JPL Innovations

TERRASHIELD SURFACE SYSTEMS

HIGH-PERFORMANCE PLASTER SYSTEMS FOR MODERN CONSTRUCTION

ABOUT US

At JPL Innovations, we are redefining the standards of surface finishes in construction. Over the past decade, our team of experts has developed advanced elastomeric, paintable plasters designed to tackle the most persistent challenges in the industry — from cracking and leakage to poor adhesion on modern substrates.

Our flagship product range, including Terrashield Fine, Terrashield Coarse, and Terrashield Bond, reflects our commitment to quality and innovations. With a focus on seamless application, superior performance, and long-term durability, our solutions are trusted across precast, AAC block, Mivan, and RCC construction.

We believe in "Honest Selling" — fair pricing, tested quality, and reliable performance that speaks for itself.

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OUR MISSION

To revolutionize the construction finishing industry by delivering high-performance, ready-to-use elastomeric solutions that eliminate surface problems and enhance long-term durability, all while upholding our core values of innovation, quality, and honest selling.

OUR VISION

To become India’s most trusted name in smart surface solutions — empowering architects, builders, and developers with cutting-edge materials that redefine efficiency, aesthetics, and reliability in modern construction.

OUR VALUES

We believe in "Honest Selling" — fair pricing, tested quality, and reliable performance that speaks for itself.

WHY TRADITIONAL SOLUTIONS FALL SHORT

In today's fast-paced construction environment, time, quality, and consistency are non-negotiable. Yet, traditional plasters and bonding methods continue to fall behind, leading to:

CRACKS AND SEEPAGE
Due to no elasticity and inadequate surface bonding

DELAYS IN FINISHING
From multi-step applications and extended drying times

WASTAGE AND REWORK
Caused by material inconsistency and surface undulations

WEAK ADHESION
On modern substrates like AAC blocks, Mivan, and precast panels

HIGH MAINTENANCE COSTS
From recurring issues like joint failures and surface delamination

Despite the growth in advanced construction systems, surface finishing materials haven't kept pace — leaving developers and contractors to compromise between speed, performance, and durability





OUR SOLUTION: SMART MATERIALS FOR MODERN CONSTRUCTION

Our **Terrashield** range is designed to work seamlessly with today's fast-paced building methods — from Mivan and RCC to AAC blocks and precast panels:

TERRASHIELD BOND

A super polymerized adhesive for AAC block bonding and jointing, preventing early-stage cracks and seepage

TERRASHIELD COARSE

A durable base coat that levels undulations and prepares rough surfaces

TERRASHIELD FINE

A flexible, elastomeric paintable plaster for seamless, crack-resistant, waterproof finishes

TERRASHIELD FINE AND TERRASHIELD BOND

ELASTOMERIC PAINTABLE PLASTER - FOR SEAMLESS, CRACK - RESISTANT FINSHES

TECHNICAL ADVANTAGES

1

CRACK - RESISTANT

Ideal for surfaces prone to thermal or structural stress

2

ELASTOMERIC & FLEXIBLE

Absorbs micro-movements in substrates without cracking

3

FIRE RETARDENT

Provides enhance safety with built in fire retardant properties, reducing flame spread and smoke generation

4

COST & TIME EFFICIENT

No Putty, Priming & Sanding Required

5

ECO-FRIENDLY

Contributes to IGBC, GRIHA and LEED green building certifications by eliminating ecologically harmful river sand.

6

READY-TO-USE

No site mixing, minimal material wastage

7

NO CURING

No water needs to be sprayed, no protective covering is needed ie product sets and hardens itself.

8

PAINTABLE PROPERTIES

Smooth, blemish-free surface compatible with premium emulsions or Texture Paint on exterior

9

ANTI-FUNGAL

Prevents surface deterioration in damp conditions

APPLICATION PROCEDURE

PRIOR CHECK:

Before application, it is important to ensure that the substrate is:

- Free of chalking, loose sand or particles
- Free from oil and grease stains
- Free from fungus, algae or moss
- That the substrate has not debonded from its sub-substrate
- The substrate is completely dry and in good condition.
- Check for hollow plaster by knocking.

PROCEDURE TO FOLLOW FOR APPLICATION:

Note:

- ***Load the Terrashield Fine on Mivan, Pre-cast Construction Cement/Gypsum Plastered Walls or Pre-painted walls with a trowel or roller in 2 coats up to a maximum thickness of 2 mm.***
- ***Refer to the next page for 45 GSM Nylon Mesh Applicability.***

01 Apply the first coat of Terrashield & allow it to dry for at least 6 to 8 hours.

02 Apply 45 GSM Nylon Mesh while the first coat is wet

03 Apply the second coat of Terrashield with a roller or a trowel.

04 Remove the excess material with emery paper (no. 320) by light sanding vertically and horizontally to get a smooth, seamless surface.

