

# TA345

## LIGHTWEIGHT TILE ADHESIVE (FLEXIBLE)

LOW DENSITY EN12004 C2TE COMPLIANT TILE ADHESIVE

### PRODUCT DESCRIPTION

**OPTIMIX TA345 LIGHTWEIGHT TILE ADHESIVE (FLEXIBLE)** is a low-density high-quality polymer-modified white cementitious adhesive for fixing of interior and exterior ceramic tiles and particularly suitable for MiC and DfMA designs where minimising weight is a consideration.

Due to its low density **OPTIMIX TA345** is very easy to handle with great workability, pot life and open time. This allows for simple positioning and adjustment of all kinds of floor and wall tile installations. It has a high polymer content designed to achieve high bond performance and provide additional flexibility. This makes it additionally ideal for larger and heavier tiles and installations subject to some loading or impacts.



### TYPICAL USAGE

- Interior and exterior wall and floor tiling
- Installing all sizes of tiles including large format and heavy tiles
- Will give excellent results on natural stone, most Terrazzo, Reconstituted, Homogeneous and of course papered tiles
- Ideal for MiC factory or on-site works

### FEATURES AND BENEFITS

- Low Density ~1,000kg/m<sup>3</sup>
- Ideal for 'thin bed' or 'back buttering' method of installation
- Consistent Quality & C2TE Performance
- Simple and Easy to Use
- Thixotropic and Extended Open Time
- Low VOC – complies with HK EPD regulation
- Local Production – can contribute to BEAM
- Waterproof and Water Resistant Characteristics

## TECHNICAL DATA

### Mixing

Water Demand	7.4 – 8.0 litres per 20 kg powder
Mixing Method	Forced Action Mixer e.g. Low Speed (~500rpm) Drill & Paddle
Mixing Time	Mix for 5 minutes or until homogeneous and lump free. Leave to stand for 5 minutes, Briefly remix before use

### Pot Life <sup>1) 2)</sup>

@ 22°C	~90 minutes
@ 30°C	~60 minutes
@ 38°C	~30 minutes

### Performance <sup>1)</sup>

Product Characteristics	Specification	OPTIMIX TA345	Test Method
Initial Tensile Adhesion Strength (MPa)	≥ 1.0 <sup>3)</sup>	~ 2.2	EN1348:2007 CI 8.2
Tensile Adhesion Strength After Water Immersion (MPa)	≥ 1.0 <sup>3)</sup>	~ 1.0	EN1348:2007 CI 8.3
Tensile Adhesion Strength After Heat Aging (MPa)	≥ 1.0 <sup>3)</sup>	~ 1.9	EN1348:2007 CI 8.4
Tensile Adhesion Strength After Freeze Thaw Cycles (MPa)	≥ 1.0 <sup>3)</sup>	~ 1.5	EN1348:2007 CI 8.5
Open Time After 30 minutes (MPa)	≥ 0.5 <sup>3)</sup>	~ 0.9	EN1346:2007
Slip (mm)	≤ 0.5 <sup>3)</sup>	~ 0.4	EN1308:2007
28d Compressive Strength (MPa)	-	~ 13.8	EN13892-2
28d Flexural Strength (MPa)	-	~ 4.8	EN13892-2

### Environmental Data

Volatile Organic Compounds (VOC) <sup>4)</sup>	≤ 10 g/L
Potential BEAM points	Product manufactured within 800km of Hong Kong project sites
Packaging Composition	Paper bags incorporating 40% recycled paper

### Packaging & Yield <sup>5)</sup>

Wet/Dry Density (kg/m <sup>3</sup> )	~1,200 / ~1,000
Powder Consumption (kg/mm/m <sup>2</sup> )	~0.9
Yield (per 20kg bag)	~23 L (or ~7.5 m <sup>2</sup> @ 3mm thick)
Packing Size	20 kg
Shelf Life	12 months

#### Notes

- 1) Typical results achieved in laboratory conditions and for reference only. Actual results on site will vary with ambient, substrate and tile conditions.
- 2) In-house specification and/or in house test method
- 3) EN12004 C2TE specification
- 4) VOC content is tested by USEPA Method 24. VOC limits for ceramic tile adhesives <https://www.epd.gov.hk/>
- 5) Approximate figures make no account of wastage of any kind.



## INSTALLATION GUIDE

*(Refer to Method Statement for more details before commencing works)*

### SURFACE PREPARATION

Substrate must be clean, free from loose particles, oil, grease and other contaminants which may affect the bond.

Site concrete should be allowed to cure for a minimum of 4 weeks; Site renders or screeds should be allowed to cure for a minimum of 7 days before laying of tiles.

