Self-Level Overlay & Polished Concrete System

Preparation Application:

Mock-Up:

Concreation Canada Inc. recommends a 3m x 3m [10' x 10'] mock-up be produced prior to the installation of the floor. The mock-up should be produced in compliance with installation instructions below. The mock-up should be used as an opportunity to confirm the compatibility of the products, equipment and procedures on site in the conditions which will be present during the application. Be sure to confirm the following:

- Repairs to cracks and moving joints.
- Adhesion of Concreation Self-Level Overlay to the concrete sub-floor.
- A stable mix of Concreation Self-Level Overlay is able to be pumped at the specified mixing ratio.
- Compatibility of the polishing equipment, specifically the compatibility of the diamonds with Concreation Self-Level Overlay.

Surface Preparation

1. Examine surfaces to receive overlayment. Notify Concreation Canada Inc. reprehensive of sur faces that are not acceptable. Do not begin surface preparation or placement until acceptable conditions are corrected. Substrate must be structurally-sound, clean and free of dirt oil, grease and other contaminants. Prior to installation of underlayment, inspect area to be poured to unsure that substrate is suitable for application of floor underlayment. Stud-wall base plates in door and other openings shall be removed. Commencement of application shall be taken as acceptance of substrate conditions.
2. Based on the pre-existing conditions on the floor it will be necessary to remove part of the sur face. Select one of the following methods appropriate for the pre-existing conditions on the floor:
    a. Shot blast the surface of the existing concrete with a wet or dry type shot blast ing machine. Use an appropriate blasting media for the application. Use the ap propriate wet or dry vacuum to collect blasting media, and waste water and dispose of in compliance with local, provincial and federal laws.
    b. Wet grind the surface of the existing concrete with rotary or planetary type grind er equipped with 16 grit wet metal-bonded diamonds. Use a small amount of Concreation 750 cleaner in the grinding water to aid in cleanup. Use a wet vacuum to collect waste water and dispose of in compliance with local, provincial and federal laws.
    c. Scarify the surface of the existing concrete with the appropriate cutting or flail

head. Use a dry vacuum to remove all dust and debris and dispose of in compli ance with local, provincial and federal laws.

3. Clean out cracks using an angle grinder equipped with a beveled 'V-Crack' chaser. Remove all dust & debris with a vacuum.
4. Apply a 20:1 dilution of Concreation 750 Cleaner the surface of the floor and scrub with a floor maintainer equipped with a brush-type head. Rinse with fresh water using an auto scrubber equipped with a brush-type head. Collect waste water and dispose of in compliance with local, provincial and federal laws. Allow to air dry.

Crack Repair:

1. Cracked surfaces should be clean and free from coatings or contaminants which could prevent proper adhesion. If cracks are large, loose material should be removed. Clean cracks, with high pressure water jet, or by blowing them out with compressed air, free of oil. Optimum crack width varies from 0.25 mm to 6 mm.
2. If cracks extend through the depth of the concrete the use of silica sand or foam backer bead is permitted to prevent Concreation Filler Epoxy flowing through to the sub-grade.
3. Mix Concreation Filler Epoxy Part A (Resin), Part B (Hardener) and silica sand 1:1:2 with a mixing paddle attached to low speed (400-600 rpm) heavy duty electric drill. Use up the fresh mix as soon as possible and always within the indicated "Pot Life".
4. Pour Concreation Filler Epoxy inside the crack until partially filled. Apply Concreation Fiber Tape using a paint brush or appropriate angle corner trowel ensuring the Concreation Fiber Tape is completely covered with Concreation Filler Epoxy.
5. Apply fiber tape to the Concreation Filler Epoxy inside the cleaned out cracks.
6. Pour Concreation Filler Epoxy inside the crack overtop Concreation Fiber Tape, use a steel concrete trowel to ensure Concreation Fiber Tape has been completely covered with Concre ation Filler Epoxy. Be sure to not leave high spots or hard edges, feather the edges using the steel concrete trowel. Use up the fresh mix as soon as possible and always within the indicated "Pot Life".
7. Broadcast a generous amount of silica sand onto Concreation Filler Epoxy ensuring the entire surface has been coated. Once Concreation Filler Epoxy has cured use a broom to remove the excess silica sand. Use a dry vacuum to remove remainder of silica sand and dispose of in compliance with local, provincial and federal laws.
8. If there are any hard edges or high spots in the crack repair be sure to remove the using an angle grinder equipped with a cup wheel. Remove dust and debris with a vacuum.

