



# Ferrocure 204

**SEMI-GLOSS, SELF-LEVELING UNDERLAYMENT MORTAR  
THICKNESS 3-8 MM.**



**Carbon Footprint Label**  
B2C Scope : 7.81 kgCO<sub>2</sub>e



**Received a petty patent**  
Self-Leveling mortar with  
additives to inhibit black  
mold, algae and bacteria.



Ferrocure 204 is a semi-gloss, self-leveling underlayment mortar thickness 3-8 mm. New german cement polymer technology contain of special cement, silica graded sand and special additives to enhance adhesion and flow ability and shrinkage compensate to keep the surface smooth and semi-gloss after dry. Can be cover by vinyl floor tile, rubber tiles, carpet, parquet, engineer woods within 24 hours - 3 days.

## Advantages

- Semi-Gloss after dry, low dust surface.
- High flow ability.
- Non-Shrink.
- Easy to use just mix the water.
- Increase the smoothness of the surface.

## Standards and compliances

Ferrocure 204 is manufactured under standard meets to ASTM C1708 /C1708M-19, ASTM C1583/C1583M-20

## Area of use

Underlayment for many floor cover materials :

- Vinyl floor tile.
- Rubber tiles.
- Carpet.
- Parquet.
- Engineer woods.

Ceramic tile	24-48 hrs.
Vinyl tile	1-3 days

## Physical properties

Properties	Values
General characteristics	Gray powder
Density, kg./litre (Approx.)	1.24 kg./litres

## Technical properties

Properties	Values	Standards
Initial flow, mm. (Approx.)	135.94 mm.	ASTM C1708/C1708M-19
Flow retention, mm. (Approx.) - At 20 minutes - At 30 minutes	134.19 mm. 133.01 mm.	ASTM C1708/ C1708M-19
Viscosity : Flow time, second (Approx.)	165 seconds	ASTM C1708/C1708M-19
Healing time, minute (Approx.)	60 minutes	ASTM C1708/C1708M-19
Setting time, minute (Approx.) - Initial set - Final set	90 minutes 96 minutes	ASTM C1708/ C1708M-19
Compressive strength, MPa. (Approx.) - At 3 days - At 7 days - At 28 days	>9 MPa. >12 MPa. >20 MPa.	ASTM C1708/ C1708M-19
Flexible strength, MPa. (Approx.) - At 3 days - At 7 days - At 28 days	>2 MPa. >3 MPa. >7 MPa.	ASTM C1708/ C1708M-19
Length change at 28 days, % (Approx.)	-0.044%	ASTM C1708/C1708M-19
Adhesive strength at 28 days, MPa. (Approx.)	1.10 MPa.	ASTM C1583/C1583M-20

## Method statement

## Ferrocrete 204

### Step 1 Surface preparation

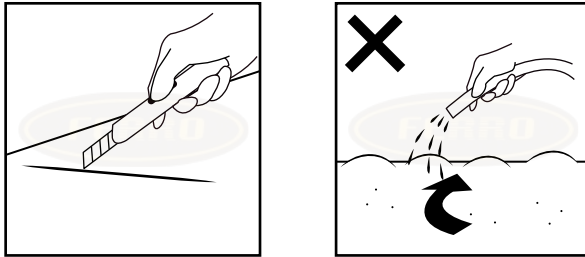
Old or existing concrete surface preparation.

CASE 1 Laitance or weak or loosely concrete surface.

Surface evaluate method use a knife test method by cutting a knife blade upon a concrete surface if the depth is over 2 mm. the surface may evaluated as a weak substrate that the Ferrocrete 204 can not bonding properly with. Surface preparation use a concrete scarifier or shot blast machine to achieve the roughness according to standard The International Concrete Repair Institute (ICRI csp 3-4) to remove all weaken substrate and create a rough profile without dust that was a good surface



for new concrete to bond however concrete floor must be 28 days cure and the compressive strength should be not less than 210 ksc. Avoid washing concrete floor with plenty of water because after placed the Ferrocrete 204 upon a high moisture concrete it may cause a swelled and peel surface by vapour pressure transmission inside concrete through the Ferrocrete 204 surface. It is recommend to preparation a concrete surface in the same method with epoxy industrial floor preparation by control a moisture not above 4%.



