ABC’s METALLIC FLOOR HARDENER

FERRO-CON

READY-TO-USE POWDER
METALLIC AGGREGATE
PROTECTIVE INDUSTRIAL FLOOR PAVING
RESISTANT TO IMPACT

DESCRIPTION

ABC’s METALLIC FLOOR HARDENER is a powder compound of a specially processed and size graded metallic aggregate, hardening agents and others.

ABC’s METALLIC FLOOR HARDENER is ready-mixed and the dry mixture is dusted over the freshly poured concrete surface and trowelled to the desired finish.

ABC’s METALLIC FLOOR HARDENER produces an extremely ductile and malleable floor. It will carry heavy rolling loads, without being crushed, in all industrial floor applications.

ABC’s METALLIC FLOOR HARDENER is available in a variety of colors, adding design flexibility. Because of its oil resistant properties, ABC’s METALLIC FLOOR HARDENER is ideally suited for industrial floors subject to spillage of oil and fuel.
ABC's NON-METALLIC FLOOR HARDENER

COLOR-CRETE

READY-TO-USE POWDER
NON-METALLIC AGGREGATE
COLOR, NON-DUSTING, WEAR
RESISTANCE & OIL RESISTANCE

DESCRIPTION

ABC's NON-METALLIC FLOOR HARDENER is a ready-to-use powder, composed of non-metallic aggregate, permanent coloring media, dispersing agents and binding elements.

When ABC's NON-METALLIC FLOOR HARDENER is dusted on and trowelled into freshly poured concrete, it produces hard, abrasion resistant floors, without the inherent dustiness of normal concrete. Its tightly dense surface finish offers easy maintenance.

ABC's NON-METALLIC FLOOR HARDENER on floors is highly resistant to oil and fuel.
Low-Impact to Environment Type
Alloy aggregate + Cement

Ferrocon Hard SW

Thanks to adoption of mixing with water together with aqueous primer, tremendous reduction of negative environmental impact has become available. Aggregates of special alloy enable superiority in abrasion, impact and durability.

6 times tougher in Anti-Abrasion.
Thanks to the function of special alloy, exhibits 6 times superior in abrasion resistance than normal concrete.

Superiority in Impact Resistance.
Special alloy aggregate creates tough and rigid floor. Exhibits 4 times superior in impact resistance.

Antistatic Property to prevent spark.
Absorbs static immediately, and dissipate gradually, best for wherever ignition/explosion by static spark is concerned and combustible items are handled.

Rigid Surface against Water & Oil.
Thanks to its rigid surface, Ferrocon Hard SW protects Concrete by making oil or water hard to penetrate.

13 Chemical Substances, Guideline by Ministry of Health, Labour and Welfare
Perfect Elimination of Rejected Chemicals from the working fields
Ferrocon Hard SW is a very safe flooring material that does not contain any of the 13 chemicals indicated by Ministry of Health, Labour and Welfare. Primer adopted is water-based one and is also free of 13 chemicals, which means perfect elimination of regulated chemicals from the jobsite even at application as well. Reducing orders shall improve the environment of the jobsite.

<table>
<thead>
<tr>
<th>Diffusion speed of tested 13 Chemical substances indicated by MHLW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Aldehyde</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>VOC</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Agrochemicals</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>ND</td>
</tr>
</tbody>
</table>

Physical Properties:

<table>
<thead>
<tr>
<th>Test Item</th>
<th>Result</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion thickness</td>
<td>0.09mm</td>
<td>JIS K 2704</td>
</tr>
<tr>
<td>Adhesion strength</td>
<td>2.20N/mm² or more</td>
<td>Kenken-shiki Tensile Test</td>
</tr>
<tr>
<td>Compression strength</td>
<td>8.1 N/mm² (specimen 28 days curing)</td>
<td></td>
</tr>
<tr>
<td>Bending strength</td>
<td>10.7 N/mm² (specimen 28 days curing)</td>
<td></td>
</tr>
<tr>
<td>Slip-resistance</td>
<td>Static: dry 1.21, wet 0.96</td>
<td>Dynamic friction tester</td>
</tr>
<tr>
<td>Active: dry 0.87, wet 0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Permeability</td>
<td>1.0 cc</td>
<td>JIS A 6909</td>
</tr>
<tr>
<td>Oil Permeability</td>
<td>0.02 cc</td>
<td></td>
</tr>
<tr>
<td>Conductivity</td>
<td>3.0x10⁻⁴ ~ 1x10⁻¹Ω</td>
<td></td>
</tr>
</tbody>
</table>

Application Process:

- Substrate
- Primer
- Main material (Topping)
- Maintenance wax

Primary use:
- Various factories
- Parking
- Wholesale market
- Industrial kitchens
- Food processing factories
- Distribution and handling area
- Warehouse
- Terminal
- Automobile maintenance shop

Color: #15 with maintenance wax
**Standard Type**
Alloy・Mineral aggregates + Cement

**Ferrocon Hard S**

Tough and rigid floor by metal alloy aggregate exhibits superior functions under severe conditions to maintain its long life for service. Standard Type with special at high abrasion & impact resistance and durability.

