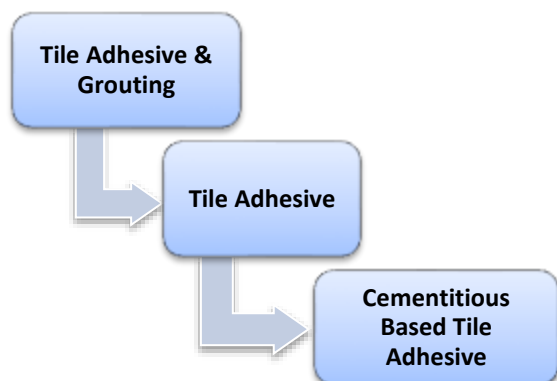


FAMILY TREE



PRODUCT DESCRIPTION

Cementitious tile adhesive formulated from cement, sand, well graded aggregates, special additives and selected polymers that provide dry pre-mix powder that needs only the addition of water to produce superior bonding characteristics to most of the tile types; cementitious, ceramic, porcelain and stone.

It can be used on many common construction substrates; concrete, plaster, cement boards, gypsum boards, cement mortars and glass. It is excellent for semi-wet areas such as kitchens and bathrooms, internal and external applications on vertical or horizontal installations.

FIELD OF APPLICATION

Area Type	: <input checked="" type="checkbox"/> Dry	<input checked="" type="checkbox"/> Semi-wet (Kitchen and bathrooms)	<input type="checkbox"/> Submerged (Swimming pools, fountains and potable water tanks)
Area Location	: <input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> External	
Type of Installation	: <input checked="" type="checkbox"/> Horizontal	<input checked="" type="checkbox"/> Vertical	
Tile Types	: <input checked="" type="checkbox"/> Cementitious <input checked="" type="checkbox"/> Terrazzo <input type="checkbox"/> General non-porous tile	<input checked="" type="checkbox"/> Ceramic <input checked="" type="checkbox"/> Stone	<input checked="" type="checkbox"/> Porcelain <input type="checkbox"/> Large Format
Substrates	: <input checked="" type="checkbox"/> Concrete <input checked="" type="checkbox"/> Plaster <input checked="" type="checkbox"/> Plaster Board <input checked="" type="checkbox"/> Metal sheets <input checked="" type="checkbox"/> Wood	<input checked="" type="checkbox"/> Cement Mortar <input checked="" type="checkbox"/> Gypsum Board <input checked="" type="checkbox"/> Cement Plaster <input type="checkbox"/> Rubber	<input checked="" type="checkbox"/> Screed <input checked="" type="checkbox"/> Cement Board <input checked="" type="checkbox"/> Tile <input checked="" type="checkbox"/> Glass
Thermal behaviour	: Excellent thermal behaviour which make it suitable where under floor heating systems are installed.		
Limitation	: Not suitable for continuously submerged conditions, thick bed application method.		

PROPERTIES

- | | |
|---|--------------------------|
| • General Purpose. | • Just add water. |
| • Good resistance to water after dried. | • Non-sagging. |
| • Superior bonding strength. | • Excellent workability. |
| • Ready dry pre-mix. | • Economical. |

PREPARATION

Working Conditions	: 2°C to 50°C.
Tools / Equipment	: Mechanically powered mixer, mixing container, notched trowel, tile spacer and suction cup.
Substrate	: Clean thoroughly and ensure that it is dry and free from dust, oil, grease, paints or any other loose material that might cause de-bonding with the surface. Attention to substrates where humidity might arise. In such cases, suitable waterproofing is recommended such as NASA Proof W210. Special considerations to all newly poured cement based substrates. Ensure that substrates are sufficiently cured, dimensionally stable, shrinkage and structural strain movements free and stable.

Priming	: Highly absorbent cement based substrates require priming prior to the application with NASA Bond 200 at a rate of 5m ² /litter. Example of such substrates: gypsum boards, plaster boards, anhydrite screeds, hollow blocks and foam concrete.
Joints	: In general, tiles shall not be placed above expansion or construction joints. NASA Flexseal shall be used to manipulate the joints.

