



1.13 Ezi STAR PLUS 110

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



DESCRIPTION

Ezi STAR PLUS 110 is a good performance, single part, flexible, latex-modified, improved cementitious adhesive (C2) with characteristics, 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			High 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, eg. porcelain tiles, vitrified homogeneous tiles, marbles, granites, etc.
- bed thickness of 3 - 6 mm, and up to 12 mm in small isolated areas.
- variety of substrates (refer to SUITABLE SUBSTRATES).
- internal and external, wall and floor, dry and wet areas.

Note : It is recommended to mix Ezi Star Plus 110 with Ezi Latex Admixture when used in external areas or areas under immersion of water.

COMPOSITION AND PERFORMANCE

Ezi STAR PLUS 110 consists of grey cement, graded washed silica sand and dry powdered polymer admixture.

Ezi STAR PLUS 110 offers the following benefits when mixed with clean water:

- High 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 PLUS 110
Packing	: 25 KG
Classification	: ISO 13007-1 Class C2 TE
Shelf Life	: 6 Months in 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	: 25-27pbw. of water for 100pbw. of powder (6.25-6.75 litre of water for 25KG of powder)
Consistency of Mix	: Non-Slump Creamy Paste Form
Coverage	: Approx. 8 - 9 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. 20 - 30 minutes
Adjustability Time	: Approx. 20 - 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	: 1.3 ± 0.10 N/mm ²	≥ 1.0 N/mm ²
Water Immersion	: 1.0 ± 0.10 N/mm ²	≥ 1.0 N/mm ²
Heat Aging	: 1.0 ± 0.10 N/mm ²	≥ 1.0 N/mm ²
Extended Open Time (After not less than 30 mins)	: 0.5 ± 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 PLUS 110. 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 PLUS 110 + EziMIX STAR AD-1.
- (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 PLUS 110 + 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 Star Plus 110 + 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. Tiling method is similar to tile installation onto "Building Board".

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 PLUS 110 with latex admixture to replace gauging water.

INSTALLATION PROCESS



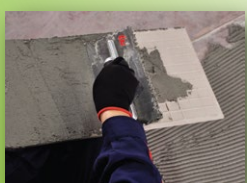
Make sure the surface is clean



Prepare the mix



Spread paste on the substrate



Spread paste on the back of tile

(1) Preparing the Substrate

- Substrate must be dry, sound, flat and free of contaminants eg. 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 Ezi STAR PLUS 110 with recommended mixing ratio until a smooth, non-slump paste is achieved. Mechanical mixing is recommended.

(3) Spreading the Mix

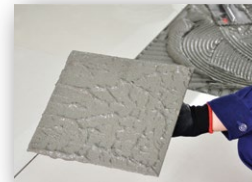
- Spread the paste to the substrate at bed thickness of 3 - 6 mm (may vary depending on tile size and weight) with appropriate notched trowel. It is also applicable up to 12 mm in small isolated areas.

- For tiles or stone slabs of size greater than 300 x 300mm or subjected to heavy loads, spread a thin coat of adhesive on to the back of the tiles or stone slabs to ensure complete coverage (Solid Bed Fixing).

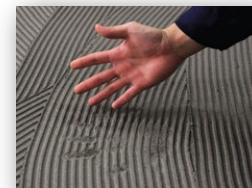
- Spread no more than 1 m² at a time to prevent Skin-Over. In normal ambient temperature and humidity conditions, the



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

open time of Ezi STAR PLUS 110 is approximately 30 minutes. **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 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 bed occurs. If the adhesive bed loses its tackiness re-trowel the adhesive bed or re-apply fresh adhesive mortar and trowel.

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

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

- Tiles installed with Ezi Star Plus 110 must be protected from traffic, 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

MANUFACTURED BY: Ezi MOTARTECH SDN. BHD. (874800-D)

WAREHOUSE/FACTORY

PENANG : 1888, Jalan Lahar Bubu, Kepala Batas, 13200, Pulau Pinang.
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