Bond Coat Application:

1. Mix Concreation Bond Coat & Broom Finish 6.0 L (6.34 qt.) of water per 22.68 Kg (50 lb.) bag Concreation Bond Coat & Broom Finish), allow to false set for 10 minutes and remix. For the first application surface should be coated with a light fog of water in 100-200 sq. ft. sections at a time.
2. Spray a light mist of water over expansion cuts, surface should be damp but not wet. Pour Concreation Bond Coat & Broom Finish into the expansion cuts, using a steel concrete trowel push the material as deep into the cuts as possible.
3. Apply Concreation Fiber Tape over wet Concreation Bond Coat & Broom Finish on all expan sion cuts. These will be re-cut once the Concreation Self-Level Overlay application has been completed.
4. Pour a small amount of Concreation Bond Coat & Broom Finish onto wet Concreation Bond Coat & Broom Finish and Concreation Fiber Tape, using a steel concrete trowel feather Concreation Bond Coat & Broom Finish out removing and hard edges.
5. Pour Concreation Bond Coat & Broom Finish along the starting edge over the water-damened surface. Spread the material as thin as possible, less than 1/16” next to the starting edge using a 24” metal edge squeegee. Squeegee the material from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible. Press firmly on the squeegee and overlap each pass half way as you make the next pass and so on. Use Concreation Bond Coat & Broom Finish to fill in low spots, level an uneven surface or re-pitch areas with improper drainage. Allow minimum 2 hours drying time before proceeding.
6. If there are any ridges or squeegee marks left use a floor scraper or grinder to these smooth before continuing.

Self-Level Overlay Application:

1. The following steps require the installer to wear spiked shoes to walk on the soft concrete throughout the Concreation Self-Level Overlay application.
2. Mix Concreation Bond Coat & Broom Finish 6.0 L (6.34 qt.) of water per 22.68 Kg (50 lb.) bag Concreation Bond Coat & Broom Finish), allow to false set for 10 minutes and remix.

   *The pumping equipment can affect the water ratio in order to produce a stable flowable mix. Always perform this test during the mock-up to confirm adjustments do not adversely the outcome of the installation. Notify a Concreation Canada Inc. representative if an adjustment is required.
3. Mix Concreation Self-Level Overlay (3.1 L (3.28 qt.) water: 1 bag Concreation Self-Level Over lay), mix thoroughly until lump-free, do not add more water. Concreation Self-Level Overlay has a flow time of approx. 10 minutes, if the material has not been applied in this period remove and dispose of in compliance with local, provincial and federal laws. Areas over 9m2 [100 sq. ft.] should be applied via pumping apparatus, for more information please contact

Concreation Canada Inc.

4. Apply second coat of Concreation Bond Coat & Broom Finish, another person should have Concreation Self-Level Overlay ready to immediately apply over the wet Concreation Bond Coat & Broom Finish. Use the gauge rake to quickly spread the Concreation Self-Level Over lay 9.5mm *(3/8”) thick over the wet Concreation Bond Coat & Broom Finish. Use the gauge rake to work the material from side to side in straight rows to cover the surface and overlap each pass half way as you make the next pass and so on, do not allow cold joints to form. The person using the gauge rake should wear spiked shoes to be able to walk in the wet bond coat and stamping mix while spreading. By spreading the material at 9.5mm (3/8”) thick, it will end up approximately 6.3mm (1/4”) of an inch thick. When working next to the edges keep the end of the gauge rake 25.4mm (1”) away from the edge and allow the Concreation Self-Level Overlay to flow out of the end of the gauge rake to cover the edge. This will prevent the end of the gauge rake from slipping off the edge and leaving the Concreation Self-Level Overlay too thin. It is important to have at least 6.3mm (1/4”) of thickness over the whole floor surface. Concreation Self-Level Overlay will flow into and fill the lines and holes left by the gauge rake and spiked shoes.

