



# Arroflex EA

## Epoxy Adhesive

Chemical resistant three component, Epoxy thinset adhesive for fixing tiles and stone on interior and exterior floor & wall. Suitable for industrial, commercial and residential areas, where high chemical resistance is required.

### CLASS:

IS 15477:2019 TYPE 5T S2 Adhesive

EN 12004:R2T Adhesive



### Features / Benefits

- Non flammable, water cleanable when fresh.
- High strength, chemical resistant
- Prevents curling of moisture sensitive marbles and agglomerated tiles & stones
- Bonds to various substrates including metals
- Complies to EN/ISO with a R2T classification.
- Complies to ANSI A 118.3
- Complies to IS 15477 as Type 5T Adhesive
- Water, freezing, thermal shock resistant
- Does not stain white or light coloured marbles.

### Complies

- IS 15477 : 2019 Type 5T S2 Adhesive
- EN 12004 : R2T ADHESIVE
- ANSI A 118.3

### Working Properties (21° C)

PROPERTY	TYPICAL VALUES
Mixing Ratio- A : B (By weight)	1 : 2
Specific Weight of the Mixture	1600-1700 kg/m3
Pot Life	45 Minutes

### Suitable Substrate

- Concrete – VDF, Tremix and MIVON
- Concrete Masonry & Brick Masonry
  - Cement Mortar Beds & Plaster
  - Metal floors and walls
  - Tile and Stone
  - Wood & Plywood\*\*
  - Cement Backer Board\*\* & Gypsum board\*\*
  - Cement Terrazzo
  - Engineered stones & Marbles
  - Epoxy resin based substrates
  - Rubber, PVC and Linoleum substrates

\*\*Consult the backer board manufacturer's data sheet for the specific recommendations and load bearing capacity of specific board intended for use.

### Application

Designed especially for interior and exterior floor and wall installations of all types of ceramic tile, vitreous, semivitreous tile, glass mosaic tiles, precast terrazzo, engineered stone, metal tiles and natural stones over concrete and on a variety of substrates including metal substrates and drywall boards



## Technical Data

Performance Properties:  
ARROFLEX EA Adhesive

Applicable Standards:  
EN 12004 / ISO 13007/ANSI A 118.3 &  
IS 15477:2019

EN / ISO Data		
Test/ Reference	Requirement	Typical Values
7 day cure Shear adhesion strength - ISO 13007- 2 4.3.4 (EN 12003 - 7.3)	$\geq 2 \text{ N/mm}^2$	10-13 N/mm <sup>2</sup> (1450 - 1885 psi) Tile/Stone failure
Shear adhesion strength after water immersion ISO 13007 - 2 4.3.5 (EN 12003 - 7.4)	$\geq 2 \text{ N/mm}^2$	10-13 N/mm <sup>2</sup> (1450-1885 psi) Tile/Stone failure
Shear adhesion Strength after Thermal Shock - ISO 13007-2 4.3.8 (EN 12003 - 7.5)	$\geq 2 \text{ N/mm}^2$	8.5 -12 N/mm <sup>2</sup> (1232-1740 psi) Stone failure
Open time after 20 minutes - ISO 13007 - 2 4.1 (EN 1346)	$\geq 0.50 \text{ N/mm}^2$	3.0 - 4.0 N/mm <sup>2</sup> (20 minutes)

The adhesive mortar conforms to EN 12004 / ISO 13007 as R2T

ANSI DATA		
Test / Reference	Requirements	Typical values
Compressive Strength - ANSI 118.3 Clause (5.6)	$\geq 3500 \text{ psi}$ (24.13 MPa)	> 56.2 Mpa (8150 psi)
Tensile Strength - ANSI 118.3 Clause (5.7)	$\geq 1000 \text{ psi}$ (6.90 MPa)	12.41 - 18.61 (Mpa 1800-2700 psi)
<b>Shear Bond Strength</b>		
Tile to Tile - A118.3 Clause (5.5)	$\geq 1000 \text{ psi}$ (6.90 MPa)	8.27 - 10 Mpa (1200 - 1450 psi) Tile Failure Observed
Marble to Marble - A118.3 Clause (5.5)	$\geq 1000 \text{ psi}$ (6.90 MPa)	8.2 - 12.4 Mpa (1200 - 1800 psi) Stone Failure
Marble to Metal - A118.3 Clause (5.5)	$\geq 1000 \text{ psi}$ (6.90 MPa)	8.2 - 12.4 Mpa (1200 - 1800 psi) Stone Failure
Thermal Shock (Porcelain tile & Stone) - A118.3 Clause (5.8)	$\geq 500 \text{ psi}$ (3.45 MPa)	7.6 - 11.3 Mpa (1100 - 1600 psi) Tile/Stone Failure

