

Exposed Aggregate Topping

DESCRIPTION • *TopCrete 700* is a polymer modified, colored, cement-based floor topping containing decorative aggregates such as quartz, river pebbles or crushed marble. *TopCrete 700* is provided as a dry mix powder that is blended on site only with water and overlaid in 10-15 mm up to 25 mm thickness (including adhesive layer) over concrete and masonry surfaces. While the topping is in the green stage, the surface is washed and/or acid-etched to expose the decorative aggregates and produce a textured surface. *TopCrete 700*'s matrix is available in 48 standard colors, with a wide selection of decorative aggregates.

USES • *TopCrete 700* is designed for use as a decorative topping for resurfacing concrete horizontal and vertical surfaces. *TopCrete 700* is pedestrian traffic areas where a lightly textured surface with excellent anti-skid properties is required. *TopCrete 700* is also suitable for use as a decorative render finish to swimming pools and water features, where it is directly applied to the pool's concrete shell. *TopCrete 700* produces a hard-wearing, abrasion-resistant topping for hardscapes and interior and exterior walls.

ADVANTAGES •

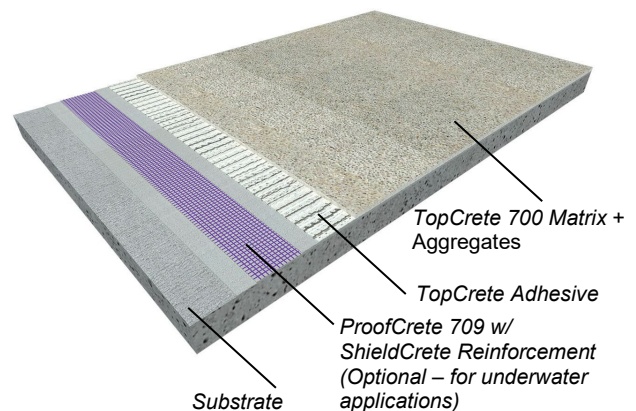
- ✓ Produces an attractive, textured surface.
- ✓ Endless selection of colors.
- ✓ Excellent anti-skid properties.
- ✓ High abrasion resistance.
- ✓ High chemical resistance.
- ✓ Single component, just add water.
- ✓ High polymer modification for crack resistance and superior adhesion.
- ✓ High strength and durability.
- ✓ Suitable for interior and exterior surfaces, horizontal and vertical.

COVERAGE • Coverage will vary depending on substrate profile, thickness of installation, and aggregate size and content. Coverage rate is approximately 1.1 sqm per 25 kg pre-mixed bag containing binder and aggregates at 10 mm thickness including the 2-3 mm adhesive coat. For the adhesive coat, a 25 kg bag will cover approximately 6-8 sqm at 2 mm thickness.

LIMITATIONS • *TopCrete 700* must be applied over a structurally sound and non-moving substrate. Do not apply in areas subject to negative hydrostatic pressure. All joints in the existing substrate must be extended through the full depth of the *TopCrete 700* topping, allowing for the simultaneous expansion and contraction of the substrate and the topping. Moving Cracks or joints in the existing substrate will

reflect through *TopCrete 700* overlay. Existing concrete surfaces must be cured prior to application of *TopCrete 700*. Do not apply if ambient temperature is expected to drop below 5°C during installation or in the proceeding 48 hours, or if rain is expected in the proceeding 24-hour period after application. Do not mix or apply when ambient temperature is expected to exceed 40°C. Avoid application under hot and/or windy conditions. Temporary protection from weather and other damage must be provided at all times until entire job is completed. Some aggregates are expected to come loose during the initial curing stage; this is a normal occurrence.

SYSTEM DETAIL •



PHYSICAL PROPERTIES •

Test	Result
Flexural Strength ASTM C 580 7 days 28 days	5.0 MPa 5.9 MPa
Compressive Strength ASTM C 579 7 days 28 days	11.6 MPa 15.8 MPa
Tensile Strength ASTM C 307 7 days 28 days	2.6 MPa 3.0 MPa
Coefficient of Thermal Expansion ASTM C 531:2000	5.7 x 10 ⁻⁶
Length Change ASTM C 157M:2006 @ 3 days @ 7 days @ 14 days @ 28 days	0.029% 0.029% 0.034% 0.035%
Wetting Expansion ASTM C 157 Water storage @ 28 days Water storage @ 56 days	0.029% 0.048%
Abrasion Resistance ASTM C 1353 TopCrete 700 w/ Quartz Concrete	1,065 mg 2,114 mg

Drying Shrinkage ASTM C 531:2000	0.147%
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SURFACE PREPARATION • All bases must be fully cured, sufficiently rigid, and clean of any surface contamination such as oil, dirt, grease, coatings, paint, curing compounds, and laitance that may prevent proper adhesion. Dense, smooth surfaces, and those retaining excessive amount of form release agent can cause delamination from the base and must be prepared by shot blasting or grinding. Any painted or coated surfaces should be sandblasted, shot blasted and/or grinded to remove existing coatings. Use of detergents or soap is not recommended as they may leave a film that can cause bonding failure. Efflorescence on the concrete substrate may be treated with an acid wash; insure that the surface is then completely neutralized with Sodium Bicarbonates then thoroughly washed.

