



Ferrobond 101

LATEX AGENTS FOR BONDING FRESH TO HARDEN CONCRETE FOR INTERIOR DRY AREA



TIS. 2702-2559



Ferrobond 101 is a latex concrete admixture, interior use "Vinyl acetate copolymer emulsion" use as a bonding agent between old and new concrete or old and new plaster. Use for mixing with water and sand-cement mixing. Apply with a scrub brush as a bonding layer before topping with concrete on existing concrete floor. Specifically designed for interior use in dry, non-water contact areas or areas with minimal moisture exposure such as topping floors interior homes, condominiums or for mixing with cement in tile grouting work before plastering interior walls of buildings.

Advantages

- Strong adhesion between old and new concrete surfaces.
- Increased flexibility, reducing the likelihood of cracks in mortar.
- Improved resistance to discoloration and reduced shrinkage in mortar.
- Enhanced fluidity, making plastering easier.
- Excellent adhesion on various surfaces including gypsum boards, bricks, concrete, plaster walls, stone and fiber cement boards.

Standards and compliances

Ferrobond 101 is manufactured under standard meets to TIS 2702-2559 and ASTM C1042-99 (Bond strength of latex systems used with concrete by slant shear) and ASTM C1059-99 (Latex agents for bonding fresh to hardened concrete)

Area of use

Ferrobond 101 is suitable for use as a bonding agent in buildings in areas not exposed to moisture including :

- Interior areas of buildings and places not exposed to water or moisture.
- Bonding old and new concrete floors within buildings.
- Thin decorative plastering and repair of concrete surfaces inside buildings.
- Installing ceramic tiles, both on floors and walls in areas not exposed to water.
- Tile grouting work before plastering interior walls of buildings.

Physical properties

Properties	Value	Standard
Chemical type	Vinyl acetate copolymer	-
Form	White liquid	-
Specific gravity, kg./litre (Approx.)	~1.02 kg./litres	ASTM D1475
Viscosity (Needle No. 2, round 60), mPa.s (Approx.)	40-42 mPa.s	ASTM D445
pH (Approx.)	4.0-5.0	-

Technical properties

Test item	TIS Criteria 2702-2559	ASTM C1059 Type I criteria (Redispersable)	Ferrobond 101 Value	Note
Bond strength by slant shear at 14 days, MPa. (Approx.)	2.8 MPa.	2.8 MPa.	11.1 MPa.	Pass
	Ferrobond 101	Water	Portland cement Type 1	Sand 0.3 mm.
*Note mixing (By weight)	1	1	2.5	3.5

Method statement

Ferrobond 101

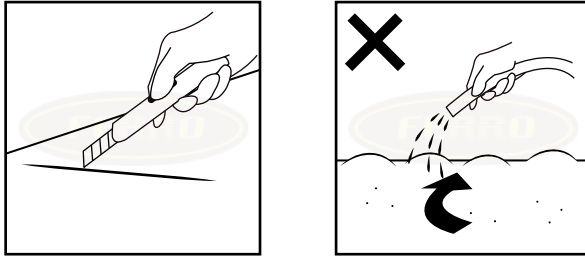
Step 1 Surface preparation

Old or existing concrete surface preparation.

CASE 1 Laitance or weak or loosely concrete surface.

The surface assessment method involves using the knife test. If the surface easily forms dust and there are deep marks from the knife reaching up to 2 mm. or if the surface crumbles easily when scraped with a knife indicates the presence of a weak lime layer that is not suitable for overlaying with concrete. Surface preparation a weak surface should be abraded using a concrete scarifier to achieve the desired roughness according to the International Concrete Repair Institute (ICRI) standard with a surface profile (CSP) ranging from 3 to 5 until reaching a strong surface. In addition the concrete scarifier will create a rough profile suitable for adhesion. As for the case where the topping is loose from the concrete surface must be removed and a new topping apply. Normally the weight should be not less than 210 ksc. at 28 days. Dust absorption and wiping with a mop cloth should also be performed. Avoid injecting a large amount of water saturating the prepared surface because concrete contains

water-repellent chemicals and polymers that could penetrate and adhere to the dry concrete surface. If the concrete is already saturated with water the polymer will not be able to penetrate. Additionally since the soaking water can not drain out may cause localized swelling of the concrete surface due to rapid setting compared to the normal moisture drainage of regular concrete. Therefore the surface preparation should be similar to that of epoxy industrial floor installations.



CASE 2 Old or existing concrete surface are coated with transparent film such as curing compound or oil contaminants.

