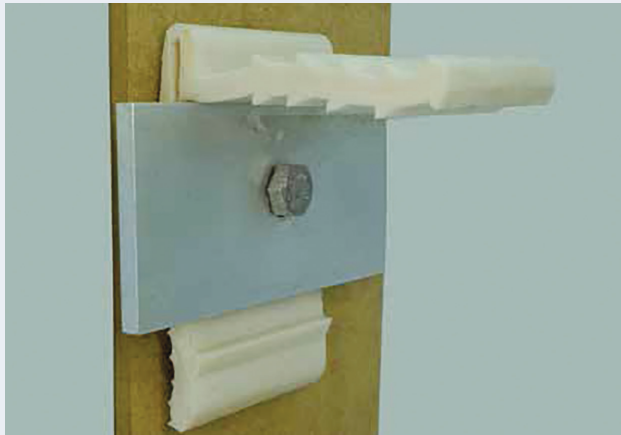




PRIMESHIELD E BAR

EXTERNALLY INSTALLED CENTRAL BARRIER

IMPERIAL SYSTEM PRODUCTS



PRIMESHIELD E BAR

PRIMESHIELD E BAR is a centrally placed flexible PVC water bar designed for expansion joints which will be located between an old and new concrete structures.

It will not be possible to embed water stops into old concrete structures.

Hence, E BAR which is designed to be surface mounted is used to replace conventional water stops.

It consists of a vertical member for mounting and a protruding 90° trunk of 75 mm for embedment into fresh concrete to provide a secured line barrier bridging the expansion joint.

Primeshield E Bar is generally used when new building facilities are added to the old due to needed floor space for production and warehousing or for the modernization of building facilities.

Whilst most designers detest the sight of an open expansion joint between the old and new structure, it is invariably counterproductive to insist on having a homogeneous floor without an obtrusive open expansion joint line separating the two structures on the ground floor of single level structures or on every floor of a high-rise structure.

Expansion joints are created to allow or conform to

- 1) Possible unexpected minor settlement which might take place in the new structure.
- 2) Movements attributed to the gradual shrinkage of concrete.
- 3) Movements contributed through cyclic weather conditions
- 4) Movements which occurs from differentials in the coefficient of thermal expansion of building materials.
- 5) Code of practice BIS IS 11817

RESTRAINING EFFORTS

Efforts have been made in designs to eliminate the creation of expansion joints in structures.

- 1) Through the addition of heavier reinforcement along the line of joint.
- 2) Through the use of higher design mixes of expansive concrete
- 3) Through the use of Bonding Adhesives.

RESULTS OF RESTRAINING EFFORTS

The majority of structures which had design methodology combating the formation of required expansion joints have experienced great failures.

Crack formation between structures are prevalent and it causes building owners downtime and unnecessary cost in maintenance to reform expansion joints which was left out during its construction stages.

Installation

Surface Preparation along the line of anchorage

1. Hack to remove all cement plaster or finishes from the existing structural beam to expose the structural concrete.
2. Grind down all irregularities on the exposed beam surface and wash down all laitance with a waterjet.

Preparation

1. Measure out the entire length of installation and place orders in accordance to requirement.
2. Check if intersections are need for placements around corners or upstands. Have these ordered well in advance of placement.

Fusing Primeshield E Bar

1. Map out expansion joint line on paper and make preparations for the jointing of Primeshield E Bar which is supplied in lengths of 3.05 meters together.
2. The jointing of Primeshield E Bar lengths together and intersections to the main line is absolutely necessary and must be done with great care through heat fusion with an electric heating tool.
3. A poor joint means a break and a source of leakage.

Scope of Works

1. Mark out a 100 mm wide installation line on the clean beam surface with a marker.
2. Place requirements of Primeshield E Bar and accessories such as, Stainless Steel Bars and anchors below the line of installation.
3. Three workmen will be needed for this operation.
4. Two work will hold Primeshield E Bar and Stainless Steel Bar in place.
5. One worker will drill holes of 6 mm diameter to a depth of 75 mm into concrete with a M6 drill bit before inserting 6 mm bolts into the drill hole for anchorage.
6. Predrilled holes of 8 mm are located 200 mm apart on the SS Plate.

IMPERIAL SYSTEM PRODUCTS

Installation

1. Prior to the installation of Primeshield E Bar, install Bonder 1 to approximately 3 mm x 50 mm thick along the marked 100 mm installation line.
2. Proceed to Scope of work installation.

