

TILE ADHESIVE DIAMOND PLUS

HIGH-PERFORMANCE POLYMER MODIFIED CEMENTITIOUS TILE ADHESIVE (TYPE III 'T'S1 / C2TES1) FOR FIXING EXTERNAL TILES, NATURAL STONES AND GLASS MOSAICS

DESCRIPTION

Tile Diamond Plus is a high-performance cementitious adhesive designed to fix all type of ceramic tiles, semi-vitreous, vitrified tiles, and natural stones on variety of surfaces for both vertical and horizontal applications. It can also be used in dry and wet areas, indoor as well as for outdoor applications.

USES

- All type of ceramic tile, terracotta, pavers, brick, vitrified tiles, large format tiles, precast terrazzo, natural stones and low thickness slabs.

APPLICATION AREAS

- Floor and walls for internal area
- Floor for external area
- Dry and wet areas
- Domestic and commercial areas

SUBSTRATES

- Cement based screeds/beds
- Cement based plaster/render
- Concrete surface and bricks

PRODUCT INFORMATION

Chemical base	Portland cement, polymers, selected aggregates and additives
Packaging	20 Kg
Shelf life	12 months from the date of manufacturing
Storage conditions	Product must be stored in original, unopened and undamaged sealed packaging in dry condition temperature between +5 °C to 35 °C
Appearance	Free flowing grey/white powder
Standard compliance	Type III 'T' S1 (IS 15477:2019) & C2TES1* (EN 12004:2017)

*Tensile adhesion strength test after freeze thaw cycles not concluded due to tropical climatic condition.

- Existing tiles and stones
- Waterproofing products
- Gypsum fibre boards
- Calcium sulphate screeds

*Use Nerolac Perma Tile Bond as a primer for the application on calcium sulphate screeds and gypsum fibre boards.

PRODUCT FEATURES

- High bond strength
- Allow adhesion on various substrates like tile and stones
- Sag resistant
- Extended open time
- Water and shock resistant
- Can be used in high temperature locations like sauna and jacuzzi
- Low VOC
- Self-curing
- Stronger adhesion than conventional cement-based mortar
- Can be used for wet rooms, toilets, showers, kitchens, spa, fountains and laundries

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APPLICATION INFORMATION

Mixing ratio	Packing	Water: powder ratio by weight	Quantity of water per bag
	20 Kg grey	0.25-0.28	6.25-7.0 L
	20 Kg white	0.27-0.29	6.75-7.25 L
Fresh mortar density	1.6 – 1.8 Kg/L		
Consumption	Consumption is dependent on the substrate, surface profile, roughness, application technique, tile type, tile size and trowel notch size. (As a guide for a single adhesive layer)		
Size of tiles	Bed thickness	Dry Powder Consumption (Grey)	Dry Powder Consumption (White)
Small	3 mm	2.50 - 3.00 Kg/m ²	2.75 - 3.25 Kg/m ²
Medium	4 mm	3.00 – 3.50 Kg/m ²	3.50 – 4.00 Kg/m ²
Large	5 mm	3.75 – 4.25 Kg/m ²	4.25 – 4.75 Kg/m ²
Coverage			
Pack	Area covered		
20 Kg	5 – 6 m ² at 3 mm thickness		
Layer thickness	Min 3 mm – Max 12 mm		
Ambient air temperature	+5 °C – +45 °C		
Substrate temperature	+5 °C – +45 °C		
Maturing time	~5 minutes		
Pot life	~120 minutes (100 gm powders at +27 °C)		
Open time	25 – 30 minutes		
Adjustability time	25 – 30 minutes		
Applied product ready for use	Use	Waiting time	
	Grouting Floor/walkable	24 – 36 hours	
	Grouting walls	4 – 6 hours	
	Full traffic	~14 days	
	Water immersion	~21 days	

Values determined at the laboratory conditions: 23 °C ± 2 °C, R.H. 50 % ± 5 %. Higher temperatures will reduce the indicated waiting times, lower temperatures increase them.

Protect from adverse weather conditions, such as extremely high or low (freezing) temperatures, rain, for at least 12-24 hours from application.

