

**As one of the trusted and reliable brand for industrial, building and civil sector, CEMKRETE range of floor coating includes:**

# **FLOOR COATING** *GUIDE*

## **OUR SPECIALTIES**

- Dust Proof
- Durable, Self-levelling
- Chemical Resistance
- Water Treatment Tank
- Heat Distortion & Wearing Resistance
- Rapid Cure & Cold Room Floor
- Low Out Gas
- Conductive Anti-Static Epoxy
- Concrete Substrate Treatment

## **MISCELLANEOUS PRODUCTS**

- Floor Hardener
- Heat Proof Coating
- Fire Proof Coating

**CEMKRETE**

*Innovative Products For Your Success*

# Application chart of Resin Floor Coating

	Functions	Products
Substrate Treatment	Concrete Surface Reinforcement	ACT CLEAR , ACT COLOR , CEMPRIME
	Floor Hardener	CEMFLOE NM, MT, CB
	Moisture Barrier	CEMFLOE BARRIER
Functional Floor Coating	Chemical Resistant	CEMGUARD E, CEMGUARD ER, CEMGUARD V , S-CRETE MF, S-CRETE HF
	Waste Water Treatment	CEMFLOE ES, CEMGUARD BLACK
	Drinking Water Tank	CEMGUARD ED
	Atomic Radiation Resistance	CEMFLOE E, ES , CEMGUARD E
	General Durable	CEMFLOE E, CEMFLOE ER, S-CRETE MF
	Impact Resistance	S-CRETE MF, HF, CEMGUARD E
	Heat Resistance	CEMGUARD E, S-CRETE MF, S-CRETE HF, CEMGUARD V
	Thermal Shock	S-CRETE MF, HF
	Non-Gassing, Low VOC	CLEANGUARD EWG, EG
	Conductive, Anti-Static	CLEANGUARD EWC, ESC, EC
Decorative Floor Coating	Rapid cure/ Cold room	S-CRETE AMF, AHF
	Dust Proof	CEMFLOE EW, ES, AW, PS, ACT COLOR
	Weathering Resistance	CEMFLOE AW, PS, ACT COLOR

● : Recommended Area

▲ : Available Limited Area



# DUST PROOF FLOOR COATINGS



## **FEATURES**

Floor Painting is applied by brush or roller to a film thickness less than 200 microns.

Floor Painting presents a colorful appearance on the floor and prevents dust arising from concrete substrate. It is applied for the light traffic area such as office floor and corridor as well.

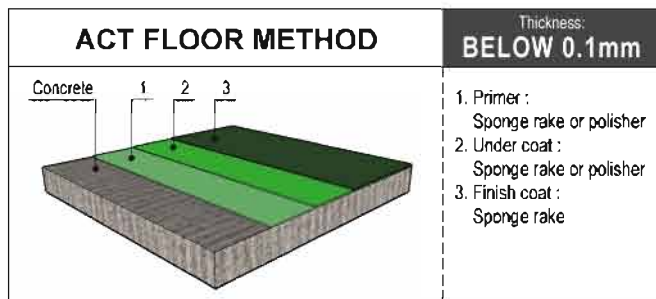
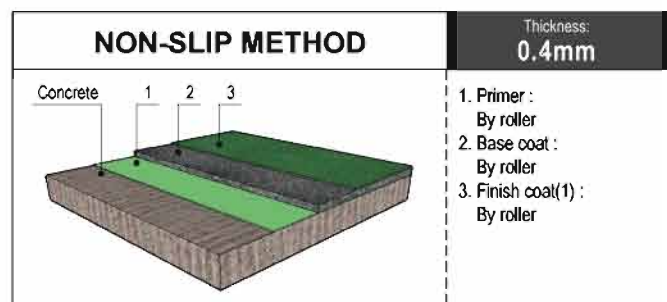
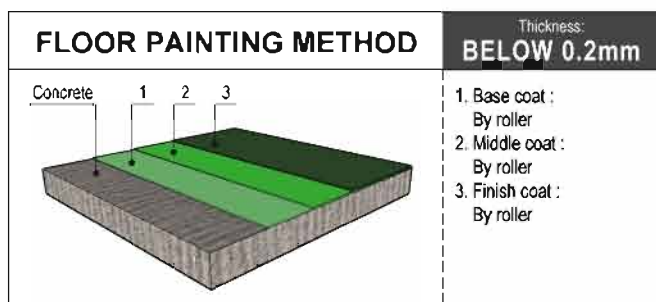
It is also suitable even for factory floor which is subjected to light vehicular traffic.

It saves cost in comparison with other floor coatings and assures easy application as well.

- 
- **Floor coating prevents rising dust from concrete.**
  - **Economical and aesthetic finish.**
  - **Easy maintenance.**
-

# CEMKRETE DUST PROOF FLOOR COATINGS

Floor coating	ACT COLOR	CEMFLOR AW	CEMFLOR EW	CEMFLOR ES	CEMFLOR PS
Advantage of floor paint	<ol style="list-style-type: none"> <li>1. Apply on floor hardener.</li> <li>2. Easy maintenance.</li> <li>3. Not peel, flake or delaminate.</li> <li>4. Good chemical resistance.</li> </ol>	<ol style="list-style-type: none"> <li>1. Low cost and colorful floor.</li> <li>2. Easy apply.</li> <li>3. Weather resistance.</li> </ol>	<ol style="list-style-type: none"> <li>1. Easy application.</li> <li>2. Low VOC meets BS6929-1988 (part1).</li> </ol>	<ol style="list-style-type: none"> <li>1. Medium chemical resistance.</li> <li>2. Solvent odor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Colorful floor.</li> <li>2. Good wear resistance.</li> <li>3. No solvent odor.</li> <li>4. Abrasion resistance.</li> </ol>
Component	Water Base Nano Lithium Silicate	Acrylic Emulsion	Water Base Epoxy	Solvent Base Epoxy	Solvent Base Polyurethane
Appearance	Matt ~ Semi Gloss	Semi Gloss	Semi Gloss	Semi Gloss	Gloss
Mix ratio (by Wt.)	1 component	1 component	4 : 1	4.3 : 0.7	4 : 1
Density	1.09	1.10	1.38	1.43	1.29
Solid content	50%	60%	65%	65%	65%
Coating interval (Hr.)	3~5	3~5	6~8	6~8	6~8
Abrasion resistance	-	0.2g/1kg /1,000rpm	0.25g/1kg /1,000rpm	0.25g/1kg /1,000rpm	0.23g/1kg /1,000rpm
Cross cut test adhesion	100/100	100/100	100/100	100/100	100/100
Pencil hardness	3H	2H	5H	2H	5H



