

# TopCrete 220

## Micro Topping Skim Coat



**DESCRIPTION** • *TopCrete 220 Micro Topping Skim Coat* is a high performance single component polymer modified, colored, cementitious micro topping that can be troweled, sprayed, brushed, or roll-applied on a variety of horizontal and vertical surfaces to create a seamless industrial concrete look.

**USES** • *TopCrete 220* is designed as a decorative finish to top, color, tint, repair, restore or antique exterior & interior floors & walls ranging from residential to heavy commercial. *TopCrete 220* is typically applied in thin layers of a fraction of a millimeter each by steel trowel or squeegee and layered to achieve larger thicknesses, simulating the look of concrete floors. *TopCrete 220* can also be acid stained with *A-Z ChemStain* for a more color variegated appearance. *TopCrete 220* may also be applied on vertical surfaces by trowel to produce an antico stucco or concrete finish that is weather resistant and suitable for interior and exterior application; it may also be applied by roll as a cement-based paint. *TopCrete 220* is ideal for restoring existing concrete floors or for unifying the appearance of concrete surfaces. When applied by spray gun, *TopCrete 220* is used for fogging and antiquing effect on faux rock work.

**ADVANTAGES** •

- ✓ Single component – just mix with water.
- ✓ High abrasion & impact resistance.
- ✓ Crack resistant.
- ✓ Superior adhesion on a variety of surfaces.
- ✓ Exterior and Interior applications.
- ✓ Self-priming.
- ✓ Self-curing & fast drying.
- ✓ UV Resistant.
- ✓ Wide range of application techniques.
- ✓ Available in 40 standard colors.

**COVERAGE** • The coverage will vary depending on application technique, surface profile, and water mixing ratio. Typically a 20 kg bag will yield 30-50 sqm when applied by trowel, or 60-80 sqm when applied by squeegee. Test trials are recommended to accurately estimate yield for any given application technique.

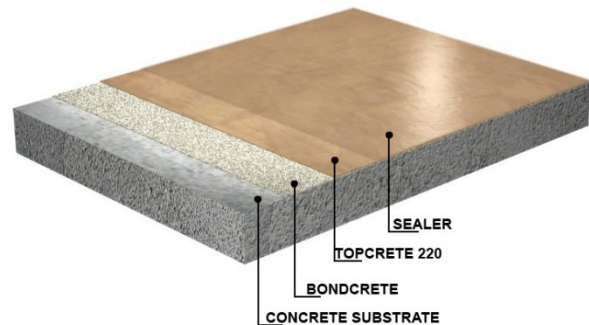
**LIMITATIONS** • On all flooring applications, the surface must be sealed to protect against staining. If the micro topping is to be chemically stained, it is highly recommended to allow it to cure for at least 5 days.

Where thicknesses larger than 1 mm are desired on flooring applications, *TopCrete 220* must be layered

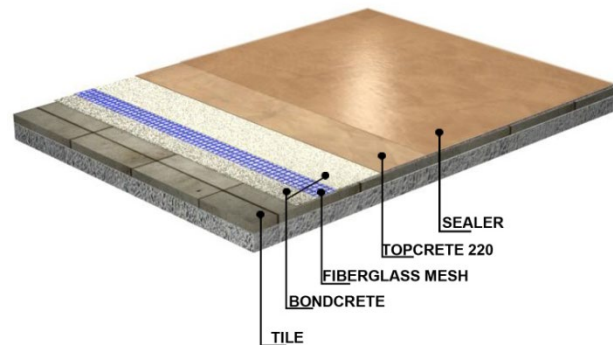
in several passes, allowing each layer to dry fully for a minimum of 3-4 hours before applying the next layer. Do not apply if ambient temperature is expected to drop below 7°C, or if rain is expected in the proceeding 24-hour period after application. Do not apply in direct sunlight, or when temperature will exceed 40°C.