---

**Physical Properties**

<table>
<thead>
<tr>
<th>Test Item</th>
<th>Result</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion thickness</td>
<td>0.09mm</td>
<td>JIS K 7204</td>
</tr>
<tr>
<td>Adhesion strength</td>
<td>Dusting: 2.34 N/mm² or more</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Topping: 2.61 N/mm² or more</td>
<td></td>
</tr>
<tr>
<td>Compression strength</td>
<td>68.1 N/mm²/specimen 28 days curing</td>
<td></td>
</tr>
<tr>
<td>Bending strength</td>
<td>10.7 N/mm²/specimen cured 28 days</td>
<td></td>
</tr>
<tr>
<td>Slip-resistance</td>
<td>Static: dry 0.85, wet 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Active: dry 0.91, wet 0.83</td>
<td></td>
</tr>
<tr>
<td>Water Permeability</td>
<td>0.99 cc</td>
<td>JIS A 6909</td>
</tr>
<tr>
<td>Oil Permeability</td>
<td>0.01 cc</td>
<td></td>
</tr>
<tr>
<td>Frost-resistance</td>
<td>200 cycles or more: Not Particular</td>
<td></td>
</tr>
<tr>
<td>Conductivity</td>
<td>$2.7 \times 10^{-1} - 1 \times 10^5 \Omega$</td>
<td>NFPA method</td>
</tr>
</tbody>
</table>

---

**Impact Resistance**

Dropping 1.8 kg of iron ball from 1m high (±40°C ~ -40°C)

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 times</td>
<td>No crack nor peeling off were observed</td>
</tr>
</tbody>
</table>

---

**Abrasion Resistance**

Comparison against concrete Abrasion of Ferrocon Hard S

---

**Water and Oil Resistance**

Provided Concrete to be 100, compare Permeability of Ferrocon Hard S

---

**Physical Properties**

- **Dusting method**
- **Topping method**

---

**Primary use**

- Various factories such as heavy machines
- Drive way
- And slope in parking, floors of gas station
- Collecting site of propane gas tank and Belt conveyer work shop
- Platform of cold storage warehouse
- Floors of industrial kitchens, food processing factories and industrial feeding center
- Various durable floors in general

---

**Ferrocon Hard S**

Abrasion resistance prevents powder-dusting.
Superior abrasion resistance of 6 times than concrete enables frequent car and trolley passing with less abrasion result in preventing powder-dusting.

**Superiority in Impact Resistance.**
Special alloy aggregate creates tough and rigid floor. Exhibits 4 times superior in impact resistance.

**Antistatic Property to prevent spark.**
Absorbs static immediately, and dissipate gradually, best for wherever ignition/explosion by static spark is concerned and combustible items are handled.

**Rigid Surface against Water & Oil.**
Thanks to it rigid surface, Ferrocon Hard SW protects concrete by making oil or water to penetrate.

**Incombustibility**
Incombustible without burning nor deforming/melting even by Heat Buildup Test for 20 minutes. (Two Methods by Dusting at concrete placement.)

---

**Standard Color**

- #1
- #3
- #5
- #8
- #15
- #17
- #35

---

**Note**

- Fermocon Hard Sの施工方法は大きく分けて2種類の工法があります。新設工事などでコンクリートを打設後、同時にフェロコンハードSを施工するモルタル工法と改修工事など
- 硬化コンクリートの上に施工する硬化コンクリート塗り付け工法、どちらもすぐれた耐久性を発揮します。
Nonmagnetic Type
Ceramic aggregate + Cement

**Ferrocon Hard C**
Floor finishing material with ceramic aggregate. Suitable for logistic warehouse with AGV (Automated Guided Vehicle) system which is not compatible with lead buying type and for seaside warehouse to receive seawater. Superiority in impact and abrasion resistance enables heavy duty use.

Nonmagnetic Type w/o cutting magnetic field. Durable for floors of AGV (Automated Guided Vehicle) system thanks to its best mix of mineral Hard aggregate. Magnetic field from buried lead is not cut off.

**Superiority in Rust Resistance.**
Thanks to its hard mineral aggregates, it hardly make rust even with seawater, is most recommended for facilities along coast.

■ Application process: Same as Ferrocon S
■ Application for AGV floor:
| N factory | AGV factory | No damage for 7 years |
| M factory | ditto | No damage for 4 years |
■ Rust Resistance:
<table>
<thead>
<tr>
<th>Item</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap water</td>
<td>No rust nor collapse</td>
</tr>
<tr>
<td>Oily water</td>
<td>ditto</td>
</tr>
<tr>
<td>Seawater (15%)</td>
<td>ditto</td>
</tr>
</tbody>
</table>

■ Standard Color
#1 #3 #5 #8 #15 #17 #35

Primary use:
- Floors with AGV system
- Port warehouse to receive seawater splash
- Drive way in gas station
- Floors in food factory
- Wherever magnetic property or seawater is not welcomed.

Fast Setting Type
Alloy aggregate + Fast Set Cement

**Ferrocon Hard F**
Alloy aggregate and specially formulated fast set cement create rigid and tough floor in a short period of time. Kitchens, factory, warehouse and the like where floors can be closed and refurbishment is needed.

Useable in 4～5 hours after application.
Special fast setting cement enables high durability in a short curing hours. For emergency work and refurbishment in a limited hours.

**Superior Durability**
In a short hours, abrasion and impact resistance are equivalent to those of Ferrocon Hard S.

■ Application process:
- Topping method
  - 5～50mm thick

■ Data on Strength
  - Compression (N/mm²)
  - Bending (N/mm²)

Primary use:
- Rapid repair of kitchen, factory and warehouse.
- Where longtime close is not allowed such as parking toll gate
- Renovation work of shops in a limited hours.

※予告なく仕様、商品の取扱いを変更する場合がございます。予めご了承いただくとともに弊社までお問い合わせください。
**Heat Resistant Type**
Mineral aggregate + Heat Resistant Cement

**Ferrocon Hard M**
Strong against heat, and not getting deteriorated even by splash of heated oil. Good for floors around turning boiler, in front of furnace, welding work is taken place, wherever high heat resistance is request.

**Tenacity Type**
Alloy • Mineral aggregate + Cement

**Ferrocon Hard HV**
Most strongest floor finishing material even in Ferrocon Hard Series which are composite With special metallic aggregates. Best for Caterpillar factory and heavy duty floor where lifting jack is daily used.

