



Ferrocete NM212

NON-METALLIC DRY SHAKE FLOOR HARDENER MORTAR



Ferrocete NM 212 is a non-metallic dry shake floorhardener mortar made of selected quartz sand, cement and special additives that enhance a high abrasion resistance to concrete floor surface in warehouse or garage area or where durable and scratch resistance is required. Ferrocete NM 212 has been researched and developed under academic technical support by National Science and Technology Development Agency-NSTDA and improve a better product properties to meet to industrial floor requirements.

Advantages

- High abrasive resistance than normal concrete
- High compressive strength
- Point load resistance

Area of use

- Warehouse floor.
- Products unloading.
- Repair place.
- Carpark floor indoor.
- Indoor transport.

Standards and compliances

Ferrocete NM 212 is manufactured under standard meets to BS EN 8204-2 : 2003+A2 : 2011 Screed, Bases and insitu flooring-part 2 concrete wearing surfaces.

Physical properties

Properties	Values
Coarse aggregates	Quartz sand
Hardness, moh's scale (Approx.)	6-7 moh's scale
Specific gravity, kg./litre (Approx.)	1.4 kg./litre
Shape of coarse	Square shape

Technical properties

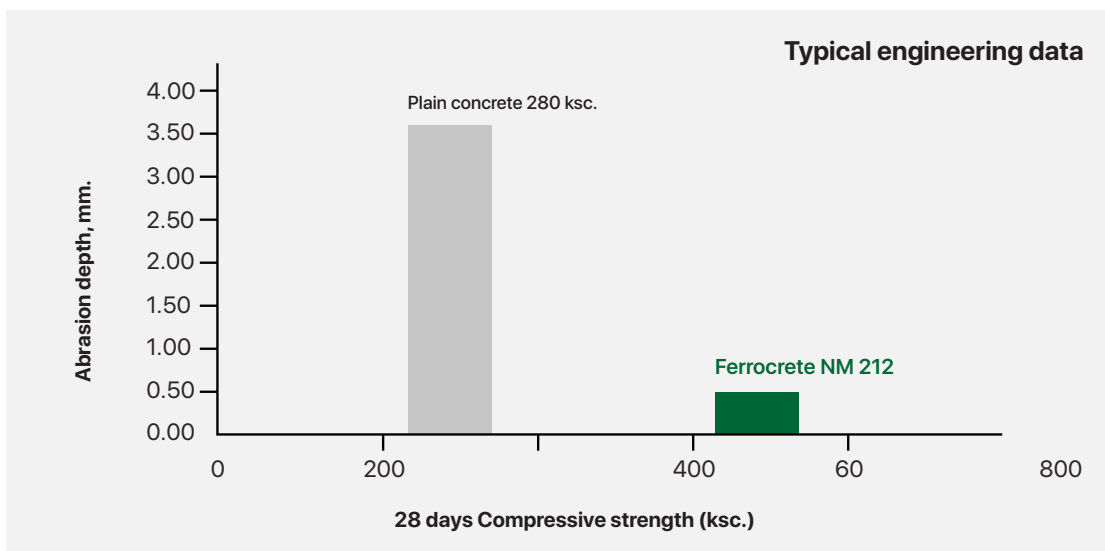
Properties	Values	Standards
Compressive strength, ksc. (Approx.)		ASTM C109
- At 7 days	>500 ksc.	
- At 14 days	>550 ksc.	
- At 28 days	>600 ksc.	

Abrasion Comparative Table Between Ferrocrete NM 212 and Plain 280 KSC.

Abrasion depth, mm Rotating wheel similar to British Cement Association (BCA) and ASTM C779		
Reading	Plain concrete (PC) 280 ksc.	Ferrocrete NM 212
1	3.55 mm.	0.55 mm.
2	3.85 mm.	0.40 mm.
3	3.95 mm.	0.40 mm.
4	3.45 mm.	0.35 mm.
5	3.75 mm.	0.35 mm.
6	3.60 mm.	0.50 mm.
7	3.65 mm.	0.35 mm.
8	3.75 mm.	0.20 mm.
Average	3.69 mm.	0.39 mm.

*1,2 from the test results performed in a controlled environment.

Technical information (mm.)



Step 1 all concrete floor placing method must be conformed to ACI standard. Soil subbase should be compressed 90% proter standard, lay plastic sheet 0.15 mm. prior to to concrete floor placing. Compressive strength of concrete should not less than 210 ksc., slump 7.5 + 2.5 cm. with low bleeding properties.

Step 2 cover the waterlogging or a hole that collapses with concrete at a point after plastered concrete again (Within 1-2 hours).

Step 3 sprinkle Ferrocrete NM 212 in 2 divided times while the concrete initial setting time after finish pouring approx. 2-4 hours or depth of foot print 3-6 mm.

Step 4 use a polishing machine put a round tray grind Ferrocrete NM 212 powder to homogeneous texture with concrete.

Step 5 use polishing machine to polish the surface with a spring polish until it is dry.

Step 6 when concrete surface nearly reach to a final setting time or 8-11 hours after pour plastered with a spring trowel by an experienced technician.

Step 7 floor polishing work indoor curing with clean water after polishing has dried for 24 hours. If curing too quickly may cause discolouration.

Step 8 cutting concrete grooves to reduce cracking. Should be performed within 24-36 hours. After finish polishing groove size and distance should be in accordance with the designer's architect joint materials for industrial floors should be type of resistance wheel forklift (Ferroseal 314 Polyurethane sealant).