Concrete surfaces must be completely dry and free of any moisture. Concrete patching and repairs may be performed with *PatchCrete 101 Multi-Purpose Patching Compound* or equivalent at least one day prior to application; extensive repairs require a week for curing of the patching compound. The base should be straight, true to line, and plane.

Curing agents, sealers, and coatings on the concrete substrate must be completely removed and the surface textured by shot blasting or grinding. Moisten the dry and clean concrete surface just before application with a light mist spray of clean potable water. Do not saturate or allow any water to puddle.

Surrounding areas should be covered and protected from material spills and equipment contact. Rope off work area, remove surrounding vehicles, and close off to traffic.

Under all conditions, the substrate must be primed as outlined below with *TopCrete Adhesive*. The *TopCrete 700* topping mixed with aggregates is then applied on top of the wet surface of the primer coat. Never apply the topping on a dry layer of the primer surface; application on a dried layer may lead to delamination of the overlay. Please refer to the relevant CCC technical data sheets for installation instructions.

MIXING • Mixing should be completed by mechanical means by using a high-speed power drill fitted with a proper mixing blade designed for thick materials, such as a rapid set mixer. Always add clean potable water first.

TopCrete Adhesive is provided in a dry mix powder that is ready to use by mixing with water. Use approximately 6 liters of water per 25 kg bag. Let slack 5 to 10 minutes, stir occasionally during use.

Do not re-temper. When properly mixed, notch trowel ridges will stand little or no slump.

For the body coat containing the binder and aggregates, add about 2.2 liters of clean potable water to the mixing container. Slowly add the powder while mixing at high speed and continue mixing for two minutes. Add the aggregates to the mix and mix at slower speed to prevent damage to the glass beads. Adjust the water ratio slightly up to a total water content of 2.5 liters to obtain the proper consistency if necessary, keeping in mind to maintain a thick consistency. The mix has a short pot life and must therefore be mixed and poured on the substrate quickly; mixing should not take more than 3-4 minutes.

APPLICATION • Application temperatures should be between 5°C and 40°C; do not apply under direct sunlight. It is highly recommended to test a small area to ensure bonding ability and satisfaction of appearance before complete application. It is recommended to apply in a total system thickness of no more than 10-12 mm to obtain proper aggregate exposure.

Install all design elements (divider strips), if required, prior to application of *TopCrete* system. Aluminum, stainless steel, brass, zinc, or plastic strips can be used to outline the design or separate different colors; plastic strips are recommended due to their low thermal expansion coefficient. The strips must be securely fastened to the substrate. These strips can be used as a guide for the screeding process. Alternatively, removable formwork may be used for construction joints and for separating different color mixes.

It is highly recommended to water-flood old concrete substrates on the day prior to application. On the day of application lightly mist the surface of the concrete; do not allow the water to puddle on the surface of the substrate. Apply the *TopCrete Adhesive* using a notched trowel in 2-3 mm thickness. After a few minutes of mixing, pour the entire contents of the binder-aggregate mix on the still tacky adhesive surface and spread around using an aluminum straight edge or steel trowel; initial application must be completed within a short period of time to avoid stiffening of the materials. Never apply the topping on a dry coating of primer layer; application on a dried coating may lead to delamination of the overlay. Smooth out the surface with a rounded ends steel trowel. Troweling will bring up the paste and help compact the mix. Scrub off excess paste by scrapping with the trowel standing on its edge if necessary.

Curing: *TopCrete 700* is self-curing; do not water cure.

Aggregate Exposure: Allow the *TopCrete 700* layer to stiffen slightly, then using a wet sponge lightly rub the surface to remove the top layer of the paste and

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reveal the aggregates. The washing must be done gradually in order to avoid excessive exposure and dislodging of the aggregates. Erect proper scaffolding on horizontal applications to allow workers to reach the floor without having to step on it until sufficiently hard. Light acid washing may be used the next day to clean up any residual paste on the aggregates.

SEALING • For trafficable flooring applications it is highly recommended to seal the topping in order to protect it against staining. Use one of CCC's topical sealers such as *A-Z Ultra Sealer*, *A-Z Mega Sealer*, or *ElastoCrete 212*. Please refer to the relevant CCC technical data sheets for instructions. Sealed surfaces should be inspected periodically for traffic-worn areas and re-sealed as necessary. For applications where the topping will be permanently immersed in water, application of a sealer is not necessary.