**SYSTEM ILLUSTRATION** •

Installation on Concrete Floor



Installation on Tiled Floor or Concrete w/Cracks



**PHYSICAL PROPERTIES** •

|   |  |
|---|--|
| Pull Off Adhesion Strength – ASTM 4541<br>w/ BondCrete full system                | 2.62 MPa<br>(substrate failure)                      |
| TopCrete 220 only   | 4.03 MPa<br>(substrate failure)                      |
| Surface Hardness – EN 13892-6:2002)   | 318 N/mm <sup>2</sup>                                |
| Abrasion Resistance<br>ASTM D 4060<br>EN 12808:2-2002<br>EN 12808:2-2002 Concrete | 204 mg<br>216 mm <sup>3</sup><br>854 mm <sup>3</sup> |
| Compressive Strength - ASTM C109<br>7 days<br>28 days                             | 20.7 N/mm <sup>2</sup><br>32.3 N/mm <sup>2</sup>     |
| Flexural Strength - EN 12808-3:2002   | 2.13 N/mm <sup>2</sup>                               |
| Indentation Resistance – EN 1534:2010   | 9.2 kg/mm <sup>2</sup>                               |

|   |   |
|---|---|
| Impact Resistance<br>ASTM D 2794<br>BS EN 6272  | 2.7 kg·m<br>No failure to 1.5 m<br>height of impact |
| Slip Resistance (w/ ElastoCrete<br>212 matte final coat) – BS EN<br>13036-4<br>Dry<br>Wet | R13<br>R11  |
| Crack Bridging – EN 1062-7  | 1.1 mm  |
| Water Vapor Transmission – EN<br>12086:1997   | 5.11 g/m <sup>2</sup> /24 hr,<br>Class 1            |
| Depth of Water Penetration Under<br>Pressure – BS 1881: Part 111<br>(Full system)         | Nil   |
| Fire Reaction – BS EN ISO<br>11925-2,   | Flame spread<br>index 0                             |
| Thermal Conductivity – ASTM E<br>1530-11  | 0.41 W/m·K  |
| Indoor Air Quality – BS EN 60079-<br>29-2:2015  | OSHA air quality<br>compliant                       |

**SURFACE PREPARATION** • All bases must be cured, sufficiently rigid, and clean of any surface contamination such as oil, dirt, grease, coatings, curing compounds, and laitance that may prevent proper adhesion. If necessary, clean the surface by shot blasting, scarifying, or light grinding. Dense, smooth surfaces, and those retaining excessive amount of form release agent can cause delamination from the base and must be prepared by mechanical means such as light grinding. Any painted or coated surfaces should be sandblasted or grinded to remove existing coatings. If detergents or soap are used insure that the substrate is thoroughly washed with clean water to prevent the formation of a film that can cause bonding failure.

Since *TopCrete 220* is a fine coating, the concrete substrate must be levelled to the required tolerance before installation. Fill low areas in the substrate with a concrete patching material such as *PatchCrete 101* or equivalent. If the concrete substrate is highly porous or absorptive or to increase the bonding between the substrate and the patching material, prime the surface of the concrete with *A-Z Primer Bond* or *A-Z Hi Bond*.

Surrounding areas should be covered and protected from material spills and equipment contact. Rope off work area and close off to traffic and other trades until after the sealing stage.

All cracks larger than hairline shall be considered as moving and must be filled with *PatchCrete 102* or equivalent cement-based crack filler. All delaminated and spalled areas of concrete should be repaired prior to application with *PatchCrete 101 Multi-Use Repair Mortar*. Remove all unsound concrete. Patches shall be flush with the surrounding surface and shall match the texture of existing surfaces. If the concrete substrate is highly porous or of questionable integrity, it may be primed with *A-Z PrimeBond*.

For old concrete surfaces, it is recommended to water the surface of the concrete at least one day before application of the topping. Do not apply excessive amounts of water that might cause moisture to be trapped in the concrete. If applying over polished surfaces such as cementitious terrazzo tile or power trowelled concrete surfaces, it is recommended to open the pours of the substrate by light grinding or shot blasting. Make sure to thoroughly clean the surface from any resulting debris or dust by washing with clean water.

*TopCrete 220* may be applied directly on well prepared and level concrete floors or plastered walls with proper surface profile and texture. If the substrate is observed to have imperfections or small holes, apply one or two coats of *BondCrete Bonding Slurry* by magic trowel or squeegee for floors and a coat of *FoamFix ST Base Coat* for walls.

For application on cementitious tiles and extensively patched concrete surfaces, it is recommended to embed fiberglass mesh between the two coats of *BondCrete*. Use high tensile strength fiberglass mesh such as *ShieldCrete SD* or *InsuCrete Standard* mesh, or equivalent high-quality fiberglass mesh. Insure that the fiberglass mesh is not ghosting through the base layer before applying the micro topping.

**MIXING** • Mixing should be done with a drill mounted rapid set-type mixer. Always add clean potable water first. Mixing duration should last for 2 to 3 minutes to insure proper color and material dispersion within the mix. The water to powder mixing ration depends on the method of application; typically for trowel application powder to water ratio varies from 1:2 to 1:3. Refer to the APPLICATION section for instructions.