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TECHNICAL INFORMATION

Requirements as per IS 15477:2019 -

TEST PARAMETERS	IS 15477:2019	RESULTS
Tensile Adhesion strength		
Dry condition	$\geq 1.5 \text{ N/mm}^2$	1.6 – 1.7 N/mm ²
Wet condition	$\geq 1.0 \text{ N/mm}^2$	1.4 – 1.5 N/mm ²
Shear adhesion strength		
Dry condition	$\geq 1.5 \text{ N/mm}^2$	1.6 – 1.7 N/mm ²
Wet condition	$\geq 1.0 \text{ N/mm}^2$	1.2 – 1.4 N/mm ²
Heat ageing	$\geq 1.0 \text{ N/mm}^2$	1.4 – 1.5 N/mm ²
Transverse deformation (S1)	$\geq 2.5 \text{ mm, } < 5 \text{ mm}$	$\leq 2.5 \text{ mm}$
Slip	$\leq 0.5 \text{ mm}$	$\leq 0.4 \text{ mm}$

Requirements as per EN 12004:2017 -

TEST PARAMETERS	EN 12004:2017	RESULTS
Tensile Adhesion strength		
Dry condition	$\geq 1.0 \text{ N/mm}^2$	1.5 – 1.6 N/mm ²
Wet condition	$\geq 1.0 \text{ N/mm}^2$	1 – 1.2 N/mm ²
Heat ageing	$\geq 1.0 \text{ N/mm}^2$	1.2 – 1.4 N/mm ²
Tensile adhesion strength after freeze-thaw cycle	$\geq 1 \text{ N/mm}^2 \text{ after not less than 20 minutes}$	1 – 1.2 N/mm ²
Extended open time, Tensile adhesion strength	$\geq 0.5 \text{ N/mm}^2 \text{ after not less than 30 minutes}$	0.6 – 0.8 N/mm ²
Transverse deformation (S1)	$\geq 2.5 \text{ mm, } < 5 \text{ mm}$	$\leq 2.5 \text{ mm}$
Slip	$\leq 0.5 \text{ mm}$	$\leq 0.4 \text{ mm}$

*Values determined at the laboratory conditions: 23 °C \pm 2 °C, R.H. 50 % \pm 5 %, results may vary based on site conditions, contact Kansai Nerolac Paints technical team for assistance.

APPLICATION PROCESS

SUBSTRATE PREPARATION

- The substrate must be levelled, cured, undamaged, compact, rigid and free from any deleterious material.
- Dampen the dry surface with water and excess water should be washed off.
- New concrete substrate should be 28 days old before application which will reduce linear shrinkage from tile fixing surface.
- Smooth surfaces should be roughened lightly to improve adhesion.
- Expansion joints to be provided and filled with suitable sealant.
- For applications in hot climate or on absorbent substrates, thoroughly pre-dampen the surface immediately prior to product application. Avoid any ponding/standing water on the surface. Surface must not be damp to touch.

- If waterproofing layer required, cement based, and acrylic based waterproofing products from Nerolac Perma range must be applied to the substrate before tiling.

MIXING

- Pour the recommended amount of clean cold water into a suitable, clean mixing container.
- Slowly add Tile Gold powder to the water and then mix thoroughly using a low speed (<500 rpm) drill mixer until the material is fully mixed and lump free. Avoid entraining air into the mix by over mixing.
- Allow the product to mature 4-5 minutes before remixing for 30 seconds.
- The finished mix has a creamy consistency, uniformly coloured and is easy to apply and spread.

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APPLICATION

- Tile Diamond Plus is applied using a suitable notch trowel. Apply adhesive on a prepared fixing surface with trowel and comb to the required bed thickness. Coverage on the back of the tile should be 100%.
- Tiling must be carried out on freshly applied adhesive, exerting adequate pressure to ensure complete and uniform contact with the adhesive for optimum bond.
- Check the adhesive ribs periodically, if the skin has formed, remove the dried adhesive and apply fresh adhesive.
- Press the tiles firmly into position, checking periodically that good contact is maintained with the back of each tile and beat it using rubber mallet to imbed tile and just level.
- Adjust the tile if required.
- Clean off surplus adhesive from tile face and between tile joints before the adhesive has dried.
- After the required waiting time apply the appropriate grout into the tile joints.
- For tiles $>900 \text{ cm}^2$ (30x30 cm), the double spreading (buttering technique) is always recommended.
- Use spacers while laying the tiles to provide tile grout joint between the tiles, remove spacers once adhesive sets firmly.

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