# DURABLE, SELF-LEVELLING FLOOR COATING



## **FEATURES**

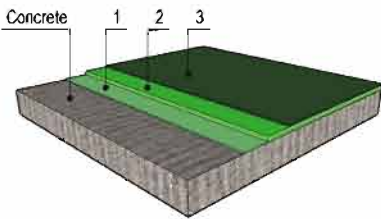
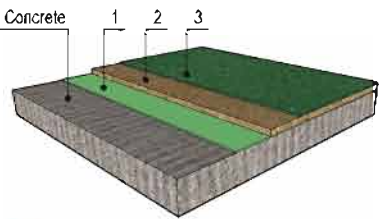
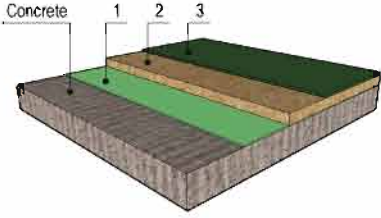
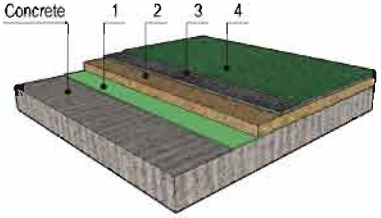
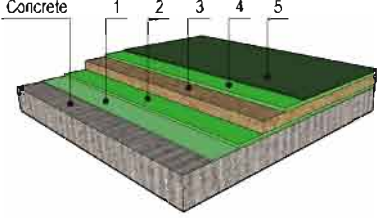
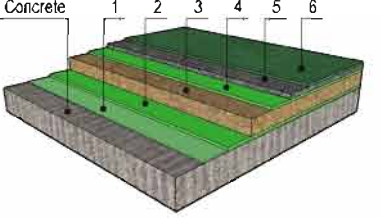
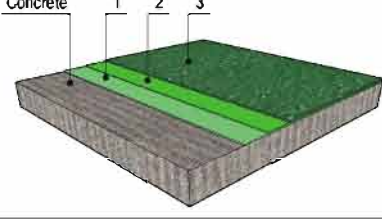
Non-solvent, self-levelling epoxy floor coating is mainly applied by trowel and spike roller to form a film thickness in about 500 $\mu$ ~3mm which is designed to meet the requirements of the floors such as high strength and chemical resistance.

In combination with other materials, 7 application methods are available to meet versatile uses ranging from heavy duty industrial floors to anti-corrosive works such as factory floors, warehouses, car park space and atomic power plants etc.

- 
- **Wide variety of colors and aesthetic finish.**
  - **High resistance to heavy load and impact.**
  - **Excellent chemical resistance.**
  - **Wide range of application methods for versatile uses.**
-

# CEMKRETE SELF-LEVELLING PRODUCT

Floor coating	CEMFLORE	CEMFLORE R
Advantage of floor coating	1. Self-levelling industrial color floor. 2. High durability floor.	1. Resin mortar or scratch coat mix with filler. 2. Transparent color.
Component	Non-Solvent Epoxy Resin (Low Viscosity)	
Appearance	Gloss Colour	Transparent
Mix ratio (by Wt.)	3 : 1	2 : 1
Density	1.3	1.15
Foot traffic (Hr.)	24Hr.	8Hr.
Shore D Hardness	78	83
Compressive strength (N/mm <sup>2</sup> )	55	60
Flexural strength (N/mm <sup>2</sup> )	34	37
Tensile strength (N/mm <sup>2</sup> )	19	21
Taber abrasion	0.20g/1kg 1,000rpm	0.18g/1kg 1,000rpm
Pull off adhesion (N/mm <sup>2</sup> )	2.5 (concrete failure)	2.5 (concrete failure)

<p><b>COATING METHOD</b></p>  <p>Concrete 1 2 3</p>	<p>Thickness: <b>0.8~1.5mm</b></p> <ol style="list-style-type: none"> <li>1. Primer : By roller</li> <li>2. Base coat : Scratch by trowel</li> <li>3. Finish coat : By trowel</li> </ol>	<p><b>NON-SLIP METHOD</b></p>  <p>Concrete 1 2 3</p>	<p>Thickness: <b>1.2~2.0mm</b></p> <ol style="list-style-type: none"> <li>1. Primer : By roller</li> <li>2. Base coat : By roller</li> <li>3. Aggregate : Scatter the sand</li> </ol>
<p><b>PASTE METHOD</b></p>  <p>Concrete 1 2 3</p>	<p>Thickness: <b>2.0mm</b></p> <ol style="list-style-type: none"> <li>1. Primer : By roller</li> <li>2. Paste coat : Mixed sand by trowel</li> <li>3. Finish coat : By trowel</li> </ol>	<p><b>PASTE NON-SLIP METHOD</b></p>  <p>Concrete 1 2 3 4</p>	<p>Thickness: <b>3.0mm</b></p> <ol style="list-style-type: none"> <li>1. Primer : By roller</li> <li>2. Paste coat : Mixed sand by trowel</li> <li>3. Aggregate : Scatter the sand</li> <li>4. Finish coat : By roller</li> </ol>
<p><b>MORTAR METHOD</b></p>  <p>Concrete 1 2 3 4 5</p>	<p>Thickness: <b>5mm~7mm</b></p> <ol style="list-style-type: none"> <li>1. Primer : By roller</li> <li>2. Tack coat : By roller</li> <li>3. Resin mortar : By trowel</li> <li>4. Seal coat : By trowel</li> <li>5. Finish coat : By roller</li> </ol>	<p><b>MORTAR NON-SLIP METHOD</b></p>  <p>Concrete 1 2 3 4 5 6</p>	<p>Thickness: <b>6mm~8mm</b></p> <ol style="list-style-type: none"> <li>1. Primer coat : By roller</li> <li>2. Tack coat : By roller</li> <li>3. Resin mortar : By trowel</li> <li>4. Seal coat : By trowel</li> <li>5. Aggregate : Scatter the sand</li> <li>6. Finish coat : By roller</li> </ol>
<p><b>ROLLER STIPPLE METHOD</b></p>  <p>Concrete 1 2 3</p>	<p>Thickness: <b>1.0mm</b></p> <ol style="list-style-type: none"> <li>1. Primer : By roller</li> <li>2. Base coat : Scratch by trowel</li> <li>3. Finish coat : Mixed filler by stipple roller</li> </ol>		

# CHEMICAL RESISTANT COATING AND LINING



## FEATURES

Chemical resistant materials are required to protect corrosion and deterioration of concrete and steel structures. It is the most important factor to select the suitable material and system depending on a kind of chemical, concentration and chemical temperature.