Cutting:

1. Once Concreation Self-Level Overlay can withstand the weight of a man it must be cut. In some cases Concreation Self-Level Overlay may need to be cut within 8 hours of the completion of the installation; however this can extend all the way from 12 to 18 hours depending on site conditions at the time. Cuts should be made dry with as large a green concrete blade as possible. Always do a small test area to confirm the concrete is ready for cutting so no work is damaged timing and testing.
2. Reopen all expansion joints which were taped and filled with Concreation Bond Coat & Broom Finish during surface preparation.
3. The remainder of the cuts should be made no more that 3 m (10’) apart in either direction, leaving (100 sq. ft.) or smaller sections.
4. Confirm that all cuts meet and there have been no gaps left as these will continue to crack from the end of the cut. Use a dry vacuum to remove all dust and debris.

Curing:

1. After the completion on the cutting spray or fog water around the area to be wet cured to pre vent premature drying or cracking. Care should be exercised as to not mar the surface of the fresh concrete when adequate curing water is applied. Blanket application should always fol

low local or state prescribed methods for installation. Care needs to be taken to avoid thermal shock or excessively steep thermal gradient while using cold curing water. Water should not be cooler than 14ºC (25ºF) cooler than the concrete surface to avoid thermal shock.

2. Roll out or place the UltraCure blanket on the wet concrete surface absorbent side down. Roll out the UltraCure blanket in a straight line while continuously feeding water to the leading edge to assure saturation. Should the roll become out of line, cut the blanket straight across, overlap the edges and continue installation. If conditions prevent saturation of the blanket as it is rolled out, continue saturation by applying water through the top perforations until blanket is fully saturated.
3. At exposed edges and ends, lap blanket over curbs and existing pavements to prevent mois ture migration beyond the curing area. Blanket application should follow local or state prescribed methods for installation.
4. After first roll has been placed, line up the next roll and overlap the edges of the first roll by 100 mm - 150 mm (4”- 6”) and continue installation. Repeat until entire surface to be wet cured is covered with saturated curing blankets. Monitor moisture retention in blankets periodically for wetness.
5. Curing blankets can be removed within 72 hours of placement or prior to polishing. Curing blankets should be removed after a maximum of 7 days.

Protection:

1. During construction, place temporary ¾” or thicker plywood over overlayment wherever it will be subject to heavy wheeled or concentrated loads.
2. Protect placed overlayment from freezing for a minimum of 7 days after installation.

Grinding & Honing Application:

*When Concreation Self-Level Overlay has cured beyond 72 hours it may be necessary for the initial grind is started with a #16 grit dry or wet metal-bonded diamonds. Consult a Concreation Canada Inc. representative if this step is necessary.

1. Grind the edges of the concrete using a hand grinder or edger equipped with a #30 grit dry or wet metal-bonded diamonds. Grind the concrete using a planetary type floor polisher equipped with #30 grit dry or wet metal-bonded diamond pad. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
2. Grind the edges of the concrete using a hand grinder or edger equipped with a #50 grit dry or wet metal-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #50 grit dry or wet metal-bonded diamonds. Grind the entire floor in one

direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.

3. Grind the edges of the concrete using a hand grinder or edger equipped with a #100 grit dry or wet metal-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #100 grit dry or wet metal-bonded diamonds. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
4. Grind the edges of the concrete using a hand grinder or edger equipped with a #30 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #30 grit dry or wet resin-bonded diamond pad. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
5. Grind the edges of the concrete using a hand grinder or edger equipped with a #50 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #50 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
6. Grind the edges of the concrete using a hand grinder or edger equipped with a #100 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #100 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
7. Grind the edges of the concrete using a hand grinder or edger equipped with a #200 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor pol isher equipped with #200 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
8. Grind the edges of the concrete using a hand grinder or edger quipped with a #400 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #400 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
9. Apply a 40:1 dilution of Concreation 750 Cleaner the surface of the floor and scrub with a floor maintainer equipped with a scrubbing pad. Rinse with fresh water using an auto scrubber equipped with a scrubbing pad. Collect waste water and dispose of in compliance with local, provincial and federal laws. Allow to air dry.

High Polymer Mastic Application:

*Concreation High Polymer Mastic should be applied before Concreation Standard Mastic to fill any areas that have imperfections larger than ¼" in size. Concreation High Polymer Mastic may not be required for all applications. If there are no imperfections smaller than ¼" this process is to be omitted.