---

**Heat Resistance against to hot water and radiation heat.**
Superior in heat resistance and is applicable in one day. Also superior in oil resistance and is not deteriorated by splash of heated oil.

**Incombustibility**
Even by heat buildup test by heating for 20 minutes, does not deform nor fuse and is incombustible.

**Application process**
Topping method to hardened concrete 10~30mm

1. Substrate
2. Main material (Topping material)

**Standard Color**
Reddish brown Brown Green Grey

**Primary use**
- Kitchens and Food factories
- Heat resistance Specifications around boiler and fryer
- Floor of Turning furnace and boiler room

---

**Durable against Very Heavy Load**
Special granule metallic aggregate and steel fiber are admixed. Robust floor like steel plate is available. Less deterioration even with long use under rough conditions.

**Stable Antistatic Property**
Even by heat buildup test by heating for 20 minutes, does not deform nor fuse and is incombustible.

**Application process**
Topping method at concrete placement 15 mm

1. Substrate (wet concrete)
2. Main material (Pastina) Ferrocon #17

**Impact Resistance**
Dropping iron ball of 7.2kg from 7m High

- Broken at 6 times
- Broken at 21 times

**Standard Color**
Natural (Concrete color)

**Primary use**
- Caterpillar factory floor, lifting jack floor
- Floor in front of rolling machine at iron-making factory, Gas tank collecting pool
- Truck terminal
- Floor in converter furnace and boiler
- Freezer and refrigerator floor
- Steel wheel passing way
Refurbishment is available without scarifying existing cementitious hard floors such as Ferrocon・Colorcrete.

Inorganic quick setting thin coating materials

SMOOTH COAT

● Walkable in 4～5 hours.
In 4～5 hours after application, floor can be Open for walk. In 12 hours for forklift.

● Direct coating, available to existing floor.
Cementitious existing floor like Colorcrete and Ferrocon is not needed to be removed for application.

● Coated thickness is 1 mm & 2 mm.
Limited thickness enable for refurbishing jobs.

● Superior in workability, effective coating is available in large area.
Good flowability with self-leveling feature.

● Low odor.
Aqueous material and primer have not a strong strong odor like solvent type ones.

● Superior abrasion resistance.
5 times superior in abrasion resistance of concrete.

Flow of refurbishment

Substrate Preparation

Point at Refurbishment

● If the existing substrate is a hard type and concrete one, fine cracks may be proceeded with just cleaning, but without special treatment.

● If the substrate is resinous coating or hard type with heavily damaged one, remove those parts by scarifier.

Sanding Cleansing

Cleanse the floor surface to remove dirt and stain by deck brush or polisher.
※ The floor with less fragile parts, may be coated by Smooth Coat after this Cleaning process.

Removal of weak parts

The floors coated by resinous coating and damaged Hard floor shall be removed By scarifier completely. Unevenness and deep cracks shall be treated by special remedy materials.

※予告なく仕様、商品の取り扱いを変更する場合があります。あらかじめご了承いただくとともに弊社までご確認をお願いいたします。
**Refurbishment of damaged concrete・mortar・worn-out floor**  
**Pathway and booth of parking**  
**Factory and warehouse**

- Want to apply without sanding dust.
- Application thickness is not expectable.
- Odor during application is limited.
- Sound is not allowed.
- Dusting shall be minimized.

### Abrasion resistance curve

![Abrasion resistance curve](image)

### Compression strength emerging curve

![Compression strength emerging curve](image)

---

**Application Process**

1. **Primer coating**
   - When the substrate treatment is completed, primer shall be coated.

2. **Main/Maintenance wax**
   - Main material is to be coated, and maintenance wax shall be applied.
     1. Main material at 1 mm or 2 mm shall be applied by trowel.
     2. After 2 hours passed, apply surface maintenance.

After 4–5 hours, walking shall be allowed.
Overnight application is available with tough and durable floor at 7mm thick.

**SUPER QUICK FLOOR**

- **Open to forklift in 8 hours**
  Open to walking in 4 hours, to forklift in 8 hours, To plastic wheels in 24 hours (20°C)
- **Floor, superior to durability**
  Hard enough not to be deformed even by load. Available not only for forklift but plastic wheels that mostly damage floors.
- **Floor, hard to be slippery**
  Thanks to ceramic aggregates of high hardness, floor provide less slipperiness.
- **High leveling properties improve**
  Superior workability suitable for a broad area with proper leveling properties. (Leveling properties here means only to its material appearance, but do not guarantee its flatness.)
- **Repair work on the floor with lots of uneveness.**
  Being thick type material, repair work is available on a floor with big unevenness.

### Standard Color

- #1 (赤茶)
- #3 (赤茶)
- #5 (茶)
- #8 (銅)
- #10 (濃茶)
- #17 (ナチュラル)
- #20 (濃緑)

色見本は印刷ですので多少色が異なります。ご決定の際は、現物サンプルをご参照ください。

### Application method

- Application on to existing set concrete
  - Thickness : 7mm
  - Substrate
  - Primer (twice)
  - Main material
  - Maintenance wax (New Curecoat F)
  - New Curecoat Superseal (Optional method for heavy duties by forklift and the like to reduce stains by these traffics.)

- Not applicable on slopes.
- Due to inorganic flooring, there appears slight color variations by efflorescence of cement.

### Flow of Repair Work

**Before**

- **POINTS of repair work**
  - In a distribution center where continuous and heavy use is expected, overnight repair is available.
  - Partial repairing by moving areas continuously everyday shall also be considered.

- Cleansing of Floor
  - Rubbish or dirt should be removed by deck brush or polisher and be cleaned.

- Removal of existing Floor and fragile parts.
  - Where is fragile must be completely removed by scarifier. Cracks should be removed by diamond-cutter, and internal dirt to be removed.

