



## DESCRIPTION

**Ezi e-FLEX** is an eco-friendly, low CO2 emission, single part, latex modified, high performance, water resistant, semi-flexible cementitious adhesive (C) with improved characteristics (2). In Compliance with Singapore Environmental Council (SEC) Green Label Criteria (GLS 022) with minimum 20% Re-Cycled Content. Conforming to the requirement of MS ISO 13007-1, classified as type C2.

## MAIN CHARACTERISTICS

<b>Eco Friendly Product</b>			<b>Excellent Bonding Strength</b>
<b>Suitable for Impervious Tiles</b>			<b>High Performance latex modified</b>

## USAGE

### Suitable to use for :

- wide range of impervious ceramic tiles (water absorption ≤ 0.5%), glass mosaics and natural stones namely for porcelain tiles, vitrified homogeneous tiles, marble, granite, etc.
- thin-thick bed 3 - 6 mm, and up to 12 mm in small isolated areas.
- installing tiles from the top towards the bottom.
- variety of substrates (refer to SUITABLE SUBSTRATES).
- internal and external, wall and floor, dry and wet areas including swimming pool.

## COMPOSITION AND PERFORMANCE

**Ezi e-FLEX** consists of grey or white cement, fine graded washed aggregates and high performance dry powdered polymer admixture.

**Ezi e-FLEX** offers the following benefits when mixed with clean water:

- Low Detection Limit of Trace Metal and VOC
- Excellent Adhesion Strength
- User Friendly
- Good Workability
- Non-Slump Properties
- Prevent Mixing Error On Site
- Water Resistant Properties
- Minimal Drying Shrinkage
- Minimise Efflorescence

## PRODUCT INFORMATION

Name	: Ezi e-FLEX
Packaging	: 25 KG
Classification	: ISO 13007-1 Class C2
Shelf Life	: 12 Months in Cool & Dry Condition
Appearance	: Grey Fine Powder
Dry Solid Content	: 100%
pH Value	: Alkaline
Toxicity Hazard	: No
Inflammability	: No

## APPLICATION DATA (Tested at approx. 25 °C)

Mixing Ratio	: 3 pbw. e-FLEX to 1 pbw. water (7-8 litres water to 25 kg Ezi e-FLEX)
Consistency of Mix	: Non-Slump Creamy Paste Form
Coverage	: Approx. 8-9 m <sup>2</sup> per bag (at 3 mm bed thickness)
Bed Thickness	: Recommended 3 - 6 mm
Slip Resistant	: Excellent
Workability	: Good (Smooth & Non-Slump)
Open Time	: Approx. 15 - 20 minutes
Adjustability Time	: Approx. 15 - 20 minutes
Pot Life	: Approx. 3 - 4 hours
Initial Set	: Approx. 8 - 10 hours
Light Foot Traffic	: Approx. 24 hours
Setting Time	: Approx. 24 - 48 hours
Application Temperature	: Between +5 °C and at Normal Ambient Temperature

## TECHNICAL DATA (Tested at approx. 25 °C)

Test	Result	Requirement
Tensile Adhesion Strength after 28 days		
- Air Dry	: 2.5 ± 0.10 N/mm <sup>2</sup>	≥ 1.0 N/mm <sup>2</sup>
- Water Immersion	: 2.0 ± 0.10 N/mm <sup>2</sup>	≥ 1.0 N/mm <sup>2</sup>
- Heat Aging	: 1.8 ± 0.10 N/mm <sup>2</sup>	≥ 1.0 N/mm <sup>2</sup>
Resistance to Heat	: + 100 °C	
Resistance to Frost	: - 5 °C	
Resistance to Water	: Good	
Resistance to Alkalis	: Good	
Resistance to Acids	: Poor	
Resistance to Oil and Solvent	: Fair	