1. Apply a light mist of water with a low-pressure sprayer to sufficiently wet the surface without producing puddles. Use a clean microfiber applicator to spread water evenly and ensure uniform wetting. If surfaces dry immediately, apply more water. Surface should remain wet for 5-10 minutes. Adjust rate of application to eliminate puddles.
2. Mix Concreation High Polymer Mastic at a rate of 0.8 L per 2.5 Kg bag with a high speed mix ing drill until product is smooth, lump free and consistent.
3. Pour Concreation High Polymer Mastic onto the concrete overlayment. Using a steel drywall trowel spread the material over the surface confirming it has been fully worked into any hole, imperfections or cracks.
4. Allow to air dry for 24 hours.
5. Grind the edges of the concrete using a hand grinder or edger equipped with a #400 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor pol isher equipped with #400 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
6. Apply a 40:1 dilution of Concreation 750 Cleaner to the surface of the floor, scrub away re maining reside using a floor maintainer equipped with a #400 Grit Centaur Astro pad. Rinse with fresh water using an auto scrubber equipped with a #800 Grit Centaur Astro pad. Collect waste water and dispose of in compliance with local, provincial and federal laws. Allow to air dry.
7. Allow to air dry.

Standard Mastic Application:

*Concreation Standard Mastic should be applied after Concreation High Polymer Mastic to fill any areas that have imperfections smaller than ¼" in size.

1. Apply a light mist of water with a low-pressure sprayer to sufficiently wet the surface without producing puddles. Use a clean microfiber applicator to spread water evenly and ensure uniform wetting. If surfaces dry immediately, apply more water. Surface should remain wet for 5-10 minutes. Adjust rate of application to eliminate puddles.
2. Mix Concreation Standard Mastic at a rate of 1 L per 2.5 Kg bag with a high speed mixing drill until product is smooth, lump free and consistent.
3. Pour Concreation Standard Mastic onto the concrete overlayment. Using a steel drywall trowel

spread the material over the surface confirming it has been fully worked into any hole, imperfections or cracks.

4. Allow to air dry for 24 hours.
5. Grind the edges of the concrete using a hand grinder or edger equipped with a #400 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor pol isher equipped with #400 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
6. Apply a 40:1 dilution of Concreation 750 Cleaner to the surface of the floor, scrub away re maining reside using a floor maintainer equipped with a #400 Grit Centaur Astro pad. Rinse with fresh water using an auto scrubber equipped with a #800 Grit Centaur Astro pad. Collect waste water and dispose of in compliance with local, provincial and federal laws. Allow to air dry.
7. Allow to air dry.

Water-Based Dye Application:

*Concreation Water-Based Dyes are esthetic only, but this is necessary to colour architectural finishes. This process is not required for the structural integrity of the floor. If there is no colour specified this process is to be omitted.

1. Apply a single coat of Concreation LithiCon 15 with a low-pressure sprayer at a rate of 12.3m2-17.4m2/L (500-700 sq. ft. / gal.). Apply sufficient material to wet the surface without producing puddles. Use a clean microfiber applicator to spread product evenly and ensure uniform wetting. Avoid spreading once drying begins. Scrubbing is not necessary. If surfaces dry immediately, apply more product. Surface should remain wet for 5-10 minutes. Adjust rate of application to eliminate puddles. Allowing excess material to puddle on the floor will extend dry times and create dark patches which must be removed immediately.
2. Allow treated surfaces to dry (min. 2 hr. - max. 24 hr.).
3. Apply a 40:1 dilution of Concreation 750 Cleaner to the surface of the floor, scrub away re maining reside using a floor maintainer equipped with an #800 Grit Centaur Astro pad. Rinse with fresh water using an auto scrubber equipped with an #800 Grit Centaur Astro pad. Collect waste water and dispose of in compliance with local, provincial and federal laws. Allow to air dry.
4. Allow to air dry.

Densifier Application:

1. Apply a single coat of Concreation LithiCon 15 with a low-pressure sprayer at a rate of 12.3m2-17.4m2/L (500-700 sq. ft. / gal.). Apply sufficient material to wet the surface without

producing puddles. Use a clean microfiber applicator to spread product evenly and ensure uniform wetting. Avoid spreading once drying begins. Scrubbing is not necessary. If sur faces dry immediately, apply more product. Surface should remain wet for 5-10 minutes. Adjust rate of application to eliminate puddles. Allowing excess material to puddle on the floor will extend dry times and create white residues, which must be removed immediately.

