair coating for Polyurea or Polyurethane, thoroughly key the surface with 40-80 grit media and remove any chalky areas. Lap between 100-300mm over existing coating (depending on how aggressive the exposure is) and leave 5-10mm demarcation (uncoated) around edge of prepared area.

### Application Temperatures

Minimum recommended material and substrate temperatures are 20°C and -10°C respectively. Maximum recommended substrate temperature is 50°C. Maximum recommended material temperature is 40°C. Wider temperature windows can be achieved but please consult your technical representative for specific advice.

### Cure Time and Recoat Time

Development of a full cure may take up to 24 hours. Material may be recoated when tack-free. Old, sound coatings should be lightly abraded to remove any oxidized material and cleaned thoroughly prior to recoat. Consult your technical representative for options regarding treatment of day joints and coating over cured product.

## Colour

Standard Black

## System Specification

### Primer

Refer to ShieldCrete® technical representatives and distributors for recommendations based on your specific application. Primer is supplied as a one-part solution, brush on adhesion promoter that strengthens the adhesion between the polymer resin and rubber substrate, including other substrates.

Ensure the primer has tacked off before applying the resin otherwise solvents might be trapped under the primer. Apply a thin layer of X2 to wet out the primer surface then apply a thicker layer and spread out with the brush or scraper.

### Recommended Thickness

Recommended minimum thickness for conveyor repair is 1-2mm, thickness should be built up to achieve a smooth profile to match that of the conveyor belt.

### Number of Coats

This product can be applied in thicknesses up to approximately 1-2mm in one monolithic coat (depending on temperature, reinforcement, and surface orientation). To build to specification, allow just enough tack time for the first coat to become firm, then apply the next coat to achieve the desired repair and profile to conveyor belt.

Additional coats should be applied as soon as possible after the preceding coat has gone tack-free, but no longer between coats than the specified recoat window.

## Storage and Handling Precautions

Storage at room temperature (20-25°C) also provides a convenient viscosity for handling. Storage at low temperatures (below 10°C) is not recommended because it may lead to some crystallisation: this material must be protected from frost.

If crystallization does occur, it is recommended to discard the material and replace it with a new batch.

Storage temperatures above 50°C are not recommended since they can accelerate the formation of insoluble solids, and also increase the viscosity over extended storage intervals.

Under the recommended storage conditions and in properly sealed containers, the components have a minimum storage life of 24 months. Blister packs and unused material should be disposed of as general waste once the material is allowed to harden.

## Packaging

Standard 350mL kits in boxes of 10. Other sizes kits may be available on request. Maximum single blister pack size is 600mL.

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