ARROFLEX EA Adhesive Product conforms to the requirements of ANSI A118.3.

## PERFORMANCE PROPERTIES ACCORDING TO IS 15477: 2019 :

IS 15477 DATA		
Test / Reference	Requirements	Typical values
<b>Tensile Adhesion Strength</b>		
Dry Conditions - Annex A (Clause 5.1)	Min. 2.00 N/mm <sup>2</sup>	3.00 - 4.00 N/mm <sup>2</sup>
<b>Shear Adhesion Strength</b>		
Dry Conditions - Annex B (Clause 5.1)	Min. 6.00 N/mm <sup>2</sup>	8.50 - 9.50 N/mm <sup>2</sup>
Heat Ageing Condition - Annex B (Clause 5.2)	Min. 3.00 N/mm <sup>2</sup>	5.00 - 6.00 N/mm <sup>2</sup>
Transverse Deformation	$\geq 5.0 \text{ Mpa}$	6.0 - 7.0 Mpa

ARROFLEX EA Adhesive conforms to the requirements of IS 15477, Designation Type 5T.

Specifications subject to change without notification. Results shown are typical but reflect test procedures used. Actual field performance will depend on installation methods and site conditions.

### Chemical Resistance Chart :

ARROPOXY HSA ADHESIVE		
REAGENT TYPE (at 70°F/21°C)	EXPOSURE LEVEL	
	Intermittent*	Constant**
Citric Acid 10%	R	R
Sulfuric Acid 10%	R	R
Hydrochloric Acid 10%	R	R
Lactic Acid 5%	R	R
Vinegar	R	R
Acetic Acid 10%	R	NR
Nitric Acid 10%	R	R
Sodium Hydroxide 10%	R	R
Sodium Chloride 10%	R	R
Concentrated Detergents	R	N R
Ammonium Hydroxide	R	R
Sugars	R	R
Gasoline	R	NR
Cooking Oils	R	R
Turpentine	R	R
Mineral Spirits	R	R
Toluene	NR	NR
Xylol	NR	NR

**R= Recommended • NR= Not Recommended**  
Chemical Resistance determined in accordance with ASTM C267-1982.



**NOTES TO SPECIFIER :** Use the constant exposure recommendations for intermittent exposure to reagents at temperatures above 90°F (32°C).

\* Intermittent is less than 3 days exposure.

\*\* Constant is 1-month exposure

## Installation

### Surface Preparation :

All surfaces should be between 40° F(4° C) and 95° F(35°C) and structurally sound, clean and free of all dirt, oil, grease, loose peeling paint, laitance, concrete sealers or curing compounds. Substrates must be compact and consistent, free from any rising dampness, with no loose, flaky, or imperfectly anchored parts. The substrate must be stable, without cracks and have already completed the curing period of hygrometric shrinkage. Uneven areas must be corrected with suitable smoothing and finishing products.

Installation shall be made on a dry surface. New concrete slabs must be damp cured and at least 28 days old prior to application. All slabs must be plumb and true to within 1/4" (6mm) in 10ft (3m). Expansion joints shall be provided through the tile work from all construction or expansion joints in the substrate.

Follow ANSI Specification AN-3.8 "Requirements for Expansion Joints" or TCA Detail EJ171-91 "Expansion Joints". Do not cover expansion joints with mortar. Glass Mesh Mortar Unit: follow TCA installation detail W244.