2. Allow treated surfaces to dry (min. 2 hr. - max. 24 hr.).
3. Apply a 40:1 dilution of Concreation 750 Cleaner to the surface of the floor, scrub away re maining reside using a floor maintainer equipped with an #800 Grit Centaur Astro pad. Rinse with fresh water using an auto scrubber equipped with an #800 Grit Centaur Astro pad. Collect waste water and dispose of in compliance with local, provincial and federal laws. Allow to air dry.
4. Allow to air dry.

Polishing Application:

1. Polish the edges of the concrete using a hand grinder or edger equipped with an #800 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #800 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Remove all dust and debris with a vacuum.
2. Polish the edges of the concrete using a hand grinder or edger equipped with a #1500 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #1500 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Re move all dust and debris with a vacuum.
3. Polish the edges of the concrete using a hand grinder or edger equipped with a #3000 grit dry or wet resin-bonded diamond pad. Grind the concrete using a planetary type floor polisher equipped with #3000 grit dry or wet resin-bonded diamond pads. Grind the entire floor in one direction then grind the entire floor perpendicular to the direction it was first ground. Re move all dust and debris with a vacuum.
4. Apply a 40:1 dilution of Concreation 750 Cleaner the surface of the floor and scrub with a floor maintainer equipped with a cleaning pad. Rinse with fresh water using an auto scrubber equipped with a cleaning pad. Collect waste water and dispose of in compliance with local, provincial and federal laws. Allow to air dry.

Burnish Application:

1. Burnish the polished Concreation Self-Level Overlay using a high-speed burnisher equipped

with a #400 grit Centaur Astro Pad. Work from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible, overlap each pass half way as you make the next pass and so on. Repeat this step moving perpendicular to the first passes.

2. Burnish the polished Concreation Self-Level Overlay using a high-speed burnisher equipped with an #800 grit Centaur Astro Pad. Work from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible, overlap each pass half way as you make the next pass and so on. Repeat this step moving perpendicular to the first passes.
3. Burnish the polished Concreation Self-Level Overlay using a high-speed burnisher equipped with a #1500 grit Centaur Astro Pad. Work from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible, overlap each pass half way as you make the next pass and so on. Repeat this step moving perpendicular to the first passes.
4. Burnish the polished Concreation Self-Level Overlay using a high-speed burnisher equipped with a #3000 grit Centaur Astro Pad. Work from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible, overlap each pass half way as you make the next pass and so on. Repeat this step moving perpendicular to the first passes.

Floor Finish Application:

1. Apply a single coat of Concreation TefloCon with a low-pressure sprayer at a rate of 12.3m2-17.4m2/L (500-700 sq. ft. / gal.). Apply sufficient material to wet the surface without produc ing puddles. Use a clean microfiber applicator to spread product evenly and ensure uniform wetting. Avoid spreading once drying begins.
2. Allow treated surfaces to dry (min 1 hr.).
3. Burnish the Concreation TefloCon using a high-speed burnisher equipped with a #400 grit Cen taur Astro Pad. Work from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible, overlap each pass half way as you make the next pass and so on. Repeat this step moving perpendicular to the first passes.
4. Repeat Floor Finish application steps 1-3 at least once more to a maximum of 4 coats total.
5. Burnish the polished Concreation Self-Level Overlay using a high-speed burnisher equipped with an #800 grit Centaur Astro Pad. Work from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible, overlap each pass half way as you make the next pass and so on. Repeat this step moving perpendicular to the first passes.
6. Burnish the polished Concreation Self-Level Overlay using a high-speed burnisher equipped with a #1500 grit Centaur Astro Pad. Work from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible, overlap each pass half way as you make the next pass and so on. Repeat this step moving perpendicular to the first passes.
7. Burnish the polished Concreation Self-Level Overlay using a high-speed burnisher equipped with a #3000 grit Centaur Astro Pad. Work from side to side in straight rows to cover the surface and achieve as smooth of a finish as possible, overlap each pass half way as

you make the next pass and so on. Repeat this step moving perpendicular to the first passes.

Cleaning Application:

1. Apply a 40:1 dilution of Concreation 750 Cleaner the surface of the floor and scrub with a floor maintainer equipped with a cleaning pad. Rinse with fresh water using an auto scrubber equipped with a cleaning pad. Collect waste water and dispose of in compliance with local, provincial and federal laws. Allow to air dry.
2. Completed installation to be maintained as per Concreation Canada Inc.'s written instructions.