Tested in accordance to the requirement of MS ISO 13007-1 Type C2

## SUITABLE SUBSTRATES

- (i) **Concrete** - It must be aged for 6 weeks. Direct fixing onto concrete may be taken provided the surface is flat, cured and free of contamination. Surface primer may required for direct fixing.
- (ii) **Brick Wall or Lightweight Hollow Blocks** - It must be aged for 4 weeks and leveled with cement-sand render prior to fixing tiles. Direct fixing is not recommended.
- (iii) **Aerated Lightweight Concrete Blocks (ALC)** - It must be aged for 4 weeks and leveled with cement-sand mortar (e.g. Ezi ALC PLASTER) prior to fixing tiles. Direct fixing on even surface can be done by using Ezi e-FLEX + EziMIX STAR AD-1. Prime surface of ALC Blocks with Ezi ALC Primer before direct fixing.
- (iv) **Cement-Sand Render or Screed** - Allow new cement-sand render or screed to cure for 2-3 weeks before tiling. The rendering or screeding mortar mix ratio should ideally be 1 part of cement : 3-4 parts of sand.
- (v) **Existing Tiles or Natural Stones** - Existing surface must be dry, sound and free of contaminations. Hollow sections should be removed and made good before direct fixing with Ezi e-FLEX + EziMIX STAR AD-1.
- (vi) **Existing Vinyl Tiles** - Existing surface must be dry, sound and free of contaminations. Prime surface with EziMIX SBR BOND, before direct fixing with Ezi e-FLEX + EziMIX STAR AD-1.
- (vii) **Building Boards** - For example plywood, chipboard, cement-fibre board etc. must be sufficiently braced to provide a rigid substrate. Prime surface with EziMIX SBR BOND, before direct fixing with Ezi e-FLEX + EziMIX STAR AD-1.
- (viii) **Timber Floor** - It must be rigid, strong and strengthened by overlaying it with a 15mm thick marine plywood, screw fixed at 300mm centers to the joists. Tile Installation method is similar with "Building Board".

*Note:* - Not suitable for use on substrates subjected to high shrinkage, movement or vibration or to install moisture sensitive materials.

- Not recommended to tile over metal, paint and skim coat plaster.

- Installation in high demanding situations where greater bonding strength and flexibility are required, recommended to mix Ezi e-FLEX with latex admixture to replace gauging water.

## INSTALLATION PROCESS



Make sure the surface is clean



Prepare the mix



Spread paste on the substrate



Spread paste on the back of tile

### (1) Preparing the Substrate

- Substrate must be dry, flat and free of contaminants, e.g. dust, grease, laitance, oil, paint, etc.

*Note:* dampen the surface with water only when it has become heated from exposure to sunlight.

- For various substrate preparation, kindly refer to "SUITABLE SUBSTRATES".

### (2) Preparing the Mix

- Mix 3 parts of Ezi e-FLEX with 1 part of clean water or latex admixture by weight, until a smooth, non-slump paste is achieved. Mechanical mixing is recommended.

### (3) Spreading the Mix

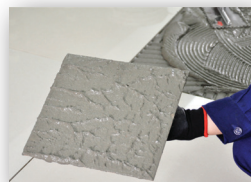
- Spread the paste to the substrate at bed thickness of 3 - 6 mm (may vary depending on tile size and weight) with appropriate notched trowel. It is also applicable up to 12 mm in small isolated areas.

- For tiles or stones size greater than 300 x 300 mm or subject to heavy loads, spread the adhesive on the back of the tiles or stones to ensure a complete coverage.

- Spread no more than 1 m<sup>2</sup> at a time to prevent Skin-Over. In normal ambient temperature and humidity conditions, the open time of Ezi e-FLEX is approx. 20 minutes.



Place tile onto the adhesive bed



Good coverage of the adhesive "Solid Bed Fixing"



Adhesive bed is no longer sticky - "Skin-Over"



Applying the Grout

*Note:* Unfavourable weather conditions (e.g. extremely hot, strong wind, high temperature, etc.) or highly absorbent substrate can drastically reduce the open time.

### (4) Installing the tiles

- Ceramic tiles should be fixed dry, they should not be soaked. Recommended to use damp cloth to clean the dusty tile back.

- Tiles should be installed under a firm pressure, and followed by slight twisting action to ensure good coverage and contact of the adhesive (Solid Bed Fixing).

- Touch adhesive bed periodically to ensure that a skin does not form on the surface of the spread adhesive, which should stay fresh. If not (where adhesive bed is no longer sticky due to Skin-Over), re-trowel the adhesive bed.

- Allocate tile joints of approx. 3 mm wide between tiles.

- Remove surplus adhesive from tile surface and joints before it hardens.

- Tiling installed with Ezi e-FLEX must be protected from water & rain for at least 24 hours.

### (5) Applying the Grout

- Grouting of tile joints should commence at least 24 hours after adhesive had set. Setting may be delayed on dense or impervious surfaces.

- Use of Ezi Grout Fine for narrow tile joint up to 5 mm and Ezi Grout Coarse for wide tile joint up to 15 mm.

## MATERIAL SAFETY INFORMATION

A non-toxic fine particle powdery cement-based product, that can be safely approach under normal condition of use, but prevent from inhaling, ingestion and avoid from entering eyes. When mixed with water it produces alkaline paste form and prolonged contact with unprotected parts of body should be avoided. (For more detail please refer to Ezi MSDS)

When working with this product, recommended to follow the safety precaution below.



WEAR DUST MASK



WEAR SAFETY GOGGLES



WEAR HAND GLOVES



WEAR SAFETY SHOES



KEEP AWAY FROM CHILDREN

## COMPANY INFORMATION

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