- Repair of substrate
  - By special substrate treatment material or SuperQuick Floor, undulation and cracks must be repaired.

●予告なく仕様、商品の取り扱いを変更する場合がございます。予めご了承いただくとともに弊社までご確認をお願いいたします。
**Shipping Storage**

**Heavy Traffic in factories/warehouse**

**Passage of Indoor Parking**

- Long life service is expected
- Shock resistance against falling tools
- Dust-proofing
- Resistance to plastic wheels

**Physical Properties**

<table>
<thead>
<tr>
<th>Test Item</th>
<th>Test Result</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substrate adhesion 14 days</td>
<td>3.24N/mm² or more</td>
<td>Kenken-shiki tensile test</td>
</tr>
<tr>
<td>Shock resistance 7 days</td>
<td>No breakage nor delamination</td>
<td>1kg iron ball dropping from 1m high</td>
</tr>
<tr>
<td>Abrasion resistance 7 days</td>
<td>0.13mm</td>
<td>JIS K 7204 250g 2000circles</td>
</tr>
<tr>
<td>Bending strength 28 days</td>
<td>8.20 N/mm²</td>
<td>JIS R 3201 Compliance with physical properties of cement</td>
</tr>
<tr>
<td>Compressive strength 28 days</td>
<td>41.80 N/mm²</td>
<td>ditto</td>
</tr>
</tbody>
</table>

**Compressive strength emerging curve (20°C)**

- Walk-able in 4 hours
- Rubber tire forklift needs 8 hours curing
- Plastic wheels need 24 hours curing

---

**Application Process**

1. **Application of primer**
   - After substrate treatment is finished, primer must be applied.

2. **Main material & Maintenance wax**
   - Apply main material, and then apply maintenance wax to complete application.
   - 1. Apply 7mm main material by trowel.
   - 2. After 4 hours, maintenance wax shall be applied.

**Open to walking after 4 hours from application.**

**After**

- Tough floor endurable against plastic wheels.
"Gentle" to applicators and to pedestrians.
Inorganic aqueous floor finishing material and aqueous paint.
"Inorganic" and "aqueous" floor finishing material/paint which cares about humans and environments. Being aqueous coatings, its handling is very easy. Additionally, there is no annoying odors even soon after applications at new construction and refurbishment, which is suitable for indoor use.
Countermeasures against environments such as sick-house syndrome have become essential nowadays, needs for inorganic aqueous materials by “easy application” and “being gentle users” are improving further.

Doesn’t inhibit breathing of concrete.
[Breathing floor coating material] is ABC Trading’s revolutionary aqueous inorganic flooring such as STREETCOLOR series. By creating coated layer with vapor permeability, breathing of concrete is not inhibited, thanks to which superficial swellings nor delaminations by water content in concrete can be inhibited to maintain good adhesion.
※ Except for OA Clear Coat

Doesn’t contain 13 chemical substances such as formaldehyde nor VOC.
The revised building and construction standards that establish sick-house syndrome measures caused formaldehyde became effective in July of 2004 in Japan. ABC Trading Co., Ltd. pays its attention to safety during application as well as persons who make use of the facilities and the surrounding environments. We have prepared various aqueous inorganic products at reasonable price that do not contain any of 13 VOC chemical substances including formaldehyde that is indicated by Ministry of Health, Labour and Welfare as a initiator of sick-house syndrome.
※ Please be advised that solvent type of primer may be used depending on product specifications.

<table>
<thead>
<tr>
<th>Measured result of VOC 13 substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Measuring method) JIS A1901:2003 Chamber method</td>
</tr>
<tr>
<td>(Quantitative limit value) Agrichemicals: 0.1 μg/m²/h, Others: 5.0 μg/m²/h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Component</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldehyde</td>
<td>Formaldehyde</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Acetaldehyde</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Toluene</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Ethyl benzene</td>
<td>ND</td>
</tr>
<tr>
<td>VOC</td>
<td>Styrene</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Tetradecane</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Paradichlorobenzene</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Di-n-butyl phthalate</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Bis 2 ethylhexyl phthalate</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Chlorpyrifos</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Diazinon</td>
<td>ND</td>
</tr>
<tr>
<td>Agrichemicals</td>
<td>Fenobucarb</td>
<td>ND</td>
</tr>
</tbody>
</table>

ND : Not Detectable
**SELFCOAT iO**
Aqueous & Inorganic Paint

**Recommended for:**
Offices/Indoors and Outdoors Corridor/Veranda/Car port/Cycle parking

**Advantage:**
Floor beautifying/Vapor permeability/Easy application/Dust-proofing/Safety

**Application:**
Easily applicable with roller brush, paint brush or spraying. Cost effective and inorganic aqueous silica paint, applicable for interior and exterior. Having breathe-ability of vapor in the substrate concrete, there is no need for concern about blisters caused by moisture vapor. Only with easy application, concrete and/or asphalt concrete floor can become colorful. Thanks to its fast hardening, the finished floor can be opened for walking in 6 hours. (at 20°C)

**Features:**
* Easy application, easy application with brush or roller.
* Safety application, environmentally friendly aqueous paint.
* Vapor permeable membrane, prevents blisters or peeling thanks to permeability.
* Beautiful finish, available in 9 colors on the floor.

---

**Point!**
① Containing no VOC substance, aqueous paint can be applied safely.
② Durable for outdoor use with water resistance against rainfall.
③ Hard coating membrane exhibits high abrasion Resistance.
④ No need of concern about blisters nor peel-offs.

**Precaution:**
● SELFOCAT iO has superior water-resistance property, but is not suitable for where permanent flow of water or oil. Not recommended for industrial kitchen, food processing factory, car maintenance factory, car washing station, inner wall of pool and the like.
● Direct application to cementitious hard floor such as Colorcrete is not available.