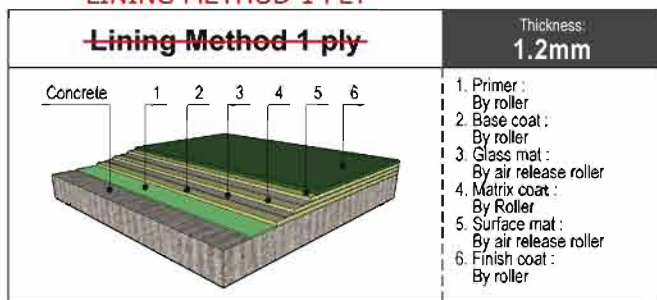
Use of this material is applicable to water drainage plant, sewer drain, and chemical storage tank at chemical plant, etc.

- 
- Efficient system can be selected from the variety of product.
  - Novolac epoxy resin shows excellent acid and alkali resistance up to 60°C.
  - Bisphenol Vinyl Ester resin presents excellent acid and alkali resistance up to 85°C ~~to~~ which epoxy resin ~~cannot~~ <sup>can not</sup> resist.
  - Wide range of application systems serves for enhancement of chemical resistance.
-

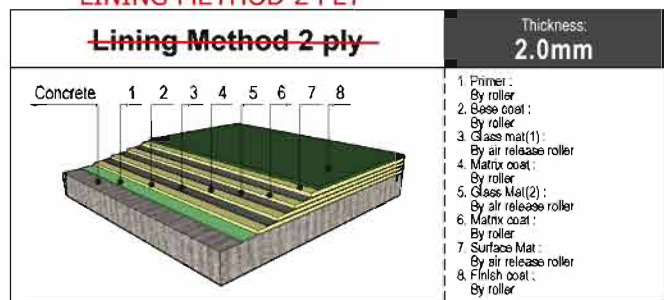
# CHEMICAL RESISTANT PRODUCT

Floor coating	CEMGUARD BLACK	CEMGUARD E	CEMGUARD ER	CEMGUARD V
Advantage of chemical resistance	Waste water treatment, water treatment plant, water drainage tank, sewerage disposable pipe, etc.	Ambient temperature, high alkaline and acid area of chemicals.	Ambient temperature as mortar or lining matrix.	Ideal for area requiring heavy corrosion resistance.
Chemical condition	Normal Temperature		Bellow 85°C Liquid Temperature	
Component	Tar Epoxy	Novolac Epoxy		Bisphenol Vinyl Ester
Application system	Coating System	Coating System	Lining System	Lining System
Thickness of film	Bellow 300 μ	Above 0.8mm	2~5mm	2~5mm
Mix ratio (by Wt.)	4 : 1	4.2 : 0.8	3 : 1	-
Density	1.36	1.63	1.20	1.13
Coating interval (Hr.)	12	12	12	6
Shore D Hardness	57	83	83	-
Compressive strength (N/mm <sup>2</sup> )	45	78	78	120
Tensile strength (N/mm <sup>2</sup> )	16	12	8	12
Pull off adhesion	Concrete Failure	Concrete Failure	Concrete Failure	Concrete Failure

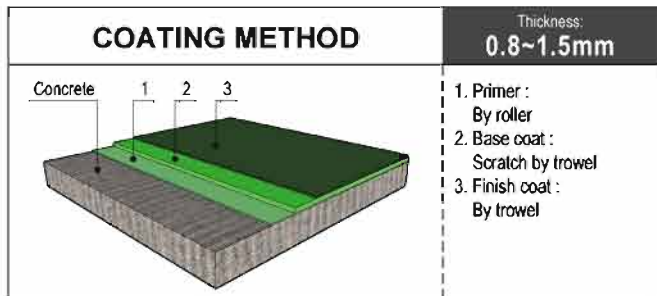
## LINING METHOD 1 PLY



## LINING METHOD 2 PLY



## COATING METHOD



# WATER TREATMENT TANK COATING



## **FEATURES**

Concrete surface and steel surface of water supply tank, potable water storage tank and drainage tank plant must receive non-toxic coating (Food product safety standard: BS 6920 compliance) which has both function of water and corrosion resistant properties. CEMGUARD ED is designed for use at water, fuel and ballast storage tanks. Also it is applicable to hopper cars, cement mixer, silo, oil tanker, reservoirs and food processing facilities.

- 
- **Non-toxic film**
  - **Non-solvent odor and environment friendly product**
  - **Excellent waterproof and corrosion proof.**
  - **Easy handling at application because of water-base material.**
-

# CEMKRETE WATER TREATMENT PRODUTCS

<b>Floor coating</b>	<b>CEMGUARD ED</b>
<b>Component</b>	Non-Solvent High Build Epoxy
<b>Mix Ratio (by Wt.)</b>	4 : 1
<b>Density</b>	1.4
<b>Film thickness</b>	150 ~ 200 micron
<b>Coating interval (Hr.)</b>	24Hr.
<b>Gloss</b>	Above 80
<b>Cross cut adhesion</b>	100/100
<b>Pencil hardness</b>	2H

Chemical Resistance	
Chlorinated water	⊙
Distilled water	⊙
Sewage water	⊙
Hydrochloric acid 3%	○
Sodium hydroxide 40%	⊙

Criteria ⊙ Excellent ○ Acceptable

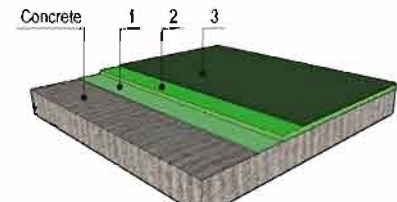
## GROWTH OF AQUATIC MICROORGANISMS (BS-6920:1990)

Test	<i>Pseudomonas aeruginosa</i> CFU per 100ml			<i>Coliform Organisms</i> per 100ml		
	Sample	Reference	Control	Sample	Reference	Control
<b>Period</b>						
<b>After 5 week</b>	Nil	Nil	Nil	Nil	Nil	Nil
<b>After 6 week</b>	Nil	Nil	Nil	Nil	Nil	Nil
<b>After 7 week</b>	Nil	Nil	Nil	Nil	Nil	Nil
<b>Requirement BS-6920 : 1990 Part 1 : Clause 6</b>	Less than 10 times count in negative reference	Less than 100	Less than 100	Less than 10 times count in negative reference	Less than 10	Less than 10