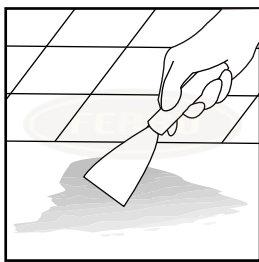
**CASE 2** Old or existing concrete surface are coated with transparent film such as curing compound or oil contaminants.

Surface evaluate method use drop test method by drop some small drop of water on the existing concrete surface if the drop appears in a round ball shape and not absorp into concrete surface within 10 seconds this condition can be assumed as non-absorbant. Surface preparation use concrete scarifier or shot blast machine to achieve the roughness according to standard The International Concrete Repair Institute (ICRI csp 3-4) to create a new clean, rough profile with minimum depth 1 mm. in order to remove a curing compound layer however it is better to retest by water drop again after finish that kind of mechanical floor surface preparation and proceed to pour approx. 1-2 m2 of the Ferrocrete 204 for test before pour on a large area.



**CASE 3** Old or existing cutback asphalt adhesive residue.

Surface evaluate method use chiselling medthod if the existing glue is still tacky it means to an active adhesives if crispy and dry it means to a non-active adhesives. Surface preparation use only a concrete scarifier to achieve the roughness according to standard The International Concrete Repair Institute (ICRI csp 3-4) to remove all old adhesive (More than 80% by dry debris) if there are black stain adhesives stick firmly remains somewhat (20%) Ferrocrete 204 can adhere to this type of adhesive by is the adhesive strength approx 0.5 MPa. however should be preparation for rough surfaces as clean as possible first.

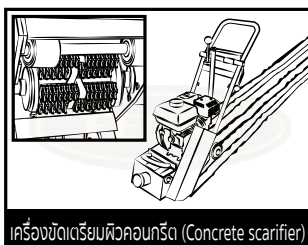


CASE Adhesive reaction to pressure and viscous regularly.

Glue this group can not be adhesion to the Ferrocrete 204 to dismantle the surface with surface milling machine (Concrete scarifier) to achieve the roughness according to standard The International Concrete Repair Institute (ICRI csp 3-4) only to see the original concrete 100%.

### New concrete surface preparation

Concrete surface must be strong and free from contaminants. The compressive strength must be not less than 210 ksc. and is complete cure for at least 28 days. Use concrete scarifier to roughen the concrete surface. (Our product code : FG-OE-0001-01) to achieve the roughness according to standard The International Concrete Repair Institute (ICRI csp 3-4). Wash the surface with a high pressure water jet (100 bar) until it is clean without mud and saturated enough. Observe the surface closely until there is no more air bubble coming out of the surface. Once the air bubbles have depleted the surface is now ready for overlay. Pour the Ferrocrete 204 immediately or as soon as possible once the surface is preparation.



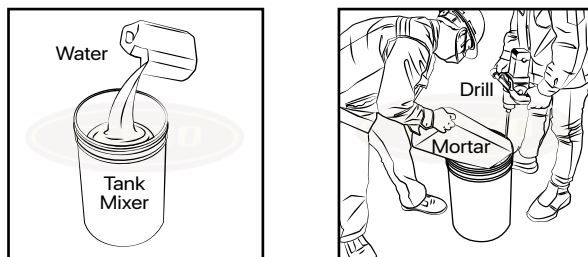
### Terrazzo surface preparation

In case the original surface is a terrazzo floor with brass or plastic seam lines must be check the joint line to be firm and strong. Then open the surface with a shot blast to let the original surface wear off by at least 1 mm. and vacuuming to be coarse clean. Avoid use xylene to wipe the surface as it may dissolve the original wax stain this make it a barrier to the adhesion of Ferrocrete 204.