---

**Specifications:**

<table>
<thead>
<tr>
<th>Test Item</th>
<th>Test Method</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>JIS K 7204, 100mm</td>
<td>0.15g/cm³</td>
</tr>
<tr>
<td>Permeability</td>
<td>JIS A 1392</td>
<td>0.138 cm³/cm²-s</td>
</tr>
<tr>
<td>Abrasion</td>
<td>ISO 4613</td>
<td>0.74~0.85</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>JIS K 5668-2,000</td>
<td>14.5 N/cm²</td>
</tr>
</tbody>
</table>

**Recommended Color:**
- IO-101
- IO-201
- IO-208
- IO-318
- IO-335
- IO-414
- IO-512
- IO-513

※This color is only for the reference, and the color and texture may differ from the actual one. Please refer to the color samples for more information.

**Note:**
Due to the difference in lighting and viewing conditions, the colors may appear slightly different.

---

**Preface:**
This document includes information on the application and specification of SELFCOAT iO. Please refer to the instructions for more detailed information. The color samples are provided for reference, and the actual color may vary slightly. Please review the color samples for a more accurate representation.

---

**Acknowledgments:**
This document is provided for reference only. Any changes or updates are subject to the manufacturer's discretion. Please refer to the official documentation for the latest information.

---

**Contact Information:**
For further inquiries or assistance, please contact our customer service team. We are committed to providing the best service and support to ensure your satisfaction. Thank you for choosing SELFCOAT iO.
Aqueous coating without inhibiting the breath of concrete for its vapor permeability

**STREET COLOR F**

Aqueous inorganic coating material with vapor permeability

**Recommended for:**
Large-scale retail Store • Leisure facilities/Veranda
Building Roof / Corridor /Entrance

**Advantage:**
Vapor permeability/Fast curing
Floor Beautifying/Excellant adhesion

**STREET COLOR F** is the standard model of well accepted aqueous inorganic floor coating material which does not inhibit breathing of concrete. Superior vapor permeability, fast curing including dust-proofing features requested for floor finishing are well balanced. By application of top coating which is a standard specification, the floor is increased not to collect dirt on the surface. Even if the surface of substrate concrete is dry, application is available which ensures shortening the application process. Colorful floor is available safely in a short period of time at public facilities and the like.

**Features:**
* Vapor permeable membrane, inhibits blisters and peeling-offs.
* Shorten application time, operation is available after 2~3 hours.
* Easy application, available by roller easily.
* Strong adhesion, stable adhesion to concrete as well as to asphalt concrete.

**Physical properties**

<table>
<thead>
<tr>
<th>Test item</th>
<th>Test method</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion to substrate</td>
<td>JIS A 6909 (1.95m²/mm²)</td>
<td>0.14mm</td>
</tr>
<tr>
<td>Abrasion resistance</td>
<td>JIS A 6909 (200kgf/cm²)</td>
<td></td>
</tr>
<tr>
<td>Cleansing resistance</td>
<td>JIS A 6909 (1,000 rotations)</td>
<td>No defect by 1,000 rotations</td>
</tr>
<tr>
<td>Weathering resistance</td>
<td>JIS A 6909 (250 hrs)</td>
<td>No defect</td>
</tr>
<tr>
<td>Slip resistance</td>
<td>JIS A 1407 (20°C~+4°C·20 cycle)</td>
<td>No defect</td>
</tr>
</tbody>
</table>

**Usage** (To concrete substrate by kg/m²)

<table>
<thead>
<tr>
<th>Material</th>
<th>STREET COLOR NS</th>
<th>STREET COLOR F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>Primer</td>
<td>Upper coat</td>
</tr>
<tr>
<td>Primer</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Upper coat 1st</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Upper coat 2nd</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Top coat</td>
<td>0.06</td>
<td>0.06</td>
</tr>
</tbody>
</table>

*These are printed color chart, with minor difference with the real one. At selection, real sample shall be used.
*The same color numbers are used for Street Color NS and NS heat shielding, but with slight difference.

**Standard color**

- NS-310 F-310
- NS-320 F-320
- NS-330 F-330
- NS-410 F-410
- NS-420 F-420
- NS-610 F-610
- NS-620 F-620
- NS-630 F-630
- NS-640 F-640
- NS-650 F-650
- NS-660 F-660
- NS-670 F-670
- NS-680 F-680
- NS-690 F-690
- NS-710 F-710
- NS-720 F-720
- NS-730 F-730
- NS-740 F-740
- NS-750 F-750
- NS-760 F-760
- NS-770 F-770
- NS-780 F-780
- NS-790 F-790
- NS-810 F-810
- NS-820 F-820
- NS-830 F-830
- NS-840 F-840
- NS-850 F-850
- NS-860 F-860
- NS-870 F-870
- NS-880 F-880
- NS-890 F-890
- NS-910 F-910
- NS-920 F-920
- NS-930 F-930
- NS-940 F-940
- NS-950 F-950
- NS-960 F-960
- NS-970 F-970
- NS-980 F-980
- NS-990 F-990

手配なく仕様、商品の取り扱いを変更する場合があります。予めご了承いただくとともに弊社までご確認をお願いいたします。

8
STREET COLOR NS
Aqueous inorganic nonskid coating with vapor permeability

Recommended for:
Indoor and Outdoor Corridor/Building Roof/Veranda
Poolside/Cycle parking · Parking lot

Advantage:
Nonskid performance/Vapor permeability/
Fast curing/Excellent adhesion

STREET COLOR NS is the standard model of well accepted aqueous inorganic
floor coating material. Without inhibiting the breath of concrete substrate,
STREET COLOR NS exhibits superior vapor permeability with fast setting and
high weather resistance. In addition to these basic performance requested
for floor finishing material, STREET COLOR NS has an excellent slip resistance.
Slipped finished surface has superior slip resistance even under the wet
condition, thanks to which STREET COLOR NS is recommended for building
tops of public facilities, outdoor corridor and slippery pathway like poolside.