## EXTRACTION OF METALS (BS-6920:1990)

No.	Type of Tests	Techniques Used	Requirement under BS 6920 : 1990 Part 1 : Clause 8 (Maximum allowed)	Test results after 24 hours extraction/ final extraction*
1	Aluminium (as Al), mg/L	ICP-AES <sup>(1)</sup>	0.200	Less than 0.025
2	Barium (as Ba), mg/L	ICP-AES	1.000	Less than 0.001
3	Chromium (as Cr), mg/L	ICP-AES	0.050	Less than 0.005
4	Iron (as Fe), mg/L	ICP-S	0.200	Less than 0.005
5	Manganese (as Mn), mg/L	ICP-AES	0.050	Less than 0.001
6	Nickel (as Ni), mg/L	ICP-AES	0.050	Less than 0.010
7	Lead (as Pb), mg/L	ICP-AES	0.050	Less than 0.025
8	Silver (as Ag), mg/L	ICP-AES	0.010	Less than 0.003
9	Cadmium (as Cd), mg/L	ICP-AES	0.005	Less than 0.002
10	Arsenic (as As), mg/L	Hydride Generation AAS <sup>(2)</sup>	0.050	Less than 0.010
11	Antimony (as Sb), mg/L	Hydride Generation AAS	0.010	Less than 0.010
12	Mercury (as Hg), mg/L	Hydride Generation AAS	0.001	Less than 0.001
13	Selenium (as Se), mg/L	Hydride Generation AAS	0.010	Less than 0.010

### COATING METHOD



Thickness:  
**0.6mm**

1. Primer :  
By roller
2. Base coat :  
Scratch by trowel
3. Finish coat :  
By trowel

# HEAT DISTORTION & WEARING-RESISTANT FLOORING



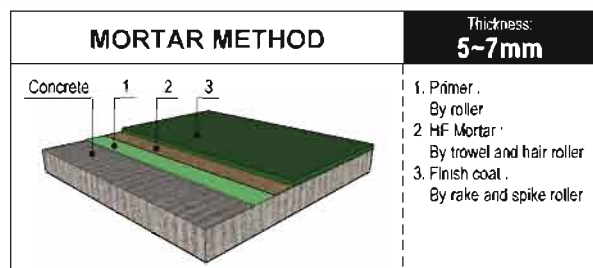
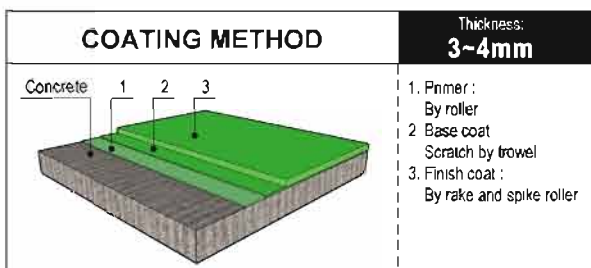
S-CRETE, which mainly comprises of polyurethane cement, is available to a self-leveling type and a low-viscosity mortar type. In combination of permeability peculiar to cement and elasticity peculiar to polyurethane, blister and crack do not easily occur on the finished flooring.

It features stable characteristics to heat and thermal shock at 110°C and has excellent chemical resistance equivalent to epoxy resins. S-CRETE is recommended to apply at severe environment in a cold/heat cycle such as kitchen, food processing factory, cold storage where the epoxy resins are not suitable.

- Excellent heat resistance. S-CRETE MF resists 85°C and HF does 115°C.
- Excellent abrasion resistance.
- Strong Impact resistance.
- Minimizing phenomenon of blister because of high permeability.
- Relatively non-slippery on wet surface (S-crete HF).

## CEMKRETE HEAT DISTORSION & WEARING RESISTANT PRODUCTS

Floor Coating	S-CRETE MF	S-CRETE HF
Advantage of S-Crete	1) Excellent chemical resistance. 2) Heat and thermal shock resistance (85°C). 3) Excellent wearing resistance. 4) Maintain the clean floor.	1) Excellent chemical resistance 2) Boil water and steam resistance (105°C). 3) Apply for heavy traffic way. 4) Non-slip floor under wet condition.
Component	Urethane Polymer Cement	
Viscosity	Self Levelling Type	Low Viscosity Mortar
Working time	18 min.	20 min.
Appearance	Flat Matt Color Finish	Non-Slip Color Finish
Mix ratio (by Wt.)	3:3:14	3:3:14:10
Density	1.95	2.1
Average thickness	3~4 mm	5~7 mm
Open time (Hr.)	12	12
Application max. temperature	85°C	115°C
Compressive strength (N/mm <sup>2</sup> )	50	55
Flexural strength (N/mm <sup>2</sup> )	21.0	15
Tensile strength (N/mm <sup>2</sup> )	7	7
Taber abrasion resistance	0.13g / 1kg / 1,000rpm	0.1g / 1kg / 1,000
Pull off adhesion (N/mm <sup>2</sup> )	25 (Concrete Failure)	25 (Concrete Failure)
Moisture permeability	3g / m <sup>2</sup> / 24Hr.	5g / m <sup>2</sup> / 24Hr.
Weather resistance	Slightly Yellowing	Slightly Yellowing



# RAPID CURE AND COLD ROOM FLOOR COATING (MMA RESIN)

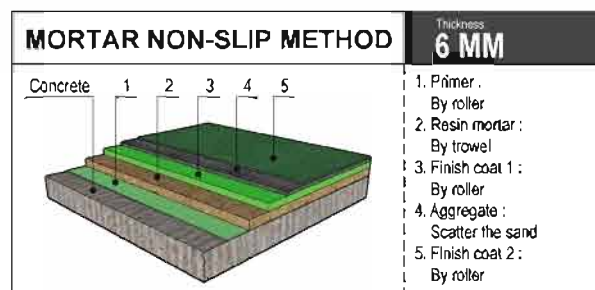
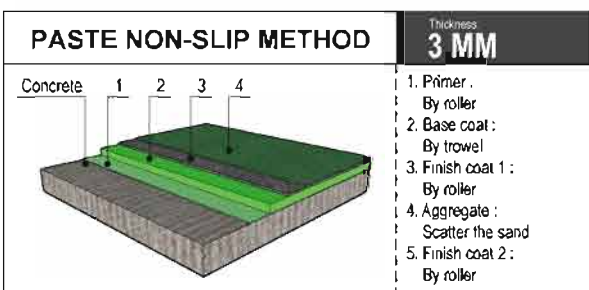
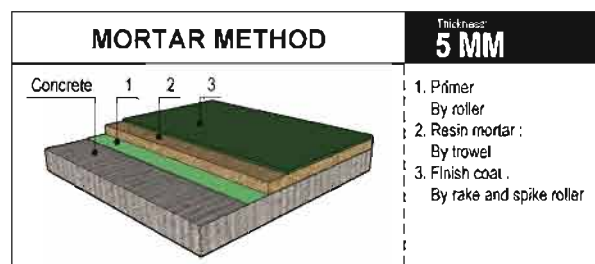
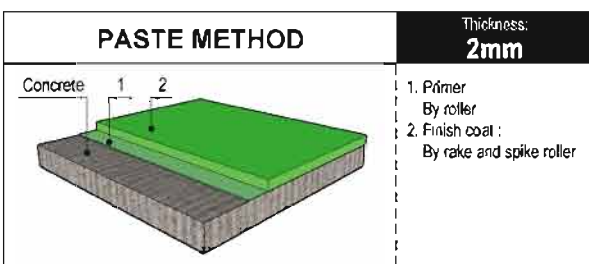