**APPLICATION** • Application temperatures should be between 5°C and 40°C. Always test a small area to ensure bonding ability and satisfaction of appearance before total application. *TopCrete 220* may be applied by sponge, brush, roll, spray, or trowel. The ideal method for dosing water is parts by volume.

Sponge, Brush, and Roll Application:

*TopCrete 220* can be sponged, brushed, or rolled on using a short hair roller for smooth surfaces, or ¾” nap for rough textured surfaces. Generally, the higher the amount of water, the more transparent the finish will be. Adjust the amount of water as needed for workability.

Spray Application:

*TopCrete 220* can be sprayed using a gravity feed air spray gun, ideally having a 2.8Ø nozzle. Warning: personnel must wear an approved dust respirator while applying *TopCrete 220* by spray. Typically, the *TopCrete 220* powder might have to

be sieved through a fine fabric to remove coarse components in order to prevent clogging of the spray nozzle. Generally, one part *TopCrete 220* to at least three parts water is required.

### Steel Trowel Application:

*TopCrete 220* can be applied by steel trowel for a strong, high-wearing layer with color variations. The mixing ration can vary widely depending on the desired effect and the area of application. For application on vertical surfaces, a slightly thicker consistency is required; mix the powder to water in a 2:1 to 3:1 ratio to achieve a workable paste.

For smooth trowel finished flooring applications, it is recommended to first apply one or two coats of *TopCrete 220* by squeegee or magic trowel; use a 1:2 water to powder mixing ratio. Before applying the final smooth troweled layer, remove any ridges or marks from the squeegee or magic trowel using the edge of the trowel. Apply the final coat with a stainless-steel trowel; the more the surface is troweled the more color variations will appear. It is recommended to sand the final troweled surface the next day with medium to fine sandpaper to bring out the highlights of the color variation. If color variations are not desired, use a magic trowel for the final finish coat.

For vertical applications, *TopCrete 220* may be applied by roll as a weather resistant cement-based paint. It can also be applied directly on plastered walls or fair-faced concrete by trowel in a single color or multi colors to produce an antico stucco finish that is suitable for interior or exterior applications; sand with a fine sandpaper to produce an elegant sheen.

**CURING** • Do not water cure. *TopCrete 220* is self-curing. *TopCrete 220* dries (to touch) in approximately 30 minutes. Horizontal surfaces can be opened to minimal traffic in 2 hours and opened to foot traffic after 24 hours; apply a sealer before opening to regular traffic. Cooler temperatures may lengthen curing time.

**SEALING** • It is highly recommended to seal the surface of *TopCrete 220* against staining and absorption, particularly on flooring applications. Use *A-Z Ultra Sealer*, *A-Z Mega Sealer*, *ElastoCrete 212*, *EpoCrete 100W*, or an equivalent. *TopCrete 220* must be allowed to cure for a minimum of 24 hours before sealing. Sealed surfaces should be inspected periodically for traffic-worn areas and re-sealed as necessary.

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

**STORAGE** • Keep material covered to prevent exposure to moisture. Store in a dry area.

**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 breathe 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 bag, 10 kg and 20 kg pails.

**SUGGESTED SHORT FORM SPECIFICATIONS** • All architectural concrete surfaces designated in the plans or specifications as having a micro topping or skim coat surface shall have CREATIVE CONCRETE CONCEPTS *TopCrete 220™* installed in accordance with manufacturer technical data sheet and written instructions. The surface must be primed with CREATIVE CONCRETE CONCEPTS *BondCrete™* applied in two coats in accordance with manufacturer technical data sheet and instructions. *TopCrete 220™* base color shall be [select from CCC Standard Color Chart]. The topping shall be placed on a structurally sound, rigid, clean, and level concrete surface free of cracks and with properly laid out joints. The topping shall be finished to a smooth trowelled surface as outlines in the manufacturer's data sheet as recommended by manufacturer to achieve the desired finish. All finished surfaces must be sealed with CREATIVE CONCRETE CONCEPTS *A-Z Ultra Sealer™*, *A-Z Super Sealer™*, *A-Z Mega Sealer™*, or *ElastoCrete 212™* in [glossy or matte] grade and in accordance with manufacturer technical data sheet and instructions. All products shall be manufactured by CREATIVE CONCRETE CONCEPTS, Sharjah, UAE and 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 +1-909-266-0711 • PO Box 31017, Sharjah, UAE; Tel +971-6-532-1119, Fax +971-6-532-8833