Features:
* For slippery floor, stippled pattern gives antiskid performance under wet condition
* Vapor permeable membrane, inhibits blisters or peeling-offs.
* Shorten application time, operation is available after 2～3 hours.
* Strong adhesion, stable adhesion to concrete as well as to asphalt concrete.

Application sketch

Package (applicable area)

Street Color Primer
For concrete 16kg about 53～80m²
For concrete 5kg about 16～25m²
※ Primer for concrete contains organic solvent.
For asphalt 16kg about 75m²
For asphalt 5kg about 25m²

Street Color NS Upper Coat
20kg about 33m² (double coating on concrete)
※ Small package to cover 9～10m² is also available.

Street Color F Upper Coat
20 kg about 50m² (double coating on concrete)

Street Color Top Coat
18kg about 300～360m²
5kg about 80～100m²
2kg about 33～40m²
※ The above consumption shall vary depending on the substrate condition.
Cutting back heat storage by rejecting more infrared rays in sunbeam, it reduces heat radiation from the ground surface and enhances its effective measures against “Heat Island Phenomenon”.

**STREET COLOR NS**  
Heat Shielding Type

Water-based inorganic impermeable heat shielding floor finishing material  
Poolside/Bldg Roofs/Pathway & Crossing Bridge  
Outside Public Spaces/Exterior Projects

“Heat Island Phenomenon” causes excessive use of air-conditioning, which is becoming a serious social problem to increase the emission of greenhouse gases in accelerating the “warming of the earth”. STREET COLOR NS Heat Shielding Type has an excellent feature to lower the temperature of its surface compared to that of asphalt by 10 degree C. (By our in-house test) Thanks to its lowering the temperature of ground surface, STREET COLOR NS Heat Shielding Type is one of the most effective measures for easing the “Heat Island Phenomenon”.

---

**Regulating the surface temperature**  
Thanks to appropriate compound of ceramic pigment with high reflection and special ceramic aggregates, it reflects the infrared rays to regulate the rise of temperature on the concrete surface. Compared to asphalt, it could lower about 10 degree C. (In-house test)

**Anti-Skid Feature**  
Finishing the surface like stipple patterns. Excellent anti-slipperiness makes applicable even for poolside area.

**Permeability**  
Moisture from the substrate concrete may be evaporated through its permeable coating, which prohibit swelling and delamination.

**Fast Drying**  
Walkable in 2-3 hours after application. (At 20 degree C)

**Easy Application**  
Applicable by roller brush.

**Exterior floor coating material with doubled effect by heat reflection and permeability!**

- High reflective ceramic pigment rejects the infra-red radiation before it gets to the substrate concrete in prohibiting accumulation of heat.
- Top-coating material is porous and lets out the vapor in the substrate concrete.
- Inorganic polymer binds chemically together with pigments & aggregates to create coating film which allows water to penetrate and prohibits welling and delamination.

For high anti-slipperiness like a Poolside, application without Top Coat is recommended.
Hybrid silicate concrete surface strengthening material.

SILICATE COAT

Conventional wet-mopping work is not more needed at the final procedure epochal, epoch-makingly. It saves time and effort, and enables speedy application. Application area can be much larger. Equivalent result to the conventional material(compared to our house data) and superior improvement with the surface strengthening properties are expectable. Recommendable for factory and warehouse floors where dust-proofing is expected.

- No need of wet-mopping
- Improvement of concrete with anti-abrasion and less adhesion of dirt
- Dust-proofing
- Aqueous without toxicity nor evil odor
- Less adhesion of tire-mark and the like by daily service
- Reasonable material at less expensive price with easy application

Good for
- Factory & warehouse floor
- Distribution center, super-market, GS
- Protection of hard type concrete

- Abrasion test compared to concrete
  Test using 250g abrasion wheel with 500/1,000 rotations.
<table>
<thead>
<tr>
<th>Weight loss by abrasion</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.12</td>
</tr>
<tr>
<td>0.24</td>
</tr>
<tr>
<td>0.06</td>
</tr>
<tr>
<td>0.07</td>
</tr>
</tbody>
</table>

- Dirt prevention effect
  Hand-trowelled concrete
  Hand-trowelled concrete + SILICATE COAT
  W/O SILICATE COAT With SILICATE COAT

  <Test Method> On to the concrete process with SILICATE COAT, rubber heel boot was rubbed on to check the remaining marks.

  <Result> Only slight adhesion of heel mark was found on concrete processed with SILICATE COAT, while obvious heel marks are found on concrete without SILICATE COAT.

- Packing
  18kg/can For concrete substrate, cover 120 - 150m2/can Area differs by substrate absorbent condition.

安全に関する注意事項
- 頭や口に当たると人体に付着しないように注意してください。
- 施工の際は適切なフィルタを着用してください。
- 頭や口に当たった状態に飲用された場合は、直ちに医師にご相談ください。

⚠️
Silicate Hardener JP penetrates into the concrete deeply to create rigid surface. By continuing its reaction with calcium in the concrete, Silicate Hardener JP makes very hard surface.

Surface reinforcement, innoxious, odorless, low cost
Superior wear & shock resistance Reduces dust and creates cleanliness
Water-based harmless and safety handling

Surface of non-treated mortar
Due to poor bonding of cement, fine sands are found to be removed and the surface is coarse and rough.

Surface of treated mortar
No fine pores nor rough surface are found, rigid surface like a monolithic one is created.