MMA Coating has various characteristic performances such as rapid curing, curing at low temperature and chemical resistance (Especially organic acid). Rapid curing property is very effective on repairing of civil works and factories in operation. These properties do not include epoxy and polyurethane coating.

- Rapid cure can assure the flow of traffic within 2hr.
- Below -30°C environment, It can be used for such as cold room and children room.
- Aesthetic finish excellent light exposure property and weather durability.
- Excellent chemical resistance particularly for organic acid.

## CEMKRETE RAPID & LOW TEMPERATURE CURE PRODUCTS

Floor Coating	S-CRETE AMF	S-CRETE AHF
Component	Methyl Methacrylate Resin	
Density	1.8	2.0
Thickness of film (mm)	2~3	5~7
Coating interval (Hr.)	1~2	1~2
Compressive strength (N/mm <sup>2</sup> )	36	31
Compressive modulus (N/mm <sup>2</sup> )	$2.1 \times 10^3$	$3.6 \times 10^3$
Flexural strength (N/mm <sup>2</sup> )	17	20
Drop impact test	40 times, 1kg-1m Height	100 times, 1kg-1m Height
Taber abrasion resistance(g)	0.85 / 1kg / 1,000rpm	0.7 / 1kg / 1,000rpm
Pull off adhesion (N/mm <sup>2</sup> )	Above 2 (Concrete Failure)	



# LOW OUT GAS COATING



Gas, odor and vapor, which are slightly generated from concrete structure, can influence the products manufactured in a super-clean room and a bio-clean room.

In case of contamination of air in a room due to volatile organic compound (VOC) generated from the building materials, CLEANGUARD EWG is suitable to wall surfacing and CLEANGUARD EG is ideal to flooring. Both products are the protective coating materials without generating any VOC themselves and blocking even a slight amount of gas which is generated from the concrete structure.

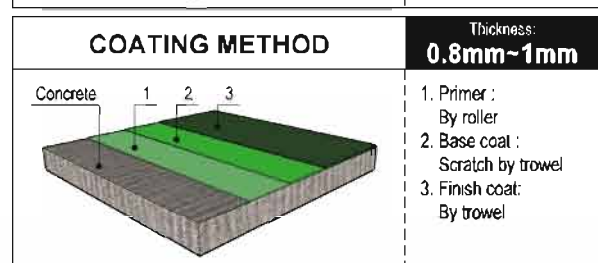
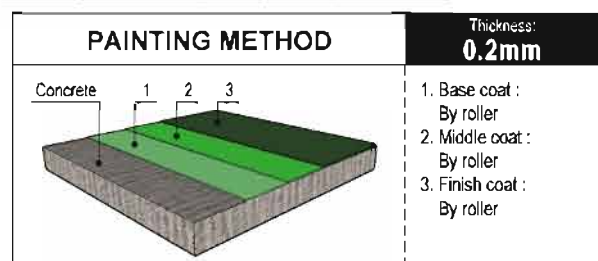
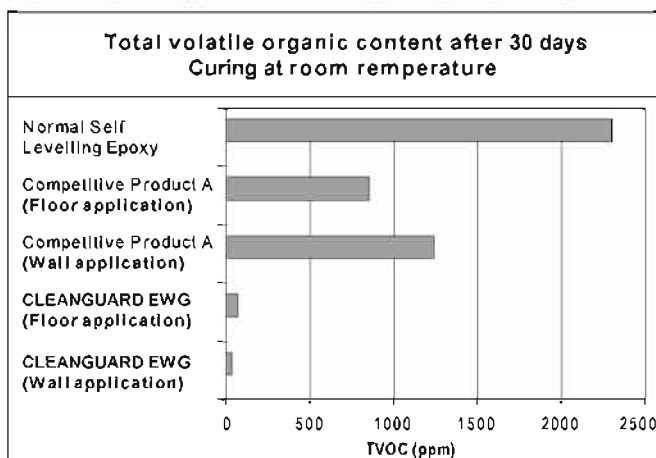
- Excellent load resistance and impact resistance of finished floor.
- Application for wall and floor assures good working condition and room condition because of very low VOC.
- Prevents ammonium gas generated from concrete structure itself.

## CEMKRETE LOW OUT GAS PRODUCTS

Floor coating	CLEANGUARD EWG	CLEANGUARD EG
Component	Water-Base Epoxy	Non-Solvent Epoxy
Appearance	Matt Color Finish	Gloss Color Finish
Mix ratio (by Wt.)	4.1	4.1
VOC content (%)	0	0
Density	1.14	1.16
Solid content (%)	68	100
Coating interval (Hr.)	6~8	8~12
Shore D Hardness	-	75
Compressive strength (N/mm <sup>2</sup> )	-	78.6
Tensile strength (N/mm <sup>2</sup> )	-	30
Abrasion resistance	-	0.9g / 1kg / 1000rpm
Adhesion for concrete substrate (N/mm <sup>2</sup> )	-	3.2 (Concrete failure)

## LOW VOC COMPONENTS BY SOLVENT EXTRACTION ANALYSIS(WT.%)

Material	Di-Butyl phthalate	Di-Octyl Phthalate	Low molecular Siloxanes	Butyl hydroxy Toluene	Amines
CLEANGUARD EG	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
CLEANGUARD EWG	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001



# CONDUCTIVE ANTI-STATIC EPOXY COATING



Dissipative flooring prevents damage of electronic parts and glitch of electronic equipment caused by static electricity in the production process of semiconductor, contamination of the product and defective product due to dust.

Conductive flooring prevents fire and explosion of inflammable substance due to sparks, etc.

