PRODUCT DATA SHEET

Magcrete™

Rapid-set Concrete Repair

GENERAL DESCRIPTION

DUROMAR MAGCRETE™ is a two-component, rapid setting concrete repair material. It is specially formulated using inorganic Magnesia-based technology which develops strength rapidly and is resistant to ultra-high temperatures. This system is designed to bond to existing surfaces for patching floors, slabs, or other concrete structures. This product has been designed to utilize fine particle reinforcing media to allow shallow/topical patching of concrete that has minor damage, as well as deeper holes and damage. Typical installations include arc and blast furnace floors, smelter floors, flame trenches, as well as cold-climate curing installations like freezer floor patching. This product is designed for horizontal applications. For vertical and overhead applications, use **MAGCRETE VERTICAL™**. All **DUROMAR MAGCRETE™** products are compatible with top coating for enhanced chemical resistance when necessary.

FEATURES

- Easy to mix and use
- Rapid-setting, light traffic ready in minutes.
- Cures in cold weather to -15°F
- Ultra-high temperature resistant to 2000°F

COVERAGE, YIELD, AND PACKAGING

Each kit yields: approximately 0.45 ft^3 (777.6 in^3). Typical coverage for shallow patching is 21.6 ft^2 at ¼" (250 mils) of depth. Each kit contains: (1) 55 lb. bag & (1) Gallon of liquid curing agent. Product is available per kit, or a full skid pallet of 48 individual kits.

STORAGE AND SHELF LIFE

Store in unopened, original packaging in clean, dry conditions. Shelf life when stored in these conditions is 1-year.

MIXING RATIO

(1) full 55 lb. bag to (1) Gallon of liquid curing agent. Partial kit splitting is not recommended with this product.

Registered to ISO 9001

TECHNICAL DATA AND INFORMATION

Typical Properties		
Density	141 lb./ft^3 (2.26 Kg/L)	
VOC Content	0 g/L (less exempt solvents)	
Operating Temperature Range	-15°F to 2000°F	
Operating pH Range	3.0 – 14.0 (consult Duromar)	
Average Air Content	5.4 – 6.0 %	
Physical Strength	Interval	Typical Results
Compressive Strength [psi] (ASTM C109)	1 Hour	5,000
	1 Day	9,000
	28 Days	11,500
Tensile Strength [psi] (ASTM C496)	1 Day	1,000
	28 Days	1,200
Flexural Strength [psi] (ASTM C78)	1 Day	4,500
	7 Days	600
	28 Days	700
Bond Strength to Existing Concrete [psi] (ASTM C882)	1 Hour	1,500
	1 Day	2,000
	28 Days	2,500
Bond Strength to Existing Magcrete [psi] (ASTM C882)	1 Hour	1,750
	1 Day	2,500
	28 Days	3,000
Freeze Thaw (ASTM C666-A)	94% Durability Factor	

WORKING TIME

Working time is dependent on the temperature of the material. The average working time for a mixed kit is 8-12 minutes.

SURFACE PREPARATION

- Existing Concrete surfaces must be sound and fully cured.
- All loose, damaged, and contaminated concrete must removed.
- Remove all oil, grease, wax, or other contamination that would prohibit proper adhesion.
- Concrete should be dry with no standing or pooling water.
- Concrete surface profile should be a minimum of of ICRI CSP-7
- Terminations or perimeters of repairs should be saw-cut to a depth of at least 1".

MIXING & APPLICATION

Before mixing, make sure all surfaces are clean and dry. For porous, damaged, or surfaces subjected to hydrostatic pressure, it is recommended that all surfaces to be coated are first sealed with a thin film (5mils) of **DUROFLOR® SEALER**. This will prevent outgassing and provide for better adhesion.
MAGCRETE can be applied to the **DUROFLOR® SEALER** about 6-8 hours after application of the sealer, as soon as the sealer will not be disturbed by the overcoating process

Use complete units to insure correct mix ratio. Place the Base (B) portion of the Kit into a suitably sized and clean mixing container. Add the Hardener (A) to the Base (B) and mix for about 30 seconds. Once mixed, add sand to obtain the desired consistence, about ½ to ¾ to the total amount of sand recommended for the kit size. Blend until thoroughly wetted, about 1 to 2 minutes. For a dryer mix use more sand, for a more fluid mix use less sand. Material temperature should be between 70º and 95ºF and surface temperature at least 40ºF.

Use a trowel or screed rake to spread the mixture over the desired area. Within 5-10 minutes, broadcast the remaining sand onto the wet surface. The sand is added until rejection and no wet spots are visible. Some additional sand may be required. Clean Sandblast sand maybe used.

- Min. Thickness/Coat (mils) 30
- Max. Thickness/Coat (mils) 2000
- Number of Coats 1-2
- Min. Application Temperature (ºF) 40

CLEANUP

Most solvents and commonly used thinners such as MEK, acetone, xylene, l,l,l trichloroethane, and safety solvents such as Ensolv, etc., can be used for cleaning tools and equipment. However, as many of these materials are flammable or present other safety hazards, the user should read the MSDS for these materials before using. In no event should these materials be used to clean material from the skin, eyes or clothing.

OVERCOATING

Vacuum, sweep, or otherwise remove all loose sand from the above surface. The resulting rough sand textured surface may be coated with a variety of topcoats, depending on the application and additional desired features.

MAGCRETE Overcoating Window

55ºF	70ºF	85ºF
	8-120 hrs.	

CURING @ 70ºF

- Dry to Touch (hours) 8
- Functional Cure (hours) 36
- Full Cure (hours) 120

Registered to ISO 9001

Q/C

The material should be visually inspected just after application and touched up where necessary. Because of the concrete surface, Q/C techniques are limited. Therefore, extreme care must be used when inspecting the surface for imperfections.

FORCE CURING

Force cures are recommended for severe service conditions as both the physical and chemical properties are enhanced. Force curing should not start until material has firmly set.

Recommended Force Cure Schedule:

- Full Cure 4 hours @ 180ºF
- Functional Cure 8 hours @ 120ºF

STORAGE/SHELF LIFE

Store in dry area in closed containers between 50ºF and 110ºF. Shelf life at these conditions is greater than one year.

HEALTH AND SAFETY

READ AND UNDERSTAND ALL MATERIAL GIVEN IN THE MSDS SHEETS BEFORE USING THE PRODUCT.

MAGCRETE DOES NOT CONTAIN ANY FLAMMABLE MATERIAL OF ANY KIND. HOWEVER, THE MATERIAL IS COMBUSTIBLE. IN THE EVENT OF A FIRE, DRY POWDER, FOAM, OR CARBON DIOXIDE FIRE EXTINGUISHERS SHOULD BE USED. FIRE FIGHTERS SHOULD WEAR RESPIRATORS.

USE PROTECTIVE GLOVES AND EYEGLASSES WHEN USING.

USE IN AREAS OF GOOD VENTILATION.

LIMITED WARRANTY

All recommendations covering the use of this product are based on past experience and laboratory findings. Methods or conditions of application and use of the product are beyond our control. We assume responsibility only for the uniformity of our product within normal manufacturing balances.

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