CLEANING • Clean all tools and equipment promptly with clean water.

CURING • *TopCrete 700* is designed to be air cured only; DO NOT WATER CURE. Under hot, dry and/or windy, the topping should be moistened by light spraying and covered with polyethylene plastic sheeting.

START-UP PROCEDURE FOR POOL APPLICATIONS • The pool must be filled with water immediately after the installation of the render is completed:

1. Full pool to full capacity so that the render is completely submerged in water. The filling process must take place without interruption.
2. Turn on the pool's pump and engage the backwash mode to wash the filtration system. Allow to operate for 24 hours.
3. For a pool of 50,000 liters add 7 liters of liquid chlorine, 1 liter of hydrochloric acid, and 2 kg of stabilizer.
4. Run the filtration system for 24 hours after which add 2 kg of buffer.
5. Broom the pool with a nylon brittle brush, allow any sediments to settle over the next 8 hours, then vacuum the pool's surface.
6. Check the chemical balance of the water and make sure it is within the following range:

Parameter	Recommended Range
pH	7.2 - 7.8
Total Alkalinity mg/L	80 - 120
Calcium Hardness mg/L	150 for first 12 months 100-250 after 12 months
Free Chlorine	1.5 - 3.0 PPM
Stabilized Pools (Cyanuric Acid)	2.5 - 4.0

7. Repeat the brooming and vacuuming process after 5 days.
8. For salt water pools: add salt as per the chlorinator manufacturer's recommendations after 28 days of operation. Broom the salt continuously until completely dissolved to prevent it from sitting on the render's surface. After 8 hours switch on the salt-chlorinator cell.
9. Regular checking of the pool's chemistry levels should take place at least once a week.

DOs AND DON'Ts

- Do not fill the pool with soft water.
- Do not enter the pool until it is completely filled and the chemistry levels balanced.
- Do not chlorinate the pool until the water's pH and carbonate alkalinity are within the acceptable range.
- Do brush the pool three times a day for the first three days and twice daily for the next ten days, after that brush once a week. Use only nylon bristled pool brushes.
- Do wait 14 days before turning on the heating system; monitor the chemical balance closely.

STORAGE & SHELF LIFE • Keep material covered and off the ground to prevent exposure to moisture. Store in a dry, covered area away from direct sunlight. Under recommended storage conditions and when stored in original unopened packaging, expected shelf life is 12 months from date of purchase.

SAFETY PRECAUTIONS • KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY. CONTAINS CEMENT AND SILICA (QUARTZ). Portland cement and silica based products present health hazards. May cause delayed lung injury (silicosis). Irritating to eyes and skin. Use in adequate ventilation and do not breath dust. Extremely fine material, always use a NIOSH/MSHA TC 21C approved dust mask when handling, especially during spray applications. Use neoprene gloves, safety goggles, and a dust mask when handling. FIRST AID: Eyes – Do not rub eyes, immediately flush with fresh water. Skin – Wash with soap and water. Inhalation – If experience difficulty breathing or if inhaled, move to fresh air. If symptoms persist, seek medical attention.

PACKAGING • 25 kg pre-mixed kit containing the binder and graded aggregates. *TopCrete Adhesive* is available in 25 kg bags.

SUGGESTED SHORT FORM SPECIFICATIONS • All architectural surfaces designated in the plans or specifications as having a lightly-textured exposed aggregate topping or sandcrete finish shall have CREATIVE CONCRETE CONCEPTS TopCrete

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700™ installed in accordance with manufacturer technical data sheet and written instructions. The substrate shall be primed with CREATIVE CONCRETE CONCEPTS TopCrete Adhesive Coat™ in 2-3 mm thickness, applied with a notched tile glue trowel in accordance with manufacturer technical data sheet and instructions. The topping shall be CREATIVE CONCRETE CONCEPTS TopCrete 700™ in color [*select from CCC Standard Color Chart*] with aggregates as per approved sample. The surface shall be washed to expose the decorative aggregates. All finished surfaces must be sealed with CREATIVE CONCRETE CONCEPTS [A-Z Ultra Sealer™, A-Z Mega Sealer™, ElastoCrete 212] in accordance with manufacturer technical data sheet and instructions. All products shall be manufactured by CREATIVE CONCRETE CONCEPTS, Sharjah, UAE or Amman, Jordan; info@tex-crete.com.

Creative Concrete Concepts

PO Box 925794, Amman 1110, Jordan; Tel +962-6-487-4078, Fax +962-6-488-9133 • PO Box 91234, City of Industry, CA 91715-1234, USA; Tel +1-909-266-0709, Fax +1-909-266-0700 • PO Box 31017, Sharjah, UAE; Tel +971-6-532-1119, Fax +971-6-532-8833