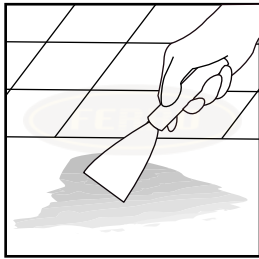
The surface assessment method involves using the drop test. If you drop water onto the surface and forms round droplets like water on a lotus leaf and takes more than 10 seconds Surface preparation using a concrete scarifier to achieve the desired roughness according to the International Concrete Repair Institute (ICRI) standard with a surface profile (CSP) ranging from 3 to 5. Alternatively a shot blast can be using to abrade the surface by approx. 1 mm. to obtain a clean rough surface. Additionally is recommended to perform another water drop test after surface preparation and conduct a trial concrete test on an area of 1-2 m² before proceeding with the full-scale apply.



CASE 3 Old or existing cutback asphalt adhesive residue.

The surface assessment method involves in the case where there are cut-back asphalt, adhesive-non-asbestos residues present. Typically appearing as black rubbery substances on the surface involves observing whether they are dry and brittle or still moist and tacky. Surface preparation using a concrete scarifier to achieve the desired roughness according to the International Concrete Repair Institute (ICRI) standard with a surface profile (CSP) ranging from 3 to 5. This is to remove as much of the old surface as possible (More than 80% especially the dry and brittle remnants). However if there are still dense black adhesive residues remaining (Approx. 20%)

they should be treated with a latex agents for bonding fresh to harden concrete (Ferrobond 101) to ensure adhesion. Nonetheless the bonding strength may be approx. 0.5 MPa. Is essential to prepare the surface to be as clean and rough as possible as the first step.



In the case of tacky or pressure-sensitive adhesive residues.

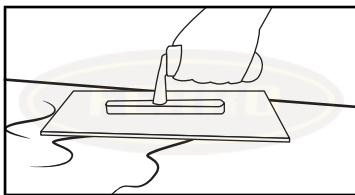
For this type of adhesive which can not adhere to Ferrobond 101 the adhesive residues must be removed using a concrete scarifier to clean the concrete surface completely. Afterward the prepared surface should be thoroughly cleaned using a high pressure water jet to ensure 100% removal of any remaining adhesive residues.

Step 2 Mixing

Mixing Ferrobond 101 as a bonding agent can be done at various water-to-product ratios depending on the apply as follows :

1) Bonding old and new concrete surfaces interior buildings.

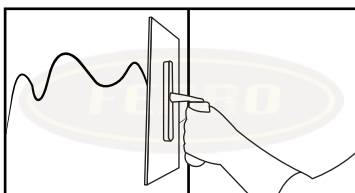
Mixing the components thoroughly using a low speed drill at 400-600 rpm. for 1-3 minutes until a homogeneous mixture is obtained. Then apply the mixture using a brush to create a bonding layer with a thickness of 1-2 mm. Subsequently apply sand plaster or concrete overlay immediately (Do not wait for the bonding layer to dry).



Ferrobond 101	Clean water	Portland cement Type 1	Fine sand Ø 0.3 mm.
1 kg.	1 kg.	2.5 kg.	3.5 kg.

2) Thin plastering work 1-3 mm. thick to decorate the surface of concrete walls.

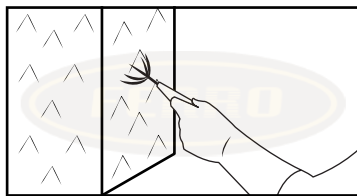
Mixing the components thoroughly using a low speed drill at 400-600 rpm. for 1-3 minutes until a homogeneous mixture is obtained. Then apply it to thinly plaster and decorate the concrete surface thin 1-3 mm.



Ferrobond 101	Clean water	Portland cement Type 1	Fine sand Ø 0.3 mm.
1 kg.	2 kg.	2.5 kg.	3.5 kg.

3) The work of scoring flower patterns to create grooves for the plaster to adhere to.

Mixing the components thoroughly then using a coconut palm broom or brush to score the mixture onto the surface of the column to create sharp protrusions evenly across the area. Let dry for at least 3 days before apply the plaster coat on top.



Ferrobond 101	Clean water	Portland cement Type 1	Fine sand Ø 0.3 mm.
1 kg.	1 kg.	2.5 kg.	3.5 kg.