Most designers or Contractors have no wish or desire to walk back to view the cracks they created within the facilities they build.

IKEA'S worldwide outlets are example of large building facilities which is abound with floor cracks attributed from the desire of rapid construction with repeated never changing methods adopted in the use of Hollow Core Systems.

Even the Housing and Developing Board in Singapore realized the follies of using Dye Core panels in its construction of residential Parking Decks.

Description

The principle of waterproofing an expansion joint between the new and old structure with Primeshield E Bar outperforms most other Methodologies known.

Primeshield E Bar employs 4 products to jointly create a fluid-tight expansion joint between new and old concrete surfaces.

System

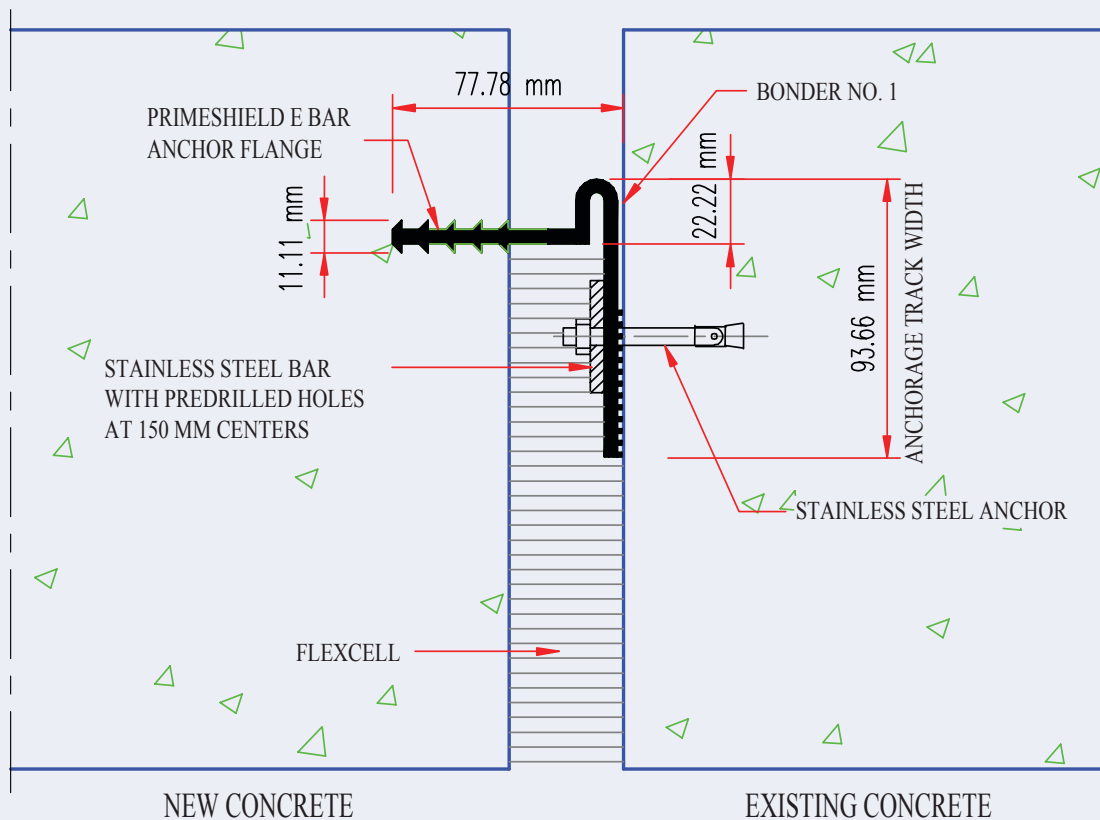
1. Primeshield E Bar : Standard length of 3050 mm
2. Stainless Steel Bar 38 mm x 3050 mm
3. Stainless Steel Anchor
4. Flexible Epoxy Bedding (Bonder No 1)

Package size

1. Primeshield E Bar : 1 length x 3050 mm
2. SS Bar : 1 length 38 mm x 3050 mm
3. SS anchors : 21 nos
4. Bonder 1 : 3.78 litre pack

Physical Properties of Primeshield E Bar

Tensile Strength	:	2000 psi ASTM D 638
Elongation	:	450% ASTM D 638
100% Modulus 1000%	:	ASTM D638
Brittle Temperature	:	-70°F ASTM 746
Hardness	:	85 Shore A ASTMD 2240



Primeshield E Bar placement in expansion joint between new and old concrete structures.

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