Substrates in MiC and other factory controlled environments may be able to receive **OPTIMIX TA345** after as little as 24 hours but trials should be carried out to confirm this.

Excessive shrinkage, drying, settlement and other movement of the substrate must have taken place before tiling works can begin.

### MIXING

Mix one bag of **OPTIMIX TA345** dry powder with 7.4 – 8.0L of potable water to achieve the desired consistency. Mechanical mixing with a slow speed drill and paddle is recommended.

Apply the powder to the water and mix for about 5 minutes or until a lump free homogeneous mix is achieved. Allow the mix to stand for 5 minutes and mix briefly again immediately before use.

### APPLICATION

#### Thin Bed Method

Use a flat trowel to spread the adhesive in an even layer onto the substrate then comb the adhesive using a 6mm notched trowel. While the adhesive is still wet press the tiles firmly into place with a slight twisting action to ensure good contact.

#### Thick Bed (Back-Buttering) Method

For large or contoured tiles, use a flat trowel to spread the adhesive in an even layer about 2mm thick onto the back of the tile.

Apply another layer onto the substrate and comb with a 6mm or 10mm notched trowel.

For uneven tile surfaces such as rough-hewn natural stones the adhesive may need to be applied in greater thickness to allow for the shape and contour of the tile and substrate. In this case applying additional adhesive to the back of the tile and combing with a 10mm notched trowel will help to manage consumption of adhesive.

Offer up the tile to the substrate and tap into position carefully. A rubber mallet may be used to persuade the tile into position but take care not to damage the tile or move any adjacent tiles. Consider using a piece of soft wood to spread the impact of the hammer.

### TILE ADJUSTMENT

Adjustment of the installed tile can be carried out while the adhesive is still workable. Note that the 'open time' of the adhesive after spreading on the tile and the substrate will be much shorter than the 'pot life'. Take care to ensure that the adhesive has not dried out or begun to set prior to installing or adjusting the tile.

### FINISHING AND CURING

Take care to ensure the tile is properly supported while the adhesive sets and hardens. Avoid touching, trafficking or otherwise loading the tiles until the installation has developed sufficient strength.

Depending on the tile it is usually better to clean off any excess adhesive from the tile while the adhesive is still wet. This can be done with a little water and a sponge but take care not to add water to the adhesive supporting and bonding the tile. Protect the installation from extremes of temperature for at least the first 7 days.



## GROUTING

Grouting of joints should be commenced not earlier than 24 hours after the tiles have been installed. Optimix recommends **TG410E TILE GROUT (HIGH PERFORMANCE)** and **TG480 TILE GROUT (EPOXY CARTRIDGE)**.

## LIMITATIONS

(Contact Optimix for more details)

**OPTIMIX TA345** should not be used on Gypsum substrates without pre-treating the substrate.

**OPTIMIX TA345** is suitable for large and heavy tiles in most conditions, however where significant substrate or tile movement is expected or for industrial situations please contact Optimix for recommendations.

**OPTIMIX TA345** has a high polymer content which provides flexibility, enhanced bonding, water resistance and waterproofing characteristics. However, if waterproofing is the primary consideration such as for tanking, damp-proofing or when installing tiles liable to staining then Optimix recommend installing a dedicated waterproofing product as part of the system.

## HEALTH AND SAFETY

**OPTIMIX TA345** is alkaline in nature and can cause irritations to persons with sensitive skin. Avoid inhalation of dust and contact with skin and eyes. Wear suitable protective gloves and masks while handling the product. If contact with eyes, rinse immediately with plenty of clean water and seek medical advice. This product is non-toxic and is not flammable.

## STORAGE

Store the products in a cool and dry place with the original unopened bags on pallets with plastic wrapping. Protect from direct sunlight, rainfall and exposure to high humidity conditions. Avoid excessive stacking of pallets. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging and reduce shelf life.

## ALTERNATIVE PRODUCTS

Other similar products in the Optimix range include:

- **TA313** Tile Adhesive (Semi-Flexible)
- **TA314** Tile Adhesive (2-in-1 Fix and Grout)
- **TA328S** Tile Adhesive (Flexible) with Enhanced Efflorescence Resistance
- **SA329** Stone Floor Adhesive (Fast-Setting)
- **TA338** Tile Adhesive (High Performance)



**Important Note:** The information contained herein is, the best of our knowledge, true and reliable and is supported by the present state of our knowledge. No warranty is given or implied in connection with any recommendations or suggestions made by us or our representatives as the conditions of use and any labour involved are beyond our control.



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