Limitations/Cautions

- Prohibited for using in industrial floor jointing apply with forklift traffic or heavy vibrations. Should be using epoxy bonding agent (Ferrorez 713) for such apply.
- Prohibited for using as joint filler in areas with moisture or standing water such as swimming pools, bathrooms, rooftops, balconies or underground levels.
- Prohibited for using as joint filler with water-based materials such as wallpaper adhesive.
- The installation temperature should be between +23 °C to +40 °C. Avoid working during strong wind and sunlight and advisable to have windbreak panels. If jointing walls in a tall building to prevent excessive water loss should be considered.
- Prohibited to allow this joint compound (Ferrobond 101) which is a mixture of cement and dry fine sand to set before pouring the concrete layer.
- Prohibited to apply on weak existing concrete surfaces. The existing concrete floor must be have a minimum weight bearing capacity of 210 ksc. at 28 days.
- Prohibited to apply latex agents for bonding fresh to harden concrete (Ferrobond 101) bonding to directly onto the roller. Is advisable to mixing latex agents for bonding fresh to harden concrete (Ferrobond 101) with portland cement and fine sand (0.3 mm.) and apply using a brush only.

*For additional information refer to the "Common problems" section on www.ferro-product.co.th and consult our technical department at technic@ferroproduct.co.th for further guidance.

Technical support

Customers can contact the sales department of the company at sale@ferroproduct.co.th to inquire about product usage methods. Furthermore they can also request information or organize the following activities :

1. Request for the latest updated data sheet.
2. Request for the sale conditions document and the product price list.
3. Schedule a technical staff visit to demonstrate the products at the customer's job site by filling out the "Demonstration request form" prior to the product purchase.

4. Schedule a technical staff visit to provide product usage training to the customer's workers at the job site by filling out the "Worker training request form".
5. Schedule training for the customer's foreman at the company's training center (Ferro training center) by filling out the (Foreman training request form).

Coverage

The approx. using of Ferrobond 101 is 3-4 m²/litre when mixing with portland cement and fine sand to create a joint compound layer with a thickness ranging from 0.3-2 mm.

Package

1 litre/gallon (10 gallons/carton).
5 litres/gallon (4 gallons/carton, 40 cartons/pallet = 160 gallons).
20 litres/gallon (24 gallons/pallet).
200 litres/drum.
1,000 litres/drum.

Cleaning tools

Clean the tools with clean water before Ferrobond 101 dry.
If Ferrobond 101 has dry must be scraping off with mechanical force such as scraping.

Storage

- The shelf life is 1 year in the container.
- Storage in a shaded, dry area with a temperature of approx. 23 °C + 2% relative humidity 50% + 5%RH (According standard to ISO 554).

Health and safety instructions



- In case of eye contact, rinse thoroughly with plenty of clean water and seek medical attention immediately.
- In case of skin contact, irritation may occur. Rinse off with clean water.
- In case of ingestion, do not induce vomiting. Seek medical attention immediately.
- In case of inhalation, avoid breathing vapors. If exposed to airborne vapors move to an area with fresh air.
- Is a water-based material and do not ignite easily.
- Wear gloves and safety goggle is recommended while handling.

Disposal

Ferrobond 101 is contains vinyl acetate copolymer. Please do not disposal of the remaining mixture into public drainage pipes. Should be dry and solidified by exposure to sunlight.

Transportation and shipping data

Transportation requirements for Ferrobond 101 via public roads :

Ministry of transport, Thailand : No specific requirements.

Department of transportation, United States of America : No specific requirements.

		Size		
1 L	5 L	20 L	200 L 1000 L	<ul style="list-style-type: none">• 1 litre/gallon 10 gallons/carton Code FG-1IC-8858915212665• 5 litres/gallon 4 gallons/carton 40 cartons/pallet = 160 gallons Code FG-1IC-8858915210005• 20 litres/gallon 24 gallons/pallet Code FG-1IC-8858915210012• 200 litres/drum Code FG-1IC-8858915210029• 1,000 litres/drum Code FG-1IC-8858915212771

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Product warranty: The company is pleased to replace any product that is clearly proven to be defective due to manufacturing processes with a new products of equal value to the portion that is defective. Refunds are not available. Customers must be notify us of replacement within 7 days from the order date. Additionally customers can't claim damages resulting from direct or indirect using of the materials, as well as delays in delivery by the company. Furthermore replacements can't be made for errors in using that arise from customers negligence without consulting the sales staff or technical documentation provided by the company. The company reserves the right to amend manufacturing formulas or new packaging designs without prior notice. Therefore customers must be request the data sheet and sale conditions from the company before actual using and before each purchase. By doing so the company assumes that customers have understood and agreed to the company's sale conditions before using. (Company products are only allowed for using by individuals who have completed training provided by the company). *For further data please refer to the sale conditions from the company's sale department at sale@ferroproduct.co.th.



ISO 9001 & ISO 14001



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