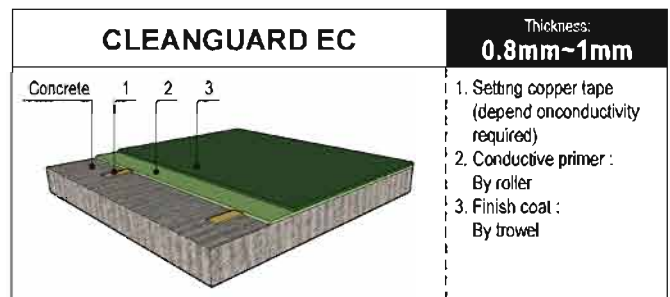
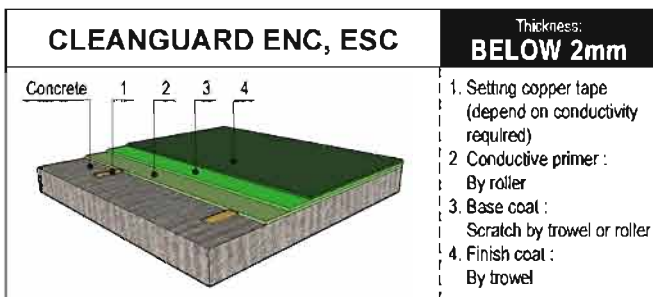
CEMKRETE provides 3 types of conductive floor depending on conditions of use and environment of application.

- Long term stable conductivity.
- Wide range of durable floors featured to meet a designated use.
- Availability of conductive flooring to meet a specific use.
- Easy maintenance and strong resistance to impact.

## CEMKRETE CONDUCTIVE FLOOR PRODUCTS

Floor Coating	CLEANGUARD EWC	CLEANGUARD ESC	CLEANGUARD EC
Advantage of conductive Coating	1) Low out gas area. 2) Light traffic area such as underneath of rising floor and wall of clean room.	1) Light traffic area such as underneath of rising floor and wall of clean room.	1) Heavy traffic, chemical resistance area. 2) Inflammable area due to sparks.
Component	Water-Base Epoxy	Solvent-Base Epoxy	Non-Solvent Epoxy
Appearance	Matt Color Finish	Gloss Color Finish	Gloss Color Finish
Mix ratio (by Wt.)	4.2 : 0.8	6 : 1	3.6 : 1.5 : 3.4
Solid content (%)	75	75	100
Coating interval (Hr.)	12	12	12
Abrasion resistance	0.25g / 1kg / 1,000rpm	0.25g / 1kg / 1,000rpm	0.20g / 1kg / 1,000rpm
Inflammability oxygen index	-	Above 26	Above 30
MFPA Electrical resistance(Ω)	$2.0 \times 10^4 \sim 1.0 \times 10^8$	$4.0 \times 10^4 \sim 1.0 \times 10^8$	$5 \times 10^4 \sim 9.0 \times 10^8$
Resistance to ground (Ω)	$1.5 \times 10^4 \sim 1.0 \times 10^8$	$2.5 \times 10^4 \sim 1.0 \times 10^8$	$3.3 \times 10^4 \sim 9.0 \times 10^8$
Static charge decay (Second)	0.3	0.5	0.7

\*) Conductivity property applied the conductive primer.



Earth bar setting below 300mm<sup>2</sup> for conductive floor will be better.

# CONCRETE SUBSTRATE TREATMENT

## (A) PRIMER

Strong adhesion between coating material and substrate concrete is the most important function for the primer. CEMKRETE Primer presents strong adhesion to the concrete substrate with excellent resistance to moisture in the concrete, thus preventing the coating material from peeling-off and blister.

Conditions of moisture content in the concrete vary considerably depending on quality and age of the concrete, and environmental condition such as water level, temperature and relative humidity of application environments, etc.

The range of CEMKRETE Primer includes several kinds of primer to meet different surface conditions of the concrete substrate.

- Excellent penetration into concrete.
- Strong adhesion to damp concrete surface (CEMPRIME ES, CEMPRIME V).
- Excellent adhesive durability to dynamic negative hydro pressure like osmotic pressure.
- A series of primer corresponding to function of floor such as low VOC, conductivity, chemical resistance, etc.

## CEMKRETE PRIMER GROUP

Primer	CEMPRIME E	CEMPRIME ES	CEMPRIME ESC	CEMPRIME V
Advantage of primer	1) Low odor primer. 2) For resin mortar tack coat. 3) High bond strength.	1) Good adhesion for wet and green concrete substrate.	1) Below $10 \times 10^3$ conductivity. 2) Good adhesion for wet and green concrete substrate.	1) Vinylester primer for wet and green concrete substrate.
Component	Solvent free epoxy resin	Solvent-based epoxy resin		Vinylester resin
Condition of concrete substrate	General concrete condition, (dry surface )	Damp surface, porous and weak surface concrete	Dry and damp surface concrete	
Appearance	Clear color	Clear color	Black color	Clear color
Mix ratio (by Wt.)	1 : 1	2 : 1	4 : 1	-
Density	1.12	1.07	1.3	1.06
Coating interval (Hr.)	8 ~ 12 (20°C)	6 ~ 8 (20°C)	6 ~ 8 (20°C)	4 ~ 6 (20°C)

## (B) UNDERLAYMENT

Underlayment is used to obtain flat surface of the floor coating.

Poor screed, uneven surface of concrete by hacking, weak concrete surface caused by rain before enough cure and weathered concrete by carbonation are corrected to a flat surface by using epoxy mortar or epoxy putty.

Rising moisture in concrete slab or green concrete will possibly induce blister of the floor coating. CEMFLOR BARRIER self-leveling screed, which is applied more than 2 mm thickness between the substrate and the coating, helps prevent the coatings from blister.

- Undelayment presents flat surface of floor.
- It prevents blister caused by moisture in the substrate concrete.
- It has correlative adhesion between the primer and the finishing material.