Step 9 apply coating surface with polyurethane for beauty, acid and alkali resistance, dust proof or apply coating with wax water base, polished with blender but must be polished every 1-2 months and can't be applied over with any other colour later.

Limitations/Cautions

- Should be installed in roof area to crack resistance from rain and sunlight during working.
- Should be joint designed to crack resistance from concrete expansion and stress from acute angle of pole.
- If any contractor has no work experience and equipped with polishing powder tough surface resistance to dragging. Should be meet with all parties before starting to pour concrete to draw conclusions about how to install, pour, plastered and area volume suitable for the number of machines and workers polishing.
- Colour of Ferrocrete NM 212 is a colour for interior use only. Therefore having to finish install the roof before polishing if exposed to sunlight even for a short time will cause color distortion such as from green to yellow etc.
- Concrete floor level when finish polishing will be uneven by natural waves of concrete which has a collapse value.
- Concrete must be clean, free from water seed and sand contamination. This may cause pores on surface when finish polishing.
- In case of light color polishing such as light green 210, blue 600, light reflective gray 110, cream 700. Customers have to wait for the concrete surface to dry to resistance colour of cement mortar from the concrete cover colour from floorhardener which may cause when dry colour is not colour showing and is a concrete colour than floorhardener colour.
- Use Ferrocrete NM 212 floorhardener together with concrete, high compressive strength of approx. 320 ksc. or more there may be a risk of fall out because concrete dry very quickly causing polishing technician to not be able to work in time and heat from concrete pushes floorhardener surface not to be homogeneous.

- Use a concrete retarder will delay the first stage of dry the next phase will dry at the same time the next phase will dry at the same time all very quickly. Polisher must work against the dry time race of concrete may slip off especially the part that is sprinkled.
- Pouring concrete without a roof cover or sun light and wind causing the concrete to lose water too quickly may cause sesame stretch marks crack and gliding. Should be sprayed with water immediately after polishing.
- Pouring a concrete floor without plastic cover causing the water to seep down on the ground causing concrete to lose water both below and top made it dry in patches. Technicians can't go into polishing it thoroughly.
- Do not pour too much area concrete approx. 500 m²/time will reduce the risk of gliding and cracking. Recommendations for pouring high compressive strength polisher should be prepare the polishing machine to be sufficient with an area of 100 m²/polishing machine and cutting joint after polishing finish.

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

Approx. 3 kg./m² scrape general drag.
Approx. 5 kg./m² scrape heavy drag.

Package

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

Cleaning tools

Clean tool and container with water before material start to dry.
Use mechanical method such as chiseling in case of dried residue stick onto tools.



Storage

- 6 months in dried shaded area in unopened bag, room temp. 23 °C + 2%,
- Relative humidity 50 + 5%RH (conform to ISO 554 standard)

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

Ferrocete NM 212 is composed of cement please do not put waste into public drainage, It is recommended to let the cement dried with sunlight.

Transportation and shipping data

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



- 212/310/**Terra red**
25 kg./bag Code FG-2IC-8858915220110
- 212/400/**Yellow**
25 kg./bag Code FG-2IC-8858915220127
- 212/500/**Brown**
25 kg./bag Code FG-2IC-8858915220134
- 212/510/**Sand stone**
25 kg./bag Code FG-IC-8858915220141
- 212/600/**Blue**
25 kg./bag Code FG-2IC-8858915220158
- 212/601/**Signal blue**
25 kg./bag Code FG-2IC-8858915220714
- 212/700/**Cream**
25 kg./bag Code FG-2IC-8858915220165
- 212/800/**Earth tone**
25 kg./bag Code FG-2IC-8858915220172
- 212/900/**Black**
25 kg./bag Code FG-2IC-8858915220189
- 212/1000/**White**
25 kg./bag Code FG-2IC-8858915220196

Size

- 212/100/**Natural gray**
25 kg./bag Code FG-2IC-8858915220028
- 212/110/**Light reflective gray**
25 kg./bag Code FG-2IC-8858915220035
- 212/111/**Stone gray**
25 kg./bag Code FG-2IC-8858915220318
- 212/112/**Toyota light gray**
25 kg./bag Code FG-2IC-8858915220364
- 212/113/**Mazda light gray**
25 kg./bag Code FG-2IC-8858915220455
- 212/120/**French gray**
25 kg./bag Code FG-2IC-8858915220042
- 212/121/**Makro gray**
25 kg./bag Code FG-2IC-8858915220325
- 212/130/**Dark gray**
25 kg./bag Code FG-2IC-8858915220059
- 212/131/**Toyota dark gray**
25 kg./bag Code FG-2IC-8858915220417
- 212/132/**Toyota special green**
25 kg./bag Code FG-2IC-8858915220394
- 212/210/**Light green**
25 kg./bag Code FG-2IC-8858915220066
- 212/220/**Premium green**
25 kg./bag Code FG-2IC-8858915220073
- 212/221/**Sapphire green**
25 kg./bag Code FG-2IC-8858915220080
- 212/230/**Dark green**
25 kg./bag Code FG-2IC-8858915220097
- 212/231/**Green**
25 kg./bag Code FG-2IC-8858915220030
- 212/300/**Standard red**
25 kg./bag Code FG-2IC-8858915220103

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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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