05 The surface is ready to be painted within 96 hours after completion of the second coat.

1.

2.

3, 4, 5

Note: Illustration of Steps

APPLICATION PROCEDURE

NOTE:

- First fill cracks, then apply wall coatings.
- For AAC Blocks and precast panels with a width of less than or equal to 2 ft., embed a 45 GSM nylon mesh across the surface between the first & second coat while the first coat surface is wet.
- On Dry Wall Joints/Pre-cast Joints/ Construction Joints in Mivan embed a 45 GSM mesh with a maximum 150 mm width on the joints covering the joint area completely, between the first coat & second coat while the first coat surface is wet.
- On AAC Blocks, Drywall Pre-cast joints, etc., the mesh must be terminated on the ceiling up to 100 mm (only if the joint terminates at ceiling level).
- Overlapping of the mesh must be avoided on the vertical joints of the mesh.
- On all corners and joints of walls, beams, columns and ceiling, the mesh has to be overlapped to a width of at least 100 mm.
- Only Premium Emulsion must be used for the interiors over Terrashield, and only Anti-Fungal Emulsion must be used for the exteriors over Terrashield where the sub-sub-strate is of AAC Blocks, whether plastered with Gypsum or sand-cement mortar (Interiors or Exteriors) or Dry Walls or Walls with joints.
- On other substrate surfaces, such as MIVAN, RCC, and Cement Plastered (on Mivan/Red Bricks), you may use any paint over Terrashield. Paints may include OBD, Internal/External Emulsion, Premium Emulsions, etc.
- The Terrashield Fine properties are such that after application, the material may sink or form bubbles, which may lead to slight 0.5 -1mm undulations on the surface. Sinking is due to the increment of cracks in the substrate or the sub-substrate. Bubbling is due to the trapped air expanding. This does not constitute product failure. Note: In the above-mentioned event, Terrashield Fine is to be applied again only on the localized areas.
- Breaking of 45 GSM nylon mesh does not constitute product failure, but signifies other serious structural and/or construction issues.

FOR TERRASHIELD COARSE:

- The painting compatibility and Application procedure steps to be followed are the same as those of Terrashield Fine, with the exception of the first coat requiring up to 3 - 3.5 mm thickness and a drying time of up to 10 to 12 hours.

UTILITY AREAS

IDEAL FOR:

- Levelling and finishing walls post-jointing/taping
- Reinforcing weak or cracked surfaces
- Creating a paintable skin over Mivan, AAC, and precast structures
- Both interior and exterior applications in residential, commercial, and industrial projects

RECOMMENDED ON:

- Cement Plastered Surface
- Gypsum Surfaces
- RCC Walls & Ceilings
- Precast Concrete Panels
- Mivan Formwork
- Cement Boards & Calcium Silicate Boards
- Drywall Partitions

COVERAGE

TERRASHIELD FINE

DESCRIPTION	MAX. THICKNESS	AREA IN SQ.FT
Coarse Cement Plastered	2.00 mm	80 – 100
Fine Sand Plastered	2.00 mm	100 - 120
Gypsum Plastered	2.00 mm	150 - 175
RCC Ceiling Surface without Mesh only rendering	2.00 mm	140 - 175
RCC Wall	2.00 mm	140 – 175

TERRASHIELD COARSE

DESCRIPTION	COATS	THICKNESS	COVERAGE / 20KG
Directly on AAC Blockwork with Mesh	Two	3.00 to 3.50 mm	40 - 45 sq. ft.
On RCC Surface	One	1.00 to 1.25mm	75 - 90 sq.ft.

Note: If the surface has cracks, the coverages may vary depending on the number and depth of the cracks on the surface.

TERRASHIELD BOND

SUPER POLYMERIZED ADHESIVE FOR AAC BLOCK CONSTRUCTION

TECHNICAL ADVANTAGES

1

SUPERIOR ADHESION

Bonds AAC blocks with high tensile strength, preventing debonding

2

WATER-REPELLENT

Minimizes seepage through joinery and conduit gaps

3

CRACK-RESISTANT BONDING

Acts as a flexible interface, absorbing minor lateral movement

4

EXTENDED OPEN TIME

Slow drying formula (up to 2 hours) allows more working time on-site

5

READY-TO-USE PASTE

No on-site mixing, ensures consistency and minimal wastage

6

EXTERIOR GRADE

Withstands weather conditions for both internal and external use

APPLICATION PROCEDURE AND COVERAGE

APPLICATION PROCEDURE:

- Apply a minimum thickness of 1 mm Terrashield Bond on both sides of the brick and over the base using a comb blade.
- Paste the bricks one over the other and allow to dry.
- Wall can be erected continuously up to a height of 3 mtrs.