MIXING

W/P ratio	: (0.25 - 0.27) by weight equivalent to (5.0 - 5.4) litres of clean fresh water for each 20kg bag.
Mixing Speed	: 400 - 600 rpm.
Process	: Add the clean and fresh water to the mixing container. Start the mixer and add the powder slowly while mixing. Keep mixing the paste for a period not less than 3 minutes after the addition of the powder until a consistent, homogenous and lumps free mixture is achieved. Stop the mixer and allow the paste to rest for a period of 2 – 3 minutes. Start the mixer and remix the paste for a period of 1 minute before the usage.
Points of Attention	: Do not add powder to the water without the mixer is started. Always mix sufficient amount that can be applied within the allowed open time of the adhesive after mixing.

APPLICATION

Application Method	: Light traffic areas use Thin Bed Method. Heavy traffic areas use Back Butter Method. Large tile format and / or heavy tiles use Bottom-Up Method.
Bed Thickness	: (2 – 5) mm.
Coverage	: Approximately 7 m ² / 20kg bag @3mm thickness
Position	: The described process is suitable for vertical and horizontal installation positions. If more than two rows of heavy and / or large tile format are to be fixed simultaneously, the tiles shall be supported mechanically. It is recommended to use temporary anchor nails in between tile gaps or inclined support stud. The used anchor nails shall be of adequate thickness.
Process	: Using the edge of the trowel, apply a thin layer of the adhesive mixture to the clean substrate. Comb the mixture with the notched side of the trowel to achieve the required bed thickness. Place the tiles to its place. Apply firm equal pressure to the tile after placing to ensure proper and complete contact with the adhesive.
Points of Attention	: Ensure that the tile will be parallel to the substrate while placing and avoid resting only one edge of tile to the substrate. It is recommended to use tile suction cup for handling and placing the tiles especially with heavy tile weights. Secure the tiled area and do not allow any type of traffic unless it is grouted. Grout shall not be applied before 24 hours using NASA Grout. Where water and / or moisture is expected and / or absorbent tiles are used, it is recommended to water proof the back side of the tile using NASA W210.
Cleaning	: All tools / equipment shall be cleaned immediately after use with fresh clean water. Hardened materials should be cleaned mechanically. Care shall be taken not to damage the tools / equipment.

PACKING

Standard Package	: Pluto Fix available in 20 Kg plastic Bags.
Custom Package	: Special packages can be arranged for large requirements.
How to Order	: Specify the Product Name followed with a hyphen and package size.

STORAGE CONDITION

Shelf Life	: 24 months from the date of manufacturing.
Temperature	: 2°C and 50°C.
Points of Attention	: Store in shaded area and properly sealed in its original packing.

TECHNICAL PROPERTIES

PROPERTY	STANDARD	VALUE
Testing Standard	ISO 1-13007 and BS EN 12004 as a normal cementitious tile adhesive (C1) ANSI A118.1 for shear strength requirements	
Testing Conditions	Tests were carried out in Apollo R&D laboratory with W/P = 0.25 @ 25°C	
Component		Single component
Form		Powder
Colour		White
Fresh Wet Density		0.1 ± 1.75 g/cm ³
Pot Life		12 hr @ 25°C
Open Time	ISO 2,4.1-13007	30 mins
Tensile Adhesion Strength	ISO 2,4.4-13007	≥0.5 MPa
VOC	ASTM D2369	< 10 g/ltr (complies with LEED)

ATTENTION

PPE : It is recommended to use full PPE while working with the product to avoid any possibility of irritation to skin or eyes. In case of accidental contact with eyes, immediately flush with plenty of water for at least 10 minutes and seek medical advice if necessary.

Hazardous Classification : Non-Hazardous.

Fire : Non-flammable.

APOLLO AT THE GLANCE

Apollo is confident with the technical solutions and high quality end products served to the customers.

Apollo invites you to explore other services and products:

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| • Building Finishing Systems | • Concrete Admixture | • Concrete Repair Systems |
| • Flooring Systems | • Grouts & Anchoring Systems | • Painting & Putty Systems |
| • Protective Coatings | • Sealant & Jointing Solutions | • Structural Strengthening Solutions |
| • Surface Treatment Solutions | • Tile Adhesive & Grouting Solutions | • Waterproofing Systems |