## Step 2 Mixing

Preparation of clean water approx. 20% (5 l.) per Ferrocrete 204 1 bag (25 kg.) gradually pour into the mixing container (Plastic/Metal) then pour Ferrocrete 204 into a container and blender high by speed drill use gear 2 speed 5 (400-600 rpm.) duration of approx. 2 minutes or until the mortar is a homogeneous use steel scrape mortar mounted beside the tank mixing and a homogeneous blender should be verify reminiscent of a liquid evenly all the time by use a Ø 30 mm. tube or pipe size 50 mm. high pour Ferrocrete 204 and pull up to release the tubing to distribute the circular and measure the diameter similar in all crushing mixing. Before the actual application leave bubble dissolved approx. 1 minute. Pour immediately onto the surface primer (Ferrocrete 214/P) by dry primer.

In case of use an automatic mixer. Please consult the technical service of the company.



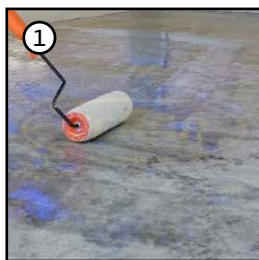
## Step 3 Pouring

1) Mixing Ferrocrete 214/P primer with clean water in the ratio 1:1-1:3 by weight stir into the homogeneous for 2-3 minutes bringing the mixture to the apply concrete surface at surface preparation clean apply with paint roller 2 layers, 1st layer let dry 24 hours, 2nd layers let dry 1-2 hours.

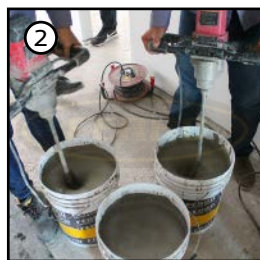
2) Preparation Ferrocrete 204 mixing and at the same time many tank to provide continuous pour.

3) Lead Ferrocrete 204 at mixing then water. Pour on to primer (Ferroconcrete 214/P) while the primer moist but not dry (Tackey) when pour then wipe off with a rake to level the thickness of 3-8 mm. spread throughout the area.

4) Wear spiked shoes as well and follow by spike roller chasing bubbles. Should be mixing and pour continuous for avoid horizontal joint between pour or approx. 10-15 minutes is a healing time depends on the heat of the surface to dry faster or slower than defined.



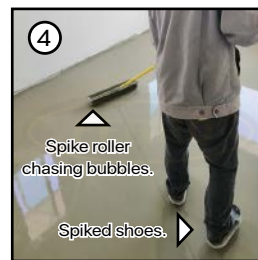
Apply primer.



Preparation Ferrocrete 204 mixing and at the same time many tanks to provide continuous pour.



Floor dedicated sled pushing rake.



Spike roller chasing bubbles.  
Spiked shoes.

## Step 4 Drying

3-4 hours dry, light walking.

1-3 days dry, apply rubber tile.

## Limitations/Cautions

- Should be calculated use the exact area and preparation to finish Ferrocrete 204 mixing by prevent the joint are not homogeneous. (Should be merge the boundaries of each line use a spike roller to finish within 10 minutes).
- Pour Ferrocrete 204 in confined spaces (Low ventilation) such as solid glass room, to dry more slowly than normal.
- Curing too much water on the surface concrete to be pour Ferrocrete 204 slash it can cause Ferrocrete 204 surface aneurysm is a certain point if the concrete surface area has higher temperature and humidity (Moisture).
- Caution of water mixing in excess of the prescribed rate (20%) will adversely affect the properties of the Ferrocrete 204 as follows.
  - Value bond strength is too low will result in disconnection coasted when enabled.
  - Value flexural strength is too low will cause cracking easily.
  - Value compressive strength is too low.
- Do not use Ferrocrete 204 in the industry surface and do not use exterior.
- Do not pour the expansion joint.
- Do not pour adjust the cold floor room.
- Do not curing surface Ferrocrete 204 with curing compound because it will hinder the adhesion of rubber tile.
- Should be cut grooves crack resistant size 3 mm. depth 10 mm. for every 250 m2 interior to reduce the surface tension of the mortar.

## Technical support

Customers can contact the sales department of the company at [sale@ferroproduct.co.th](mailto: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

Approx. 1.6 kg./m2/1 mm.

## Package

25 kg./bag (80 bags/pallet).

## Cleaning tools

Should be wash mixing tool with water immediately before the Ferrocrete 204 dry. Dry cases should be extracted with mechanical force.