STEP-BY-STEP APPLICATION:

01 Apply a 1 mm thick coat of Terrashield Bond using a notched trowel or comb blade on both AAC block surfaces and the base

02 Paste the blocks together using the standard bricklaying technique

03 Continue laying blocks up to a height of 3 meters at a time

04 Clean excess material and ensure vertical/horizontal alignment using an aluminum plumb.

Pro Tip: For Extra Strength, affix condults with Terrashield Bond instead of cement mortar.

DESCRIPTION	COATS
AAC Block 600mm x 200mm x 100mm	64 sq. ft.
AAC Block 600mm x 200mm x 150mm	45 sq. ft.
AAC Block 600mm x 200mm x 200mm	32 sq. ft.

UTILITY AREAS

IDEAL FOR:

- Primary AAC block construction in residential, commercial, and industrial sites
- Block jointing in high-humidity zones (kitchens, washrooms, exteriors)
- Replacing conventional mortar to reduce wall thickness and material waste
- Pointing and minor crack repairs in block joints (when mixed with AAC grit)

RECOMMENDED ON:

- AAC Block to AAC Block adhesion
- AAC Block to RCC columns or slabs
- Conduit placement within blockwork
- Filling fine gaps and voids using AAC pebble mix
- Along with AAC Blocks, FLYASH Bricks must sandwich mesh between two layers of Terrashield Plaster

NOTE:

- The material is to be applied to a thickness of 1mm on the surface.
- If applied thick Terrashield Bond - super polymerized bond may ooze out from the sites.

UNDERSTANDING SLENDERNESS RATIO

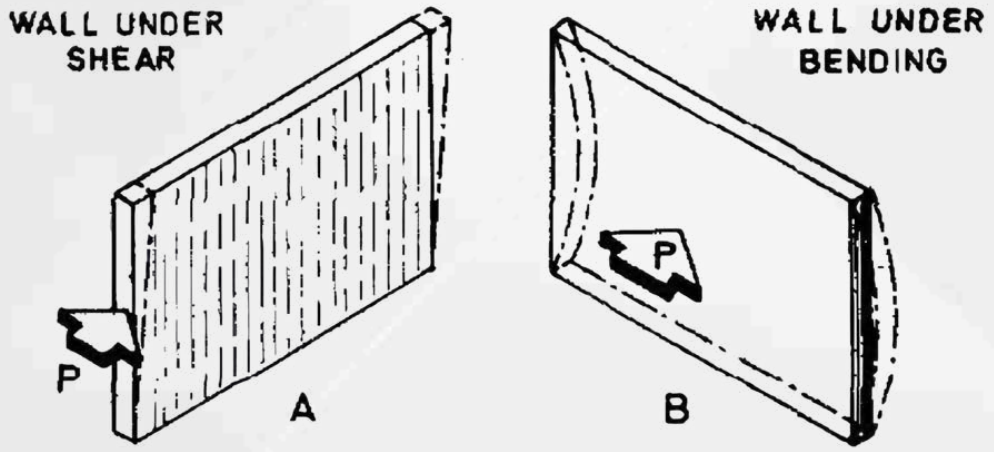
SP - 20 (1991: Handbook on Masonry Design and Construction [CED 13: Building Construction Practices including Painting, Varnishing and Allied Finishing]

Slenderness Ratio = Length of the wall ÷ width of the block**.**

Table E-5 Span to Thickness Ratio of Non-Load Bearing Panel/Curtain Walls

Design Wind Pressure kg/m²	Vertical Span		Horizontal Span	
	Cement-Lime Mortar 1 : 1 : 6	Cement-Lime Mortar 1 . ½ . 4½	Cement-Lime Mortar 1 : 1 : 6	Cement-Lime Mortar 1 : ½ . 4½
(1)	(2)	(3)	(4)	(5)
25	38	43	54	61
50	27	30	38	43
75	22	25	31	35
100	19	21	27	30
125	17	19	24	27
150	15	17	22	25

Note - Partition walls which are not subjected to any wind pressure, that is, internal partition walls, may be apportioned with the help of the table by assuming a minimum design wind pressure of 250 N/m²



Resistance of brick wall to take lateral loads is greater in case of wall *A* than that in case of wall *B*.

