

TECHNICAL DATA SHEET



RITEBUILD® FLEXGEL (Gel Technology Based Adhesive)

(Ref. SIPL / TDS / FLEXGEL / 0623 / R-00)

❖ Product Description

RITEBUILD® FLEXGEL is a cementitious, highly flexible gel based technology, thinset high polymer modified, single-component heavy-duty adhesive for internal and external floor and wall applications. It has excellent adhesion property on concrete, plastered surface and other substrates. Its high flexibility and superior bond strength makes it best choice for vertical stone cladding. White color adhesive adds to aesthetic look especially for light color stones.

❖ Special Features

- Modified gel technology based highly Polymer modified, thin-set adhesive
- **IS: 15477 - 2019** classified as **TYPE-4T S1** Adhesive
- **EN 12004 / ISO 13007**: Classified as a **C2TES1** Adhesive
- Suitable for Internal and external applications for floor and wall area
- Suitable for heavy-duty & large format tiles and stones on external applications
- Specially designed for external vertical stone cladding



❖ Application

- Suitable for all size tiles and stone fixing.
- Suitable for internal & external wall applications with all types of vitrified tiles and stones
- Suitable for granite, marble, composite marble, all types of natural stones and large scale tiles
- Suitable for installation of tiles on high & low porous substrates.

❖ Advantages

- Single component, only water to be added.
- Easy to use and creamy- gel consistency to work.
- Excellent adhesion, workability & excellent water-proofing characteristics.
- Extended open time, Non sag formula and self-curing properties.
- Dual purpose for floor and walls and internal and external applications.
- Highly flexible and superior bond strength, bonds to various substrates.
- Suitable for building facades and vertical stone cladding.

❖ Suitable Substrates

- New and old All type concrete floors and walls Plastered surfaces.
- Cement screed beds.
- PCC and IPS flooring.
- Cement mortar beds.bricks and AAC Blocks.
- Cement Terrazzo.
- Cement fiber board (Internal application)
- Gypsum board.
- Tile-On-Tile applications for internal and external application.

❖ Coverage

Ratio - Water : Powder	Trowel Size	Coverage for 20 kg Bag + W
27 : 100	6 mm x 6 mm	60 - 65 Sq ft
27 : 100	12 mm x 12 mm	35 - 40 Sq ft

- Above results are as per standard laboratory conditions
- Coverage may vary depending on trowel notch size, substrate smoothness and absorption

❖ Packing

Available in **20 Kg.**

❖ Shelf Life

Factory sealed bags are best before 12 months from the date of manufacturing in unopened condition stored in cool and dry area.

❖ How to Apply

Surface Preparation

- The surface should be clean and free from dirt, oil or grease before applying the adhesive. Ensure that the substrate is flat, stable, well adhered and has a normal absorption.
- In case of undulations, correct the local undulation/damage on the substrate at least 48 hours before the application.
- To get a flat substrate; prepare mortar using **MYMIX SBR 330 / SBR LATEX** for better performance. Dampen the wall or floor before application of adhesive, and remove excess water before application, clean the back of tile/stone for any dust or loose particles.
- The proper preparation of the surface will make the fixing easier and quicker ensuring a better finish.
- The surface should be flat with a tolerance of 4 mm over a distance of 2 meters.
- It is essential to waterproof wet areas prior to application.
- New concrete is recommended to be 1 month old and completely dried before application.

Mixing

- Take 5.0 to 6.0 liters (25 to 30% weight) water for 20 Kg bag, water should be cool and clean tap water in a clean mixing bowl or bucket.
- Stir properly for 5 minutes by hand or an electric stirrer to get a smooth and homogeneous mixture.
- After stirring wait for 10 minutes, and stir once again, adjust the consistency, if necessary.
- Ensure that no powder, lumps, are present in the mixture.

Application

- Use the proper sized notched trowel to ensure full bedding of the tile.
- Now apply the adhesive on the substrate with the flat side of trowel initially, press firmly and spread the adhesive on the substrate. Then comb the adhesive with notched side of trowel.
- To provide full bedding & firm support, apply back buttering on the back side of tile before fixing. Bed the tiles firmly into the adhesive with a slight sliding and / or twisting action /shear, to ensure a good and uniform contact, fix or adjust the tiles within 15-20 minutes.
- Beat in using a beating block and rubber mallet to imbed and adjust level. Check regularly to ensure that the back of the tile is in full contact with the adhesive.
- Ensure tiles should be laid and adjusted before adhesive grooves get skinning.
- If adhesive grooves are skinned over or cured before laying the tiles, remove the adhesive and apply fresh material to fix.

- Occasionally check the adhesive coverage/contact by flip or lifting the tile. It helps to verify proper contact area/adhesive transfer is achieved to avoid voids.
- Ensure adequate gap (grout joint) is kept between subsequent tiles to accommodate for thermal expansion and contraction, use spacer to get uniform thickness of grout joints.
- Carefully remove excess adhesive immediately from the joints.
- Allow to cure the adhesive for 24 hours before grouting.

