

1.4 Ezi STAR FLEX 2in1

**HIGH PERFORMANCE
SINGLE PART FLEXIBLE CEMENTITIOUS ADHESIVE FOR
IMPERVIOUS CERAMIC TILES, GLASS MOSAICS & NATURAL STONES**







MADE IN MALAYSIA

DESCRIPTION

Ezi STAR FLEX 2in1 is a high performance, single part, flexible, latex modified, cementitious adhesive (C) with improved characteristics (2), slip resistance (T) and extended open time (E).

Conforming to the requirements of MS ISO 13007-1, classified as type C2 TE.

MAIN CHARACTERISTICS

Suitable for Impervious Tiles			Excellent Adhesion Strength
Good Slip Resistance			Extended Open Time

USAGE

Suitable to use for :

- wide range of impervious ceramic tiles (water absorption $\leq 0.5\%$), glass mosaics and natural stones namely for porcelain tiles, vitrified homogeneous tiles, marbles, granites, etc.
- bed thickness of 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 pools.

COMPOSITION AND PERFORMANCE

Ezi STAR FLEX 2in1 consists of grey or white cement, graded washed silica sand and high performance dry powdered polymer admixture.

Ezi STAR FLEX 2in1 offers the following benefits when mixed with clean water:

- Excellent Adhesion Strength
- Good Flexural Strength
- Extended Open Time
- Good Slip Resistance
- User Friendly
- Good Workability
- Non-Slump Properties
- Prevents Mixing Errors On Site
- Water Resistant Properties
- Minimal Drying Shrinkage
- Minimised Efflorescence



PRODUCT INFORMATION

Name	: Ezi STAR FLEX 2in1
Packing	: 20 or 25 KG
Classification	: ISO 13007-1 Class C2 TE
Shelf Life	: 12 Months in Dry Condition
Appearance	: Grey or White 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. Ezi STAR FLEX 2in1 to 1 pbw. water (6-7 litres water to 20 kg Ezi STAR FLEX 2in1)
Consistency of Mix	: Non-Slump Creamy Paste Form
Coverage	: Approx. 6 - 7 m ² per bag (at 3 mm bed thickness)
Bed Thickness	: Recommended 3 - 6 mm
Slip Resistance	: Excellent
Workability	: Good (Smooth and Non-Slump)
Open Time	: Approx. 15 - 30 minutes
Adjustability Time	: Approx. 15 - 30 minutes
Pot Life	: Approx. 3 - 4 hours
Light Foot Traffic	: Approx. 24 hours
Setting Time	: Approx. 24 - 48 hours
Application Temperature	: From +5 °C to Normal Ambient Temperature

TECHNICAL DATA (Tested at approx. 25 °C)

	Result	Requirement
Tensile Adhesion Strength after 28 days		
- Air Dry	: 2.4 ± 0.10 N/mm ²	≥ 1.0 N/mm ²
- Water Immersion	: 1.8 ± 0.10 N/mm ²	≥ 1.0 N/mm ²
- Heat Aging	: 1.6 ± 0.10 N/mm ²	≥ 1.0 N/mm ²
- Extended Open Time (After not less than 30 mins)	: 0.8 ± 0.10 N/mm ²	≥ 0.5 N/mm ²
Slip Resistance	: 0.1 mm	≤ 0.5 mm
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 requirements of MS ISO 13007-1 Type C2 TE

SUITABLE SUBSTRATES

- (i) **Concrete** - It must be aged for 6 weeks. Direct fixing onto concrete may be adopted provided the surface is flat, cured and free of contamination. Surface primer may be required for direct fixing.
- (ii) **Brick Wall or Lightweight Hollow Blocks** - It must be aged for 4 weeks and levelled with cement-sand mortar prior to fixing tiles. Direct fixing is not recommended.
- (iii) **Aerated Lightweight Concrete Blocks (ALC)** - It must be aged for 4 weeks and levelled with cement-sand mortar (e.g. Ezi ALC PLASTER) prior to fixing tiles. Direct fixing on even surface can be done by using Ezi STAR FLEX 2in1. 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 should ideally be 1 part cement to 3-4 parts of sand.
- (v) **Existing Tiles or Natural Stones** - Existing surface must be dry, sound and free of contamination. Hollow sections should be removed and made well before direct fixing with Ezi STAR FLEX 2in1.
- (vi) **Existing Vinyl Tiles** - Existing surface must be dry, sound and free of contamination. Prime surface with EziMIX SBR BOND, before direct fixing with Ezi STAR FLEX 2in1.
- (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 STAR FLEX 2in1.
- (viii) **Timber Floor** - It must be rigid, strong and strengthened by overlaying it with a 15mm thick marine plywood, screw fixed at 300mm centres to the joists. Tiling method is similar to tile installation onto "Building Boards".

Note: - Not suitable for use on substrates subjected to high shrinkage, movement, vibration or to install moisture sensitive materials.
 - Not recommended to tile over metal, painted surfaces and skim coat plaster.
 - Installation in very demanding situations where greater adhesion strength and flexibility are required, recommended to mix Ezi STAR FLEX 2in1 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 STAR FLEX 2in1 with 1 part of clean water by weight, until a smooth, non-slump paste is achieved. Mechanical mixing is recommended.

(3) Spreading the Mix

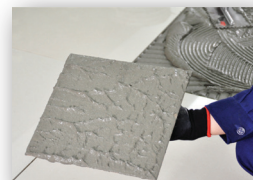
- Spread the paste to the substrate at bed thickness of 3 - 6 mm (may vary depending on tile size and weight) with appropriate notched trowel. It is also applicable up to 12 mm in small isolated areas.

- For tiles or stones of 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 m² at a time to prevent Skin-Over. In normal ambient temperature and humidity conditions, the open time of Ezi STAR FLEX 2in1 is approximately 30 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, prior soaking is not required. Recommended to use damp cloth to clean the dusty tile back.

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

- Tiles must be installed on the fresh adhesive bed within its recommended open time before Skin-Over of the adhesive occurs, resulting in loss of its tackiness. If this happens, discard the affected adhesive bed and apply a fresh adhesive bed.

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

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

- Tiling installed with Ezi STAR FLEX 2in1 must be protected from water & rain for at least 24 hours.

(5) Applying the Grout

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

MATERIAL SAFETY INFORMATION

A non-toxic, cement-based product which is considered non-hazardous in normal usage. Avoid inhalation, ingestion, skin and eyes contact. For more details, please refer to Ezi Material Safety Data Sheet.

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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