Main application sites
- Industrial plants, warehouses, AGV guiding lines
- Warehouses, logistics terminals
- Supermarkets, large-scale stores
- Carports, carports, no maintenance required
- OA floor, dust-free, dust-proof treatment

Abrasion test compared to concrete

<table>
<thead>
<tr>
<th>Case</th>
<th>Weight loss by abrasion</th>
<th>Thickness loss by abrasion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 rpm</td>
<td>500 rpm</td>
<td>1000 rpm</td>
</tr>
<tr>
<td>Concrete</td>
<td>Concrete</td>
<td></td>
</tr>
<tr>
<td>0.94</td>
<td>0.46</td>
<td>0.65</td>
</tr>
</tbody>
</table>

Note: The surface was observed by microscope after 200 times of polishing.

Safety precautions
- Do not inhale, avoid direct contact with the skin.
- Do not use in areas with high humidity or high temperatures.
- Follow the instructions and use in appropriate conditions.

*Under normal conditions, the surface may change slightly.
*This product is easy to handle and has outstanding abrasion resistance. It is suitable for uses in various conditions.
Dual effects of surface sealing and chemical reaction increase STRENGTH!

CERAMICURE

Silicate concrete surface hardener

CERAMICURE is an inorganic aqueous silicate. By simple application onto concrete surface, it permeates into the depth of capillary to make a solid and to harden the surface. Further, repeating reaction with calcium in concrete, it improves the surface hard and rigid. Thanks to its surface that does not permeate easily, cleaning becomes easier.

- **Surface Hardening**
  - Improves abrasion resistance to inhibit dusting.
  - Thanks to its deeper permeability, it does not peel-off.
  - Inhibits penetration of oil and liquid, (Hydraulic permeability 67%)
    (Marks of oil and the like remain.)
  - Safe for being aqueous.
  - Expectable cleaning effect.

**SEALING effect**

- Observation of SEALING effect
  - CERAMICURE was applied on mortar board. After 30 minutes passed, surface was rinsed. After one month passed, the test specimen board was observed by a microscope with x 200 magnification.

**STAIN inhibition effect**

- Test method: CERAMICURE was applied on cement mortar board to be kept for 7 days by cold curing and carbon paste was forced to rub the surface. The surface was wiped off by wet cotton cloth to observe the state of removal and staining of carbon paste.

**Water absorption prevention test**

<table>
<thead>
<tr>
<th>Test item</th>
<th>mortar w/o</th>
<th>W/ CERAMICURE</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permeability</td>
<td>5.98 g</td>
<td>0.14 g</td>
<td>Measured permeated water after 2 hrs.</td>
</tr>
<tr>
<td>Ratio to concrete</td>
<td>100</td>
<td>2.3</td>
<td></td>
</tr>
</tbody>
</table>

### Abrasion test compared to concrete

<table>
<thead>
<tr>
<th>Weight loss By abrasion</th>
<th>Hand-Trowelled Concrete</th>
<th>Machine-Trowelled Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.94</td>
<td>1.49</td>
<td>0.39</td>
</tr>
<tr>
<td>0.80</td>
<td>0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>0.36</td>
<td>0.36</td>
<td>0.38</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thickness loss By abrasion</th>
<th>Hand-Trowelled Concrete</th>
<th>Machine-Trowelled Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.24</td>
<td>0.05</td>
<td>0.10</td>
</tr>
<tr>
<td>0.07</td>
<td>0.07</td>
<td>0.15</td>
</tr>
<tr>
<td>0.04</td>
<td>0.05</td>
<td>0.04</td>
</tr>
</tbody>
</table>

**Package**

- 18kg/box

Applicable for 70~120 m² to concrete substrate.
(Varies by substrate condition.)

![Image of product packaging]

**Major USES recommended**

- Factory and warehouse floor
- Distribution center, supermarket, Gas station
- Protection of hard type floor finishing

---

<table>
<thead>
<tr>
<th>注意事項</th>
</tr>
</thead>
</table>
| ●装填した製品は、指定用途に使用すること。
| ●使用前の状況を確認すること。

---

*実験結果に基づく値です。実際の使用環境と異なります。*
Superfiller GS
Cementitious filler mixed with cationic emulsion. Thanks to its strong bonding to various substrates, applicable on floor and wall to create stable substrate.

- Even with application as thin as 1~2 mm, no dry-out nor cracks are expected.
- Package is made for an easy application by set-packing.
- Walkable or finishing material coating on the next day of application.
- Strong adhesion to various substrate. No limit to substrate.
- Strong against solvent, and applicable aqueous or solvent type coating materials and adhesive.
- Regardless floor or wall, applicable indoor or outdoor.

Primary use
Floor: Concrete, Terrazo, Marble stone, Floor with old glue remained, Porcelain tile, Colorcrete, Ferrocon, Ferrocon Hard and hard type floor for their substrate adjustment
Wall: Concrete, Sprayable coating material, Porcelain tile, ALC panel, Veneer, Steel plate and their adjustment

- Physical properties
  1) Adhesion strength (Specimen 28 days) [N/mm²]

<table>
<thead>
<tr>
<th>Concrete</th>
<th>Porcelain Tile</th>
<th>Steel plate</th>
<th>Colorcrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.68</td>
<td>2.31</td>
<td>2.01</td>
<td>3.26</td>
</tr>
<tr>
<td>Terrazo</td>
<td>Spray tile</td>
<td>Waterproof</td>
<td>Veneer</td>
</tr>
<tr>
<td>2.23</td>
<td>1.62</td>
<td>0.99</td>
<td></td>
</tr>
</tbody>
</table>

2) Compression and flexural strength tests

<table>
<thead>
<tr>
<th>Days of specimen</th>
<th>Flexural strength</th>
<th>Compression strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 days</td>
<td>7.1</td>
<td>24.8</td>
</tr>
<tr>
<td>7 days</td>
<td>9.4</td>
<td>33.5</td>
</tr>
<tr>
<td>28 days</td>
<td>11.1</td>
<td>41.6</td>
</tr>
</tbody>
</table>