FIG. E-16 ABILITY OF A WALL TO TAKE LATERAL LOADS

As Per the above table:

- A wall 3.5 mtr in length will remain stable if the width of the block is 100m.
- A wall 4.5 mtr in length will remain stable if the width of the block is 150m.

TERRASHIELD PRODUCT ECOSYSTEM

Feature / Criteria	Terrashield Fine	Terrashield Coarse	Terrashield Bond
Function	Finishing plaster for seamless, crack-resistant walls	Base levelling coat to correct undulations	Adhesive for AAC block bonding
Type	Elastomeric Paintable Plaster	Elastomeric Base Coat	Super Polymerized Bonding Paste
Application Thickness	1 – 2 mm	2.5 – 3.5 mm	1 mm (adhesive layer)
Primary Use	Surface refinement before painting	Surface levelling, undulation correction	AAC block-to-block & AAC-to-RCC bonding
Surface Compatibility	AAC, Mivan, RCC, Precast, POP, Cement, Gypsum	AAC, Mivan, RCC, Cement, Precast, Drywall	AAC Blocks, RCC Columns/Slabs
Waterproofing Role	Hydrophobic paintable film	Moisture-resistant levelling layer	Water-repellent adhesive interface
Crack Resistance	Absorbs surface-level expansion	Flexible enough for base movement	Prevents cracks in joints
Paint Compatibility	Premium & Anti-Fungal Emulsions	OBD, Internal/External, Premium Emulsions	Not paintable — must be covered with plaster/paint
45 GSM Nylon Mesh Usage	Recommended for joints and weak surfaces (in ceilings mesh not required)	Required at panel joints and high-stress zones	Not applicable
Ready-to-Use	Yes	Yes	Yes
Drying Time Before Painting	96 hours	96 hours	Delayed Drying time up to 2 hours
Coverage (per 20 kg)	80 - 175 sq. ft. (surface-dependent)	40 – 90 sq. ft. (range given is for different surfaces, coats and dimensions, please refer to page no. 11 for the breakdown of the same)	32 – 64 sq. ft. (range given is for different surfaces, coats and dimensions, please refer to page no. 14 for the breakdown of the same)
Interior & Exterior Use	Yes	Yes	(as adhesive, not as a surface finish)

TEST	TERRASHIELD FINE	TERRASHIELD COARSE	TERRASHIELD BOND
Compressive Strength, Mpa ASTM D 695.23	3.2	5.6	1.1
Tensile Strength, Mpa ASTM D 638.22	5.8	7.5	1.9
Flexural Strength, Mpa ASTM D 790-17	1.9	5.1	1.9
Water Absorption,% (for 24 hours) ASTM D 570-22	24.3	28	16.1
Pull off Adhesion, Mpa ASTM D 4541-22	1	1:1	1
Viscocity with water 2:1	17 secs	Not Possible	16 secs
Pot Life	6 hours	3 hours	3 hours
Volatility of Chemicals Detection Test for presence of 28 Carcinogenic Chemicals	Absent	Absent	Absent
Flame Spread and Smoke Developed Index Test BS 476 Part 7;1997)	Class 1 or A	Class 1 or A	Not applicable
Flame Spread and smoke developed Index (Test ASTM E84-2021 Standard test method for surface burning characteristics)	Class 1 as per IBC	Class 1 as per IBC	Not applicable
Chloride, CO2, SO2, NO2, Methane Test	No Gas is present in sample, indicating that the sample acceptable (BQL - Below Quantification Limit)	No Gas is present in sample, indicating that the sample acceptable (BQL - Below Quantification Limit)	Not applicable

FREQUENTLY ASKED QUESTIONS (FAQS)

Your questions answered with transparency and technical clarity

1. What makes Terrashield products different from traditional plaster and adhesives?
Terrashield products are elastomeric, ready-to-use, water-repellent, and engineered to absorb structural movement. Unlike conventional plasters or sand-cement mixes, they provide crack resistance, a consistent finish, and faster application without on-site blending.

2. Can Terrashield Fine or Coarse be used directly on AAC blocks or Mivan surfaces without hacking or bonding agents?
Yes. Both Terrashield Fine and Coarse are designed for direct application on AAC, Mivan, and RCC surfaces without hacking or bonding coats. Just ensure the surface is clean, stable, and dry before application.

3. Does mesh reinforcement always need to be used?
Mesh is essential in high-stress areas like joints, corners, and partitions (especially on AAC, precast, joints and drywall). For uninterrupted RCC or cement surfaces, mesh is optional but recommended if there's a risk of thermal expansion or movement where there are joints.

