METHODOLOGY

TOPCRETE METHOD STATEMENT

PROCESS:

1- Receive the site clean from any debris.
2- Limit access to work area by cordoning off the perimeter of the work zone.
3- Establish Elevation points according to required slope (minimum recommended 1 %)
4- Form edges according to design.
5- Place steel re-enforcement grid as per design requirements. Steel to continue between different pours except at expansion joints.
6- Place steel rings around existing manholes or openings if any.
7- Pour concrete (350 Kg. Cement per cubic meter) with an average thickness as required.
8- Spread and straighten the concrete according to slope.
9- Supply & Apply TopCrete 200 Color hardener in the selected color by using the dry shake method according to material specs.
10- Bullfloat the hardener in the concrete.
11- Supply and apply TopCrete 300 powder release agent or TopCrete 400 liquid release agent (selected complimentary color).
12- Perform the stamping according to the selected pattern.
13- Saw Cut control Joints to 1/4 the slab thickness as per ACI standards.
14- Wash slab to provide varied antique look and remove excess release agent.
15- Spray AZ SuperTop Acrylic Sealer (Works as Curing Agent as well) once slab is dry.
16- Wait at least 48 hours before use.

TopCrete Installation remarks

Sub-grade Preparation: The sub-grade on which TopCrete is to be installed should be well drained and have adequate and uniform load-bearing characteristics. To reduce cracking, it should be graded so that the thickness of the concrete will be uniform. At the time of concreting, it must be moist, completely consolidated, and free of dirt or frost. If TopCrete is to be installed on top of existing concrete slabs, expansion and other joints should be followed on the TopCrete slab.

Protection: Care must be taken not to contaminate surrounding areas with "Toss on Color". It may be difficult or impossible to remove from finished surfaces.

Forming: Forms surrounding each pour must be installed according to agreed upon slopes draining the water away from entrances and toward floor drains if existing. Minimum slope should be 1%.

Steel reinforcement: In general slabs on well compacted grade do not require steel re-enforcement. In Pedestrian areas 6 mm steel reinforcement if required by design should be placed at maximum 30 cms on center where necessary. Steel reinforcement may not be necessary and can be replaced with Fibermesh reinforcement if pouring on top of well compacted (procto 95 at least) sub-base or existing concrete slabs adequately reinforced.

Concrete Mix Design and placing: Concrete should be delivered to the site in transit mixers if possible. In areas where the TopCrete slab is below grade,

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adequate access wells and ventilation is required to allow the concrete to set. Site batching is recommended if timing and access are a concern. The concrete should have a minimum of 8 cm in thickness depending on load conditions & use if placed on grade. For concrete topping on top of existing concrete slabs, concrete could be a minimum of 6 cm in thickness. The concrete mix should contain a minimum of 6 sacks (300 kgs.) of cement per cubic meter of concrete. All fine and coarse aggregates must be non reactive. The water content should be the minimum amount practical, and the slump should be between 100 mm and 120 mm. A normal or retarded set, water reducing admixture may be used. The concrete mix must not contain any admixture or additive that contains calcium chloride. During cold-weather concreting, a non chloride accelerator may be used. No high range water reducing admixtures (super plasticizers) should be added. For additional protection against shrinkage cracks fibers could be optionally added to the concrete mix. Placing and finishing of the concrete should be as per ACI recommendations.

SUB-GRADE PREPARATION:

The sub-grade should be well drained and have adequate and uniform load-bearing characteristics. To reduce cracking it should be graded so that the thickness of the concrete will be uniform. At the time of concreting, it must be moist, completely consolidated, and free of dust. If necessary, the sub-grade should be dampened with clean water in advance of concreting. Concrete should not be placed over freestanding water or muddy, frozen, or soft spots.

CONCRETE MIX DESIGN:

The concrete should contain a minimum of 300 kg. of cement per cubic meter of concrete, All fine and coarse aggregates must be non reactive (free of deleterious particles). The water content should be the minimum practicable, and the slump should not exceed 100mm. A normal or retarded-set, water-reducing admixture may be used. An air-entraining admixture complying with ASTM C 260 should be used in all concrete flatwork that will be subject to freeze / thaw cycles and as specified or required by the engineer for workability or durability. The concrete mix must not contain any admixture or additive that contains calcium chloride.

CONCRETE PLACING:

Surrounding areas, landscaping, and adjacent surfaces should be protected. Weather conditions should be considered when planning installation, climatic and other conditions would affect the number of finishers required. When concrete is placed in sunny-hot windy weather, wind breaks may be needed. Precautions should be taken to prevent plastic shrinkage cracking resulting from excessively rapid drying at the surface.

Before the appearance of excess moisture or bleed water, the surface should be screeded to the finished grade specified by the architect, and wood-floated to the required flatness and level. Exterior concrete should be sloped adequately for proper drainage, normally a minimum of 1 cm/m. When the concrete is air-entrained, floating should be delayed to minimize stickiness.

Color Hardener: TopCrete 200 Color Hardener is spread using the dry shake

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method. A Minimum of 2.5-3 kg/m2 is recommended. Light colors (ex. Beige) might require more. When no excess "bleed water" is on the surface apply 70% of the TopCrete 200 Color Hardener and float on the surface. The balance of 30% should be applied with a second application and it should be floated and troweled.

Release Agent: TopCrete 300 Release agent powder is sprinkled evenly on top of the colored and floated concrete prior to stamping. If TopCrete 400 liquid release agent is used it should be sprayed on top of the slab in a misting fashion just before the stamping.

Stamping: When the concrete is in its plastic stage prior to setting, the surface shall be stamped using the selected TopCrete stamping tool.

Control Joints: Saw cuts using the proper concrete saws shall be performed according to ACI recommendations and at pre-determined distances. Timing for saw cutting depends on weather conditions and concrete hardness. If preferred, a PVC joint may be pre-installed to provide the control joint requirement.

Curing, Washing & Sealing: When TopCrete 300 powdered release agent is used, the colored stamped concrete surfaces must be washed with clean water to remove the release agent and watered for a minimum of 2 days or as weather conditions dictate. Since the top surface of the stamped concrete is consolidated, troweled and filled with release agents, the slab is dense and its pours are not opened thereby leaving water trapped inside for curing. Thus normal curing procedures for plain concrete are different with colored and stamped concrete. The slab should be thoroughly dried prior to application of AZ SuperTop clear acrylic sealer (which acts as a curing agent as well) to protect the surface against dusting, UV deterioration and to make cleaning maintenance easier. Adequate drainage is required to drain the water in projects under construction. Access to the TopCrete slabs will be prohibited during this stage. A period of 24 hours is required for drying after sealer application.