



**Founded, Based and
MADE IN THE U.S.A.**

Premium Cement Based Decorative
and Polishable Topping

DESCRIPTION:

Diamond Cap can be ground and polished for exposed aggregate applications and can be used for Interior or Exterior. Its naturally smooth, hard surface can also be stained or sealed with a suitable coating. Due to its rapid strength gain, some applications can be completed in as little as one day. Diamond Cap's 3-D Polishing System will produce a brilliant, low maintenance, durable surface, suitable for heavy foot and moderate rubber wheel traffic. Strips, saw cuts and stencils can also be used for artistic design elements.

PRODUCT FEATURES:

- "Pour to Floor" in as little as 12 hours
- Does not require grinding, can be stained & sealed
- Maintains healing and pour merging properties for up to 20 minutes
- Ideal for Pumping and Barrel mixing applications
- Addition of aggregates and pigments for limitless design possibilities
- High light reflectivity, ideal for merchandising
- Low maintenance
- Will not contribute to the growth of mold or mildew
- Available in Grey and White
- Can be used Interior or Exterior
- Environmentally friendly - Contributes points to LEED® Certified Projects

SUBSTRATE PREPARATION:

NOTE: Diamond Cap is not a vapor barrier; however the 3-D Polishing System is unaffected by substrate MVER as long as it is being applied over properly prepared, sound concrete. If a coating or floorcovering will be installed over the Diamond Cap, refer to the requirements of those manufacturers regarding substrate moisture limitations. If vapor mitigation is required, an "initial" application of LOCK DOWN must be made per the TDS prior to applying the LOCK DOWN primer coat with sand broadcast.

ALL: Surface must be clean, sound, dry, 50° F and free of oil, gypsum compounds, wax, grease, sealers, curing compounds, urethane, paint, asphalt, loose surface material or any contaminate that will act as a bond breaker. Substrate must have a direct tensile bond test reading of 150+ psi per (ASTM C-1583-04). Do not install over Gypsum underlayment or existing self-leveling screeds. Never use Acid or Mastic Removers on any surface to which a CMP product will be applied.

CONCRETE: Must be fully cured, structural and a minimum of 3000 psi. Weak surfaces, must be cleaned down to solid, sound concrete by mechanical means such as chipping, shot-blasting, grinding or scarifying.

NON-POROUS: Substrate must be sound and fully bonded. Shot-blast Ceramic and Quarry tile substrates. Grind or shot-blast Terrazzo and Epoxy coatings; remove all dust prior to priming.

REQUIRED PRIMING:

LOCK DOWN 100% Solids, Moisture Rated Epoxy, with Full Sand Broadcast. Diamond Cap MUST be applied over the LOCK DOWN with broadcast priming system regardless of whether it will be polished using the **3-D Polishing System**, Coated, Sealed, installed Interior or Exterior. See the LOCK DOWN TDS for full application instructions, guidelines and limitations.

MIXING:

Mix 2 bag batches of Diamond Cap. For each bag first place a maximum 5 quarts of clean, cold water into a CMP mixing drum. Add the bags of Diamond Cap while mixing at full speed with a CMP mixing wand and a heavy duty 1/2" drill (minimum 650 rpm). Mix for 2 minutes or until lump free, adding NO additional water. Keep the mixing wand immersed in the material to avoid air entrainment which can shorten working time and cause pinholes. In hot conditions always ice mix water for best performance.

03 53 00

Cementitious Toppings

3

09 80 00

Floor Finishes

9

PACKAGING:

50 lb. bag : 48 per pallet
2500 lb. "Super Sack" : 1 per pallet

AVAILABLE COLORS:

Grey & White

SHELF LIFE:

6 Months

WATER REQUIREMENTS

5 quarts per 50 lb. bag

COVERAGE: 50 LB. BAG

25 sq. ft. @ 1/4"
16 sq. ft. @ 3/8"
12.5 sq. ft. @ 1/2"

INSTALLATION THICKNESS:

1/4" - 2" Neat, 5" Properly Extended

REQUIRED APPLICATION TOOLS:

CMP-MD Mixing Drum
CMP-MP Mixing Paddle
CMP-GR Gauge Rake
CMP-SP Smoothing Paddle
Measuring pail
Exploded-tip broom / 3/8" Nap Roller
1/2" drill (minimum 650 rpm)
Plastic athletic cleats

INSTALLED WEIGHT (PER SQ. FT.)

2.20 lbs. @ 1/4"

APPLICATION TEMPERATURE RANGE:

50°F - 90°F Note: Above 85°F use ACI Hot-Weather Application Guidelines

SET: ASTM C-191

Flow Time: 20 minutes
Final Set: 60 minutes

Diamond Cap

INSTALLATION:

BARRELING: Diamond Cap is typically applied at 3/8" for polishing applications. Immediately pour the mixed Diamond Cap on the floor in a band and disperse with a CMP gauge rake followed by finishing with a CMP smoother. Plastic athletic cleats should be worn when using the smoother to avoid leaving marks. Smoother marks may be visible after polishing so all finishing work should be done with this kept in mind. Work the smoother in uniform passes detailing around things such as columns and door frames before making long overlapping passes. Never pickup or putdown the smoother in the middle of the floor; always work the tool starting off a wall or transition.

PUMPING: Deep placements and large projects are more efficiently installed with the use of a pump. Contact CMP for instructions, recommended pumping procedures and approved equipment (such as m-tec Duo 2000™).