## CEMKRETE UNDERLAYMENT PRODUCTS

Under Layment	CEMFLOR ER + Silica Sand	CEMFLOR BARRIER
Advantage of underlayment	Fill the honeycomb and pin-hole, scratch the uneven substrate	The moisture prevent layer
Component	Solvent free epoxy resin, filler or aggregate	Epoxy polymer cement
Mix ratio (by Wt.)	2 : 1 with filler adjustable	3 : 1.5 : 18 : 2.5 water
Recommended dry film thickness	Above 0.5 mm	Above 2 mm
Moisture of concrete substrate (by TRAMEX)	Moisture contents (bellow 5.3%)	Damp substrate (bellow 6%) green concrete
Density (mixed)	1.5 ~ 1.7	1.9
Over coat interval	Above 8Hr.	Above 24Hr.
Compressive strength	65 N/mm <sup>2</sup>	14 N/mm <sup>2</sup>

## Accelerated Blister test for Epoxy Self-levelling coating (at 20°C)

Product Name	Aging of concrete substrate				
	3 Day	7 Day	14 Day	28 Day	
Tramex Moisture Meter	Out of scales	6.0	5.4	3.3	
Cemprime E +Cement Filler	A	0 Peel-off Topcoat	0 Peel-off Topcoat	2.8 Concrete failure	3.5 Concrete failure
	B	All area blister	All area blister	Several blister	No blister
Cemprime ES + Silica Sand	A	0 Peel-off Topcoat	0.10 Peel-off Topcoat	3.2 Concrete failure	3.6 Concrete failure
	B	All area blister	All area blister	Several blister	No blister
Cemflor Barrier	A	0 Peel-off topcoat	0.13 Cemflor Barrier failure	3.0 Cemflor Barrier failure	3.4 Concrete / Cemflor Barrier
	B	No blister	No blister	No blister	No blister



Accelerated blister test

A) Pull of  $f$  test ( $N/mm^2$ ) : 30 days after coating.  
 B) Accelerated blister test : 1 month concrete dip in the 30°C water.

### CEMKRETE FLOOR COLOR CHART



DEEP GREY



PASSION GREEN



BRICK RED



MISTY GREY



BRIGHT GREEN



BEEP BLUE



STONE GREY



CALM GREEN



CREAM



MID BLUE



CORAL BROWN



BUTTER CREAM

# CHEMICAL RESISTANCE CHART

1)

Product		CEMGUARD V		CEMGUARDE, ER		S-CRETE MF, HF		CEMFLOR E	CEMFLOR ES	S-CRETE AMF, AHF	
		Immersed	Spot	Immersed	Spot	Immersed	Spot	Spot	Spot	Spot	
Chemical											
Acids	Sulfuric acid	20%	○	○	○	○	△	△	○	×	×
	"	40%	○	○	×	△	○	○	○	○	○
	"	60%	○	○	×	×	×	×	×	×	×
	Hydrochloric acid	10%	○	○	○	○	○	○	○	○	○
	"	20%	○	○	○	○	○	○	○	○	○
	Nitric acid	10%	○	○	○	△	△	○	○	△	×
	"	20%	○	○	△	×	×	×	×	×	×
	"	40%	○	○	×	×	×	×	×	×	×
	Acetic acid	5%	○	○	△	○	○	○	○	×	×
	"	10%	○	○	×	△	○	○	○	×	×
	"	20%	○	○	×	×	○	○	△	×	×
	Chromic acid	10%	○	○	○	△	×	×	×	○	×
	"	20%	○	○	△	△	×	×	×	×	×
	"	30%	○	○	×	△	×	×	×	×	×
	Phosphoric acid	5%	○	○	△	×	○	○	○	○	○
	Hypochlose acid	5%	○	○	×	○	×	○	○	○	×
	"	10%	○	○	×	○	×	×	×	○	×
	"	20%	○	○	×	○	×	×	×	○	×
	Formic acid	5%	○	○	△	△	○	○	×	×	×
	Lactic acid	5%	○	○	○	△	○	○	○	△	×
"	10%	○	○	×	×	△	△	×	×	×	
Stearic acid			○	○	○	○	○	○	○	○	
Oleic acid			○	○	○	○	○	○	○	○	
Citric acid	5%	○	○	○	○	○	○	○	○	×	
"	10%	○	○	○	○	○	○	○	○	×	
"	20%	○	○	○	△	○	△	×	△	×	
Alkalis	Caustic Soda	10%	○	○	○	○	○	○	○	○	
	"	30%	○	○	○	○	○	○	○	×	
	Calcium Hydroxide*		○	○	○	○	○	○	○	○	
	Ammonia*		○	○	○	○	○	○	○	○	
Salts	Barium carbonate *		○	○	○	○	○	○	○	○	
	Heavy sodium carbonate *		○	○	○	○	○	○	○	○	
	Sodium bi Carbonate *		○	○	○	○	○	○	○	○	
	Calcium chloride *		○	×	○	×	○	○	○	○	
	Calcium sulfate *		○	×	×	×	○	○	○	○	
	Permanganate	5%	○	×	×	×	○	○	○	△	
	"	10%	×	×	×	×	×	○	×	×	

# CHEMICAL RESISTANCE CHART

2)

Product		CEMGUARD V		CEMGUARDE, ER		S-CRETE MF, HF		CEMFLOR E	CEMFLOR ES	S-CRETE AMF, AHF
		Immersed	Spot	Immersed	Spot	Immersed	Spot	Spot	Spot	Spot
Chemical (20°C)										
Gases	Hydrogen sulfide	⊙	-	⊙	-	⊙	⊙	-	○	-
	Sulfur dioxide	⊙	-	⊙	-	⊙	⊙	-	○	-
	Methyl bromide	○	-	○	-	×	⊙	-	○	-
	Cyanogen	○	-	○	-	×	⊙	-	○	-
Organic solvents	Toluene	×	○	×	○	×	⊙	⊙	×	×
	Acetone	×	△	×	×	×	×	○	×	×
	Xylene	×	△	×	△	×	⊙	⊙	×	×
	Benzene	×	△	×	△	×	⊙	⊙	×	×
	Formalin	⊙	○	⊙	○	×	⊙	⊙	⊙	⊙
	Phenol 10%	×	△	×	○	×	⊙	⊙	×	○
	" 20%	×	×	×	×	×	⊙	⊙	×	×
	Methanol	×	△	×	△	×	⊙	⊙	×	○
	Ethanal	×	△	×	△	×	⊙	⊙	×	○
	Gasoline	△	⊙	○	△	○	⊙	⊙	×	△
Mineral oil	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	⊙	
Household commodities	Animal & vegetable oil & fat	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	Table salt *	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	Sugar *	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	Soy sauce	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	Alcoholic beverage	⊙	⊙	⊙	⊙	○	⊙	⊙	⊙	⊙
	Fruit juice	⊙	⊙	⊙	⊙	○	⊙	⊙	⊙	⊙
	Detergent	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Antiseptic solution	Cresol and soap solution 5%	-	○	○	○	-	-	⊙	-	○
	Invert soap 10%	-	⊙	⊙	⊙	-	-	⊙	-	⊙
	Mercurochrome	-	△	△	△	-	-	⊙	-	△
	Iodine tincture	-	△	△	×	-	-	○	-	△
	Antiseptic alcohol(ethanal 10%)	-	⊙	⊙	⊙	-	-	⊙	-	⊙
	Positive ion surface active agent (500 times solution)	-	⊙	⊙	⊙	-	-	⊙	-	⊙
	Sodium hypochlorite (500 times solution)	-	⊙	⊙	○	-	-	⊙	-	⊙
	Benzyl chromium (300 times solution)	-	⊙	⊙	⊙	-	-	⊙	-	⊙
	Iodoform (1,000 times solution)	-	○	○	○	-	-	⊙	-	○