### Mixing :

ARROFLEX EA Adhesive is prepared by mixing together parts A and B from the bottom upwards, using a low-rev (≈400/min.) helicoidal agitator, with the preset ratio of 1: 2.5 of the packs. Pour part B into the bucket containing part A, being careful to mix the two parts uniformly until a smooth, even coloured mixture is obtained. Add art powder slowly to this liquid and mix till uniform smooth paste is obtained. The user must mix full quantity of adhesive of 5 Kg pack. Part mixing is not recommended as working and physical properties may change.

Packs of ARROFLEX EA adhesive must be stored at a temperature of ≈ +25 °C for at least 2/3 days prior to use for best results while mixing and application.

## Application

### A) Tile & Stone :

Apply adhesive to the substrate with the flat side of the trowel, pressing firmly to work into surface. Comb on additional adhesive with the notched side. Use the proper sized notched trowel to ensure full bedding of the tile. Spread as much adhesive as can be covered with tile in 10 minutes. Back butter large format tiles (> 12"x12") to provide full bedding and firm support. Place tiles into wet, sticky adhesive and beat in using a beating block and rubber mallet to imbed tile and adjust level. Check adhesive for complete coverage by periodically removing a tile and inspecting bedding adhesive transfer onto back of tile. If adhesive is skinned over (not sticky), remove and replace with fresh adhesive.

### B) Glass Mosaic tiles

The ARROFLEX EA adhesive shall be applied to the surface to be tiled with a notched trowel using a scraping motion to work the adhesive into good contact with the surface to be covered. Notch trowel with notches approximately 4mm is recommended to get a bed thickness of 1.5-2mm. V-notch of 3mm also can be used to get bed thickness of 1.5mm. Apply only so much that can be covered with tile within 10-15 minutes or while the adhesive surface is still tacky. The Glass Mosaic tiles shall then be set in place and beaten gently with mallet or grouting float to insure 100% full bedding. Tiles shall be aligned to achieve uniform joints and then allowed to set until firm. Excess adhesive must be cleaned from the surface of the tile with a wet cloth or sponge while the adhesive is fresh and has not hardened.

After the tiles are set firm, the face of the sheets of front mounted glass mosaic tiles shall then be dampened and the face mount paper can be removed.

### Installation of Tile / Stone on Drywall boards :

When the installation of tile or stone is done using ARROFLEX EA Adhesive on drywall boards like cement backer board, wood board, plywood board, calcium silicate board, gypsum wall board, it is advised to provide spacers and fill the resulting grout joints with flexible materials like Arrotile Epoxy Grout / PU sealant / acrylic sealant

**Note To The Specifier And Installer :**

While installing tile/stone on the external walls and floors, we need to provide the joints by creating spaces between the tiles/stones and filling them up with Arropoxy Grout OR Arrotile Grout based grout mixed with Polymix OR PU sealants. In the absence of spacer joints, the surface movements can push tiles/stones away from the substrate causing debonding of tiles or stones.

It is also important to note that the exterior tile / stone installations are provided with joints (spaces) on the periphery of the area without allowing the tile / stone to be bound by the peripheral masonry work or plaster.

It is also important to note that the tiles/stones are not installed directly on expansion joints. The expansion joints need to be run through the tile / stone work till top surface and filled with materials which accommodate the movements.

**Grouting :**

Grout installation shall be commenced after a minimum of 24 hours curing time at 70°F (21° C). For maximum stain resistance of Internal spacer joints applications, use Arrotile Afix OR Arropoxy Stainfree Grout.

For maximum stain resistance and flexibility of External spacer joints applications, use Arropoxy Tile Grout Another option is to grout with Arrotile Grout Sanded or Unsanded Grout mixed with Tetracoat WP.

**Packaging**

1.5 Kg Pail (Part A: Part B- 1:2)

**Coverage**

13 to 15 Sft per pack of 5 Kg with 1/4" x 1/4" (6mm x 6mm) square notched trowel for a bed of 3mm.

Coverage will vary depending on trowel notch size, type and size of tile and substrate smoothness and evenness.

For Feedback / Suggestion & Complaints:

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