

Description & Uses

Generic Type : DUOCHEM 7100 is a two-component high solid epoxy that can be used as coating or broadcast with silica sand for a flooring system.

General Properties : DUOCHEM 7100 is highly recommended for superior protection against acids, alkalies, aromatics or areas subject to chemical spillage such as battery storage rooms.

- Excellent adhesion to concrete, steel or wood
- Easy to apply
- Highly resistant to alkalies and acids
- Optional anti-slip finish
- Will cure at temperatures as low as 5°C (41°F)

Application Instructions

Surface Preparations : All concrete surface to receive DUOCHEM 7100 must be cured using an approved curing procedure or curing agent and prepared as below to ensure a substrate free of laitance, grease, oil, wax, paint, curing membranes or any other contaminant.

Concrete : Mechanical cleaning or acid etch, depending on conditions.

Steel : Blast cleaning

Wood : Sandpaper

Application

Mixing :

Stir contents of A and B separately, then add 1 part B to 2 part A per volume, and thoroughly mix until uniform, and proceed immediately with the application. Do not mix a large quantity of material since the pot life will be shortened accordingly.

Primer : Spread a thin and uniform coat with flat squeegee, trowel, or roller. Ensure concrete surface is completely wet showing uniform semi-transparent color.

Coating : Spread a thin and uniform coat with flat squeegee, trowel, or roller. Ensure concrete surface is completely wet showing uniform semi-transparent color.

Covers 6.6~10m²/ℓ

Pour additional material and spread with squeegee, trowel at 3.3~5.0m²/ℓ.

Flooring System : Spread a thin and uniform coat with flat squeegee, trowel, or roller. Ensure concrete surface is completely wet showing uniform semi-transparent color.

Cover 3.8~4.7m²/ℓ.

pour additional material and apply one coat at 1.0~1.3m²/ℓ by squeegee or trowel.

Before material hardens, broadcast clean # 24 or # 30 round silica sand to saturation. Allow to dry and vacuum or sweep off excess sand.

After approximately 12 hours, apply grout coat of DUOCHEM 7100 by squeegee or trowel at 3.8m²/ℓ per coat. Two coats may be needed, depending on required texture.

For heavy traffic areas, two silica sand broadcast coats can be applied.

Precautions

- Consult Material Safety Data Sheet prior to use.
- Expect longer curing time when applied at temperatures below 13°C (55°F).
- Ensure proper ventilation.
- Surface blush may result when applied at a temperature of 5°C (41°F) or lower or, when applied at a temperature of 30°C (100°F) or higher with relative humidity greater than 90%.

April 2013 Replaces March 2009

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APPLICATION INSTRUCTIONS

Technical Information

Color : On request, except for white and off-white

Solids content : by volume 94% ± 2

VOC : 50~60g/l

Pot Life : 25 minutes at 75°F(24°C) and less at higher temperatures. Immediately use material to obtain longest working time.

Mixing Ratio : (by volume)

Primer, Top coat(Grout coat) = DUOCHEM 7100 binder :
PART A : PART B = 2.0 : 1.0

Intermediate coat (Mortar, Mixing aggregates) :
PART A : PART B : PART C = 5.6 : 2.8 : 15.6

Recommended primer : Duochem 7100

Application method : Trowel, squeegee, roller or brush

Recommended thickness :

Coating

- Primer 50 ~ 150µm (2~6 mils)
- Finish coat 200-300µm (8~12 mils)

Flooring system

- Primer 50 ~ 250µm (2~10 mils)
- Base coat 750-1000µm (30~40 mils) + aggregates
or, Intermediate coat (Mortar, Mixing aggregates) 3~6 mm
- Top coat (Grout coat) 1coats at 50~250µm (2~10 mils)
- Top coat (Grout coat) 1coats at 50~250µm (2~10 mils)

Theoretical Coverage Per Mixed Gallon :

12.6 sq. ft. at 120 mils (0.31 sq. m/l at 3 mm)

* Mixing and application will vary and must be taken into consideration when estimating job requirements.

Recoat time : 12 hours at 13°C(55°F)

Curing time : Full cure 7 days at 25°C

Shelf life : 1 year in original unopened container

Cleaning solvent : Carboline Thinner #15

Packaging : 18 liters

Chemical Resistance (ASTM D-1308, spot test, covered)

Chemicals	Conc.	1 Day	5 Days
Acids			
Acetic	25	(1),((5)) [*]	(1),(5) [*]
Benzoic	SOL.	NON AFF.	NON AFF.
Citric	50	((1))	(1)
Lactic	50	((1)),((5)) [*] ,((4))	(1),(5) [*] ,(4)
Hydrochloric	35	NON AFF.	NON AFF.
Nitric	15	((6))	((4)),((6))
Oleic	CONC.	NON AFF.	(1)
Oxalic	SOL.	NON AFF.	NON AFF.
Phosphoric	50	(1),((4))	(1),(4)
Sulfuric	50	((1))	(1)

Alkalis / Salts

Sodium Hydroxide 50 NON AFF. NON AFF.

Mechanics

Skydrol 100 NON AFF. NON AFF.

Solvents

Heptane 100 NON AFF. NON AFF.

Hexane 100 NON AFF. NON AFF.

Mineral Spirit 100 NON AFF. NON AFF.

Toluene 100 NON AFF. NON AFF.

Xylene 100 NON AFF. NON AFF.

Legend :

1: GLOSS REDUCTION	6: SWELLING	():	MINOR EFFECT
2: DISCOLORATION	7: BLISTERING	(()):	BARELY VISIBLE
3: STAINING	8: LOSS OF ADHESION	N.T.:	NOT TESTED
4: FADING/BLEACHING	RECUPERATES UPON DRYING	DESTR:	DESTROYED
5: SOFTENING	+ SEVERE EFFECT	NON AFF:	NO EFFECT

Effects 1 to 4, even without brackets, are only surface alterations, failure is only aesthetic and protection is maintained.

Comments

Cleaning with ethanol (pure or diluted) for sterilization will not create any problems provided the floor is not soaked for prolonged periods.

Precaution

Not recommended for ketone and methylene chloride and the following concentrated acids : sulfuric, nitric and acetic.

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APPLICATION INSTRUCTIONS

Physical Properties

PROPERTIES	TEST METHODS	RESULTS
Compressive strength	ASTM D-695	82 MPa
Flexural strength	ASTM D-790	68 MPa
Tensile strength	ASTM D-638	145 MPa
Deflection Temperature	ASTM D-648	110 °C
Dielectric strength	ASTM D-149	2,000 volt per mil
Water vapour permeability	ASTM D-570	0.06%
Coefficient of linear thermal expansion	ASTM D-696	160 X 10 ⁻⁷ /°C
Bond strength to concrete	ASTM D-4541	2.2 MPa (Substrate failure)
Abrasion resistance	ASTM D-4060 Taber Abraser CS17 Wheels 1000g 1000 cycles	32 mg
Impact resistance	Gardner	24 lb/in ²
Flammability	ASTM D-635-63	1.1 inch/min



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