Criteria. ⊙ Excellent ○ Acceptable △ Acceptable on Condition × Not Acceptable

The above test results are obtained NNK-007 testing method after immersed in chemicals for 28 days at 20°C

\* Saturated Solution

# MISCELLANEOUS PRODUCTS

## 1) FLOOR HARDENER (CEMKRETE)

Floor hardener is applied for monolithic system which enhances wear-resistance of concrete floor-surfaces and reduces dust-formation for heavy traffic area such as warehouse.

Several attractive colors and different system of application are available depending on usage and requirements. CEMKRETE'S floor hardener has several grades Moh's Hardness depending on purpose of floor.

	CEMKRETE NM	CEMKRETE MT	CEMKRETE CB
Moh's Hardness	7-8	8-9	9-9.5

## 2) HEAT PROOF COATING (CEMPROOF CERAMIC)

CEMKRETE'S heat proof coating which is a ceramic hollow sphere combination with high-performance, water-borne acrylic resins. After cures completely in one week it forms an extremely tough, durable, non-yellowing, water-resistant, heat-resistance film that also provides flexibly and ultra-violet stability. Cemproof Ceramic can reflex the solar energy more than 95%.

Heat-proof Test on Metal Sheet (Summer in Thailand)

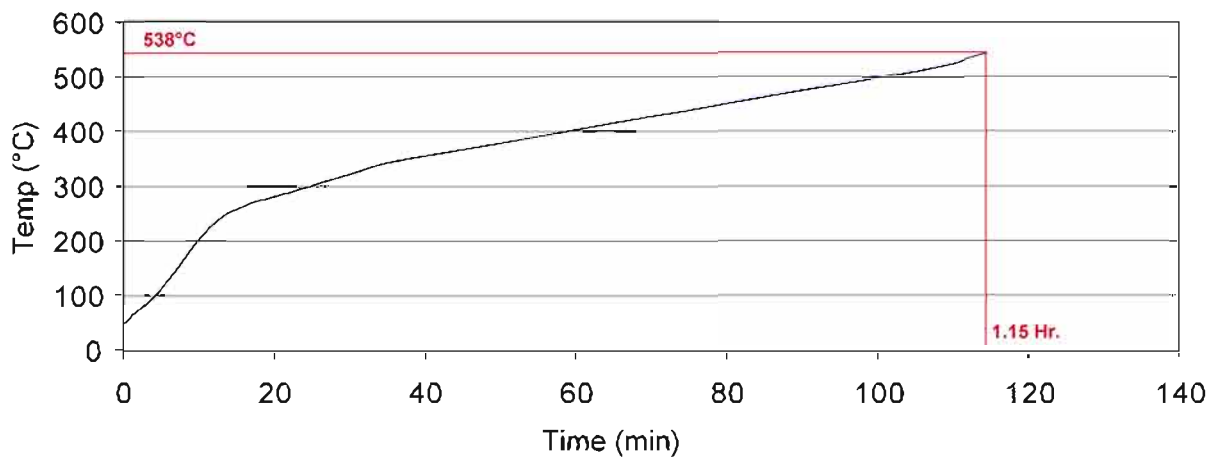


### 3) FIRE PROOF COATING

HYDRATHERM is a fireproof coating intumescent type especially use for protection of steel structure from collapse of due to heat of fire.

Appearance	: White color
Solid contents	: 70%
Density	: 1.30
Drying time : Touch dry	: 60 - 90 min. @ 25°C
	: 30 - 60 min. @ 38°C
Re-coat	: 6 - 8Hr. @ 25°C
	: 2 - 3Hr. @ 38°C
To handle	: 20 - 30Hr. @ 25°C
Drying time : Touch dry	: 6 - 8Hr. @ 38°C

**Fire Test of Hydratherm by ASTM E119 Testing Method  
(H-Beam 300 x 10 x 15, Hp/A = 149, Coating Thickness=487 micron)**



# CEMKRETE OTHER PRODUCTS FOR CONSTRUCTION MARKET

CONCRETE MIXTURE	PRODUCT NAME
<i>Admixture</i>	
Water Reducing Admixture (Plasticizer)	Cemplast 40
Retarding and Water Reducing Admixture	Cemplast 11
High Range Water Reducing Admixture (Superplasticizer)	Cemplast Super S
Air Entraining Admixture	Cemplast AEM
Waterproof Admixture	Cemplast WPM

SURFACE TREATMENT	PRODUCT NAME
Surface Retarder	Surtard B401
Mould Release Agent	Cemform OB
Concrete Curing Compound	Cemkure S

CONCRETE STRUCTURE APPLICATION	PRODUCT NAME
<i>Grout</i>	
Cement-based Non-Shrink Grout	Cemkrou GPP
Epoxy-based Non-Shrink Grout	Cemkrou EP

CONCRETE REPAIR	PRODUCT NAME
Cement-based Repair Mortar	Cemkrete SG
Epoxy-based Repair Mortar	Cemkrete E321
Epoxy-based Putty	Cemkrete E211
Epoxy-based Injection Resin	Cemkrete Injection
Carbonation Protection Coating	
Epoxy FRP Concrete Reinforcement	

JOINT SEALANT	PRODUCT NAME
Polyurethane-based Sealant	Cemflex PU525
Polysulfide-based Sealant	Cemflex PS600
Silicone-based Sealant	Cemflex S100
Acrylic-based Sealant	Cemflex A15
Epoxy and Polyurethane Foam Injection	Cemkrete PUR Foam

WATERPROOFING	PRODUCT NAME
Cement-based Waterproofing	Hydraseal
Crystalline Waterproofing	Crystalkrete
Polymerized Bituminous Liquid Waterproofing Membrane	Cempoo BU15
Polyurethane Modified Liquid Waterproofing Membrane	Cempoo PU90
Acrylic Polymer Liquid Waterproofing Membrane	Cempoo Roofflex
Bitumen Modified Waterproofing Sheet	Cempoo 1500 S
PVC Water stop, Swellable Water stop	Cemstop PVC

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