Notes

- Expansion joints shall be provided through the tile work from all construction or expansion joints in the substrates.
- Do not cover expansion joints with thin set mortar.
- For tile or stone installations on plywood and wood substrates, **THIXOFLEX PU** is recommended.

❖ Grout Recommendations

- Joints can be filled after 24 hour of completion of tiling work.
- Based on the applications RITEPOXY[®] ESG-1200, Glitter Star, TR, EIG-2200 and Cementitious grouts (CGU) can be applied which are available in more than 28 colours
- Refer Technical Data sheet of RITEPOXY[®] ESG-1200 and Cementitious Grouts for more detail.

❖ Notes on Application / Limitations

- The tile laying surface should be in good condition.
- Do not use wet screed.
- The surface must be fully cured always add powder to water and never add water to powder
- Do not add excess water than recommended.
- During application, do not attempt to extend the pot life by adding more water to the mixed adhesives.
- Product performance on site varies subject to site conditions and installation procedure followed
- Do not add any other materials or substances like sand, aggregates, cement etc. to the product. It may adversely affect the performance of product.

Technical Data

General Properties

Testing Parameters	Result	Testing Parameters	Result
Mixing Ratio	Approx. 25 - 30% by weight	Density of Mixture	1.75 - 1.85 g/cm ³
Colour	Available in GREY & WHITE	Setting Time	18 - 20 hours
Open Time @ 23 ^o -27 ^o C	40 - 60 minutes	Trafficable Time	24 hours
Pot Life	3.5 - 4 hours	Adjustable Time	20 - 40 minutes

Physical Properties

IS : 15477 : 2019 - Classified as TYPE -4T S1 Adhesive

Property	Specification	Result
Open Time	As per manufacturer	40 - 60 minutes
Tensile adhesion strength Dry condition 28 days	Min. 1.5 N/mm ²	2.25 - 2.50 N/mm ²
Tensile adhesion strength wet condition 28 days (7D+21D)	Min. 1.0 N/mm ²	1.50 - 1.75 N/mm ²
Shear adhesion strength Dry condition 28 days	Min. 1.5 N/mm ²	3.00 - 3.25 N/mm ²
Shear adhesion strength heat ageing condition 28 days (14D+14D)	Min. 1.0 N/mm ²	1.50 - 1.75 N/mm ²
Shear adhesion strength wet condition 28 days (7D+21D)	Min. 1.0 N/mm ²	1.25 - 1.50 N/mm ²
Slip Resistance (T)	≤ 0.50 mm	0.30 - 0.50 mm
Deformability (S)	≥ 2.5 mm, < 5.0 mm	2.50 - 3.00 mm

EN 12004 - Classified as C2TE S1 Adhesive

Property	Specification	Result
Tensile adhesion strength 28 days as per EN 1346	≥ 0.50 N/mm ²	2.25 - 2.50 N/mm ²
Initial Tensile adhesion strength as per EN 1348 (clause 8.2)	≥ 1.00 N/mm ²	1.75 - 2.00 N/mm ²
Tensile adhesion strength after water immersion as per EN 1348 (clause 8.3)	≥ 1.00 N/mm ²	1.50 - 1.75 N/mm ²
Tensile adhesion strength after Heat ageing as per EN 1348 (clause 8.4)	≥ 1.00 N/mm ²	1.50 - 1.75 N/mm ²
Tensile adhesion strength after freeze-thaw cycle as per EN 1348 (clause 8.5)	≥ 1.00 N/mm ²	1.75 - 2.00 N/mm ²
Slip Resistance (T) as per EN 1308	≤ 0.50 mm	0.30 - 0.50 mm
Transverse Deformation : EN12002	≥ 2.5 mm, < 5.0 mm	2.50 - 3.00 mm

ANSI A118.1 / 118.4 ET		
Property	Specification	Result
Porcelain mosaic tile shear strength - 7 days	≥ 1.38 Mpa	(2.00 - 2.50 Mpa)
Porcelain mosaic tile shear strength - 7 days water immersion	≥ 1.03 Mpa	(1.50 - 2.00 Mpa)
Porcelain mosaic tile shear strength - 28 days	≥ 1.38 Mpa	(3.00 - 3.25 Mpa)

Note: Specifications are subject to change without notification. The performance properties will depend on field conditions & installation methods

Standards Followed

- IS 15477 : 2019 - Designation **TYPE- 4T S1** Adhesive
- EN 12004 : 2017 / ISO 13007 - Classification **C2TE S1** Adhesive
- ANSI A118.4 - Designation ANSI 118.4 ET

Precautions

- Keep out of reach of children
- Wear suitable protective cloths, respirator and gloves
- In case of contact with skin / eyes, wash immediately with plenty of water & seek medical help

Disclaimer

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The information given in this TDS is for general guidance only. Specific instruction for various site conditions can be provided on demand.

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