EXTENSION:

Diamond Cap can be installed from 1/4" - 2" neat and up to 5" with the addition of proper aggregate. Aggregates should be hard, high density and non-absorbent. Decorative options include, crushed stone (Not Limestone), glass, metal etc. Before attempting to use any aggregate test to determine suitability. All aggregate should be clean and dry. Do not use sand or exceed 1 part by volume. If adding aggregate, combine once material is lump free and mix until aggregate is completely coated. Pre-leveling can be done using CMP's Level-1 or 210. Prime for pre-level requires LockDown with sand broadcast.

3-D POLISHING SYSTEM:

Refer to the **Diamond Densifier & Diamond Shield TDS for 3-D Polishing Guidelines & Recommendations**. The TDS also provides recommendations on grinding, polishing, use of aggregates, pigments and other related topics. These are recommendations only, variations in substrate, jobsite conditions, pigments, equipment, abrasives, etc. will create variables. Always do adequate mockups that include all materials, machinery, treatments and techniques that will be incorporated into the project.

CRACKS:

Refer to the LOCK DOWN TDS for the treatment of Non-Working Cracks & Saw Cuts. Working Cracks, expansion and Isolation Joints must be honored through Diamond Cap. Only fill these joints with a flexible urethane or similar type product specifically designed for that purpose.

PRODUCT NOTES:

During application and for first 24 hours after, prevent excessive air movement and drafts but maintain adequate temp. and ventilation. Paper windows if needed to protect material from direct sunlight. These variables can cause a false set, uneven curing patterns and cracking. Diamond Cap is self-curing. No wet curing methods or cure and seals should be used.

Diamond Cap is a durable, low maintenance wear surface designed for heavy foot and moderate wheeled traffic. All forklift tires, pallet jacks and dolly wheels or castors should be non-marring rubber type. Wheels with rocks or nails, protruding from the wheels, metal or hard plastic wheels or the dragging of heavy objects will cause gouging and indentations. Always use adequate protection during construction, fixturing or moving. While stain resistant, Diamond Cap should be protected from spills that could cause staining.

Diamond Cap is a cement based product and as such there is always the potential for cracking. Cracking is not considered a material defect or installation error. Hairline cracking will not cause degradation as long as the material is sound and well bonded.

IMPORTANT LIMITATIONS:

1. It is the responsibility of the contractor to review the complete technical datasheets of CMP products referenced above as more detailed information may be required. The information provided above acts only as a general guideline and may vary based on jobsite conditions.
2. Expansion or Isolation joints and working cracks must be reflected through Diamond Cap.
3. Diamond Cap is self-curing. No wet curing methods or cure and seals should be used.
4. On new concrete always test for Cure and Seals which inhibit bond. If Cure and Seals are present they must be removed by mechanical means prior to applying Diamond Cap.
5. Do not use over materials containing Asbestos.
6. Cooler temperatures, inadequate ventilation and higher humidity can extend drying times.
7. It is the responsibility of the contractor to determine the suitability of this product for the desired application.
8. While a 650 rpm drill does work, we do recommend a drill that is 850 rpm's. This higher rpm will allow for faster, more uniform mixes.

READY TIME:

Screen, Stain & Seal 4 hours
Grinding and Polishing 16 hours
Moisture Sensitive Adhesive 16 hours
Epoxy Coatings up to 20 mils 24 hours
Epoxy Coatings over 20 mils 3-5 days

Note: Cooler temps, inadequate ventilation, higher humidity and use of pigments can extend Ready Time.

COMPRESSIVE STRENGTH: (ASTM C-109)

4 Hours	3000 psi	20.7 MPa
1 Day	5000 psi	34.5 MPa
28 Days	6100 psi	42.0 MPa

FLEXURAL STRENGTH: (ASTM C348)

28 Days	>1150 psi	7.9 MPa
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TENSILE STRENGTH: (ASTM C 190)

28 days	>570 psi	4.0 MPa
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Diamond Cap

COVERAGE CHART: (GUIDELINE - MAY VARY DEPENDING ON SUBSTRATE CONDITIONS)

Square Footage	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/2"	2"
100	4	6	8	10	12	14	16	24	32
500	20	30	40	50	60	70	80	120	160
1000	40	60	80	100	120	140	160	240	320
2000	80	120	160	200	240	280	320	480	640
3000	120	180	240	300	360	420	480	720	960
4000	160	240	320	400	480	560	640	960	1280
5000	200	300	400	500	600	700	800	1200	1600
10,000	400	600	800	1000	1200	1400	1600	2400	3200

Eligible LEED credits : 5
 Recycled Content (MR 4.1 & 4.2)
 2 Points

Regional Materials (MR 5.1 & 5.2)
 2 Points

Low Emitting Materials (EQ 4.1)
 1 Point

STORAGE:
 Store in cool dry place. Tightly seal package and do not expose to sun.

FLAMMABILITY: (ASTM E-84)
 Flame Spread: -0-
 Fuel Contribution: -0-
 Smoke Development: -0-

VOLITALE ORGANIC COMPOUNDS
 0 g/l

CLEAN UP:
 Clean tools with water immediately after use or by mechanical means once dry.

HEALTH AND SAFETY:
 Always refer to the Safety Data Sheet (SDS) prior to using this product for full Health, Safety and Handling guidelines. SDS sheets are available by calling 267.522.8000 or you can visit www.cmpsp.com

For Professional Use Only
KEEP OUT OF REACH OF CHILDREN