- Package and applicable areas

<table>
<thead>
<tr>
<th>Liquid (Used for Primer and mixing Powder)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4kg/can: Primer / 35-50 m²</td>
</tr>
<tr>
<td>16kg/can: Primer/150-200 m²</td>
</tr>
<tr>
<td>Mixing / 14 m²/l=1 mm</td>
</tr>
<tr>
<td>Mixing / 56 m²/l=1 mm</td>
</tr>
<tr>
<td>Powder</td>
</tr>
<tr>
<td>20kg/bag: 14 m² at 1 mm thick</td>
</tr>
</tbody>
</table>

- Consumption per 1 m² (kg/m²)

<table>
<thead>
<tr>
<th></th>
<th>Superfiller GS Powder</th>
<th>Superfiller GS Liquid</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primer</td>
<td>0.01~0.1</td>
<td>0.16~0.2</td>
<td></td>
</tr>
<tr>
<td>Material (1 mm thick)</td>
<td>1.4</td>
<td>0.28</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Application Flow
1 Substrate preparation
- Remove dust, dirt, laitance and decays.

2 Primer coating
- Apply liquid part diluted (Liquid 1: Water 2) by roller. After one hour curing in the air, proceed with the next process.

3 Mixing ratio of main material and its mixing
- Place all liquid and water. While mixing by hand-mixer, pour powder gradually. When the mixed is too hard, add water a small portion to make an adjustment.

4 Application and curing
- Apply the mix with steel trowel by shaving way carefully. Cure for 12 hours in the air. Application of the finishing material shall be commenced on the next day or later.
Floor Bright Tiremark Cleaner is a cleaner to be used for removal of tire-mark remained on hard type of cementitious floors such as concrete, mortar, Colorcrete, Ferrocon, Bascon Color, Color Hard EM, Ferrocon Hard Series.

Primary use: Removal of black stain left by tires on the cementitious hard type floors.

<table>
<thead>
<tr>
<th>Application Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How to make diluted solution</strong></td>
</tr>
<tr>
<td>○ Dilute by water to obtain 5 times diluted solution. For stronger performance, 3 times solution may be use.</td>
</tr>
<tr>
<td>○ Dilution rate: Tiremark cleaner : Water = 1 : 2 ~ 4</td>
</tr>
<tr>
<td><strong>Dispersal of diluted solution</strong></td>
</tr>
<tr>
<td>Spread the diluted solution as mentioned in the above on the dirtily stained floor by a watering-pot widely, and let it wait for a couple of minutes. Use: 0.2~0.3kg/㎡ (as diluting solution)</td>
</tr>
<tr>
<td><strong>Cleansing</strong></td>
</tr>
<tr>
<td>For large area, clean by polisher or automated cleansing machine.</td>
</tr>
<tr>
<td>Cleansing by a polisher with nylon brush or black pad mounted.</td>
</tr>
<tr>
<td>Cleansing by automated cleansing machine.</td>
</tr>
<tr>
<td>Or, cleansing with a deck brush.</td>
</tr>
<tr>
<td>Small spot of dirt may be cleansed by the cleaning tools like a palm fiber cleansing pad, nylon cleansing pad, cotton cloth, waste cloth and the like.</td>
</tr>
<tr>
<td>Palm fiber cleansing pad</td>
</tr>
<tr>
<td>Nylon scrubbing pad</td>
</tr>
<tr>
<td>Sponge scrubbing pad</td>
</tr>
<tr>
<td>Sponge scrubbing pad is easy to be worn out, and so shall be disposed.</td>
</tr>
<tr>
<td><strong>Removal of dirty water</strong></td>
</tr>
<tr>
<td>For large area, dirty water shall be removed by vacuum cleaner, or gather with rubber rake. In case of difficulty in removal, resume while pouring water.</td>
</tr>
<tr>
<td>For small area, wipe up it by wet mop or waste clothes.</td>
</tr>
<tr>
<td><strong>Wiping by water · Rinsing</strong></td>
</tr>
<tr>
<td>Finally cleanse the floor with wet mop or automated cleansing machine, wipe and then let it dry.</td>
</tr>
</tbody>
</table>

**This FB TI'REMARK Cleaner if exclusively for cementitious floor finishing material.**

When applied on resinous floor coatings such as epoxy and urethane, the surface may lose its original luster, may cause softening of flooring or discoloration, and may cause delamination. For cleaning of tire-mark remained on the resinous floorings, trial application in an obscure place to confirm the performance is recommended.

Thin type acrylic resin and wax can be removed.

For the application to the floor of strange material, trial test application is recommend in the same manner.

We have tested the performance with the below mentioned material

- Acrylic resin paint: Peel-off
- Resin wax: Peel-off
- Non-solvent epoxy paint: Loss of luster, softening, but hardness is resumed in 20-30min.
- Solvent type epoxy paint: --- ditto ---
- Solvent type urethane paint: Loss of luster, but no specific change

The above are example of substances tested. Results might vary by the specimens even of the same chemical name thanks to difference of composition by makers.

Application manual of Floor Bright Tiremark Cleaner in concentration type 20120706
CHEMICRETE
Corrosion-Resistant Coating & Topping

ABC’s METALLIC & NON-METALLIC
FLOOR HARDENER

耐磨损·耐冲击·美观·防尘
COLOR-CRETE·FERRO-CON
混凝土地板表面硬化装饰加工材料

一體成型的 混凝土表面彩色硬化地板完工材料
ABC COLORCRETE 彩色非金属耐磨硬化地坪

混凝土地坪表面的美观硬化地坪材料
全新 輝陸鋼 FERROCON 金属硬化耐磨地坪

無機建材類快速耐磨硬化地坪整修材料

STREET COLOR NS/F 室外彩色地坪

 Compound for the creation of a clean environment