## Storage

- 6 months in unopened bag.
- Keep in dry shaded area with 23 °C temperature + 2%, Humidity 50 + 5%RH (Conform to ISO 554)

## Health and safety instructions

- May cause health effect :
- Eye : May cause eye irritation.
- Skin : May cause skin irritation.
- Ingestion : May cause vomiting or nausea if swallowed.
- Inhalation : No serious effect.
- Inhalation : Move to fresh air, oxygen support if necessary. In case of breathing difficulty is occurred continuously, should taken care by medical treatment.
- Eye : Flush with clean water at least 15 minute. if irritation still exist, see medical attention.
- Skin : Clean the irritation area with mild soap and water, if burning is still exist, see physician immediately.
- Ingestion : Do not induce vomiting. call physician immediately.

## Disposal

Ferrocurete 204 is composed of cement disposal do not put waste into public drainage, It is recommended to leave the cement dry with sunlight.

## Transportation and shipping data

THAI DOT : Not regulated.      IMO : Not regulated.  
USA DOT : Not regulated.      IATA : Not regulated.  
RID/ADR : Not regulated.



### Size

25 kg./bag  
80 bags/pallet  
Code FG-2IC-8858915221001



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②



③



④



⑤



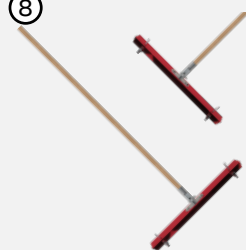
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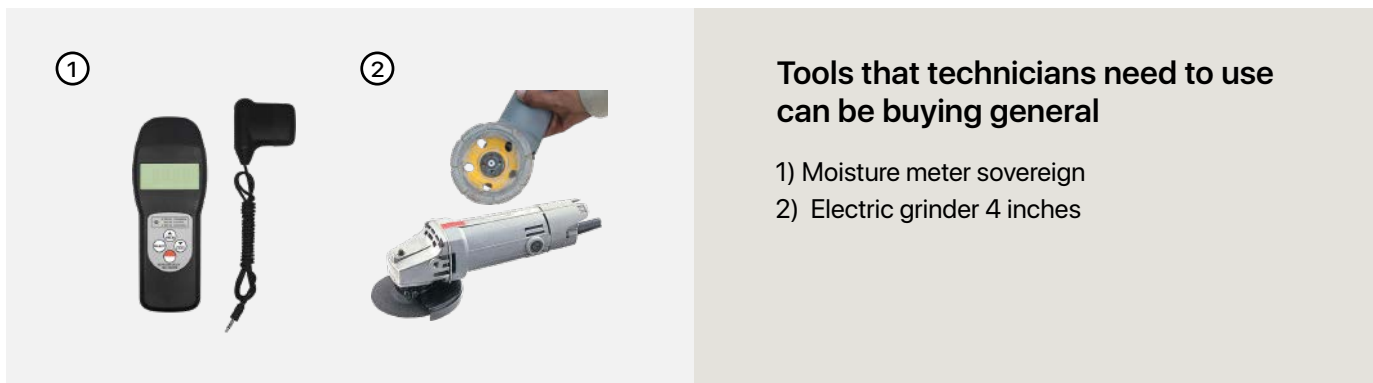
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## Equipment

- 1) Scarifier machine  
Code FG-OE-0001-01
- 2) Vacuum cleaner 2400W  
Code AS-MC-00123
- 3) Paint roller 9"  
Code FG-OE-0061
- 4) Self-Leveling mortar mixer (50 kg./batch)
- 5) Spiked shoes Size 300 mm.\*140 mm.  
Code FG-14OE-8858915211156
- 6) Drill and mixing paddle  
Code FG-OE-0002
- 7) Gallon of water dosing  
Ferrocrete 204/5 L. (Gallon)
- 8) Self-Leveling floor dedicated sled pushing  
rake size 40 mm.\*40 mm.\*605 mm.  
Code FG-14OE-8858915211170
- 9) Bubble roller with handle  
Code OE-8858915211163





### Tools that technicians need to use can be buying general

- 1) Moisture meter sovereign
- 2) Electric grinder 4 inches

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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](mailto:sale@ferroproduct.co.th).



**ISO 9001 & ISO 14001**



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