4. Can these products be used during monsoons or high-humidity conditions?
Yes. Terrashield Fine forms a water-resistant film within an hour of application. While heavy rainfall should be avoided during application, light humidity won’t affect performance. Proper drying intervals must still be followed.

5. Which paint should I use after applying Terrashield Fine or Coarse?

- Interiors: Use Premium Emulsion or Washable Paints
- Exteriors: Always use Anti-Fungal Premium Emulsions
- On AAC blocks, drywall, or gypsum substrates, avoid low-grade paints.

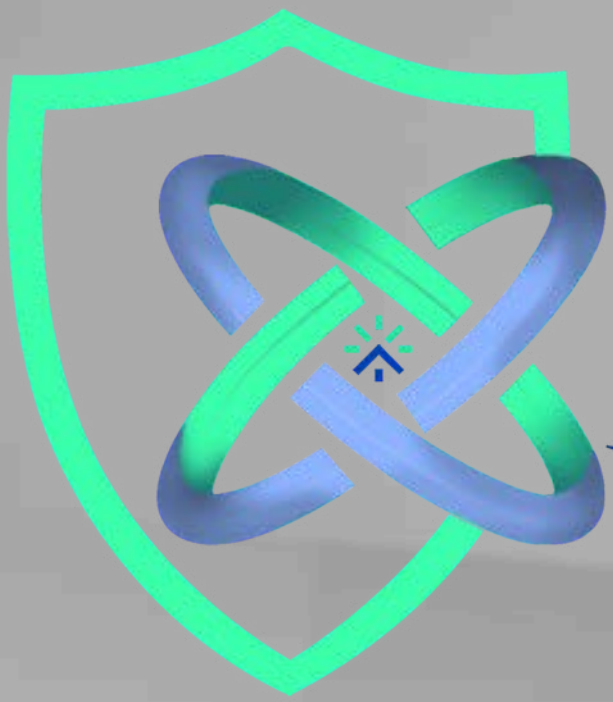
6. Why should I use Terrashield Bond instead of mortar for AAC blockwork?
Terrashield Bond provides superior adhesion, resists cracks, and reduces wall thickness by eliminating bulky mortar layers. It's also water-repellent and ready-to-use, reducing material waste and application time.

7. What if cracks already exist on my AAC or precast walls?
You can apply Terrashield Fine as a corrective measure. Open up the cracks, clean the surface, apply the first coat, embed mesh while the plaster is still wet, and apply a second coat for a smooth, crack-free finish.

8. Can Terrashield be used under tile installations?
Yes. Terrashield Fine can be used to level the surface before tiling. For tile adhesion, pair it with our polymerized tile adhesive (like Tilo or LPPT) for the best results.

9. Is it necessary to use a mullion in AAC construction?
No. When using Terrashield Bond and mesh-reinforced plaster, mullions add unnecessary dead weight and may reduce performance. Door frames can be securely fixed by cutting pockets into the wall and using fasteners.

10. What if I’ve never used these products before — can I trust their performance?
Absolutely. Our team offers hands-on product demonstrations, application guides, and technical support. You can also perform simple tests for adhesion, crack resistance, and waterproofing directly on-site using sample applications.



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BMTPC CERTIFICATE

CERTIFICATION

In the opinion of Building Materials & Technology Promotion Council's Board of Agreement (BMBA), **Elastomeric Paintable Plaster** is satisfactory if used as set out above in the text of the Certificate. This **Certificate PAC No. 1054-P/2020** is awarded to **M/s JPL Innovations Pvt. Ltd., Bhiwadi, Rajasthan (formerly to M/s Xylo Paints).**

The period of validity of this Certificate is for a period of two years i.e. from 02/06/2025 to 01/06/2027 as shown on Page 1 of this PAC.

This Certificate consists of a cover page and pages 1 to 21.

Dr. Shailesh Kr. Agrawal
Chairman, TAC
& Member Secretary, BMBA
Building Materials and Technology Promotion Council
Ministry of Housing and Urban Affairs, Govt. of India
Core 5A, 1st Floor, India Habitat Centre
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Embossing Seal of PACS BMBA

On behalf of BMTPC Board of Agreement, Chairman, Technical Assessment Committee (TAC) of BMBA & Member Secretary, BMTPC Board of Agreement (BMBA) under Ministry of Housing and Urban Affairs, Government of India

Place: New Delhi, India
Date: 02nd June, 2025

JPL Innovations

Still Have Questions?
We're here to help. Contact our technical team for live demonstrations, custom training, or product support.

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