Application Guide

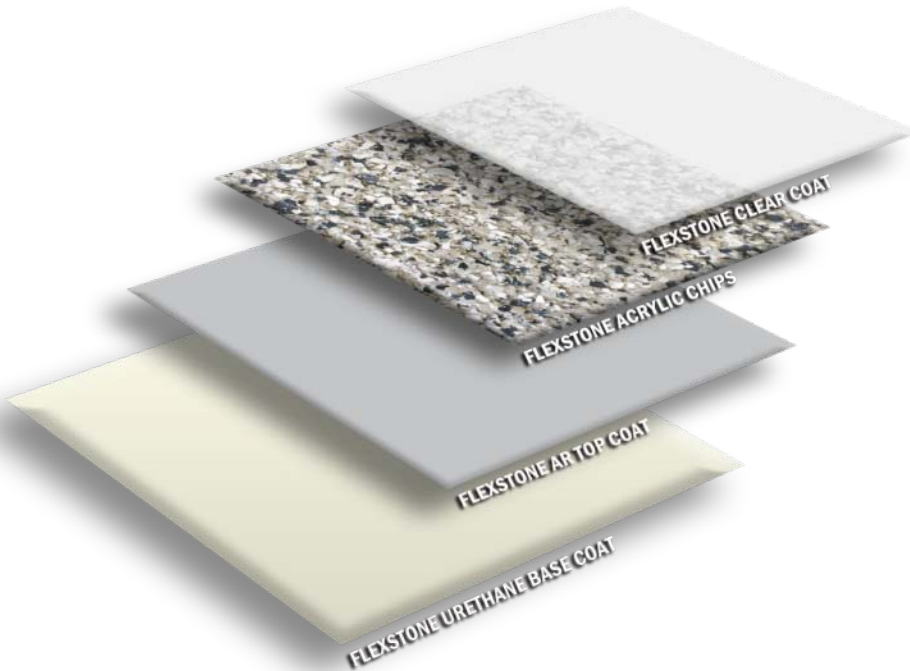**Canadian Construction Materials Center # 13473-R**

Flexstone must be applied according to these application instructions in order to comply with the standards set by the manufacturer and the Canadian Construction Materials Center.

FLEXSTONE

Canada's Toughest Waterproof Coatings

REQUIRED TOOLS & MATERIALS - CHECKLIST

Flexstone Coatings products (ensure you have enough) ○	At least 3 clean 5 gallon pails (1 for water, 2 for mixing base) ○
Seam tape (expansion gaps) & trim tape for drip flashings ○	Slow speed drill & proper mixing paddle ○
V-Notch trowel or Deep V-Squeege (3/8"deep teeth) ○	Silica sand (#20-30 grit) for slip-resistance over Standard Finish ○
Disposable brushes (3-4") ○	Xylene solvent (for cleanup)–Found in most larger lumber yards ○
Roller Sleeves (10mm), Pole & roller cage ○	Disposable gloves ○

THINGS TO KNOW BEFORE YOU GET STARTED

✓ Surface preparation is **very important**. Failure to properly prep surface could result in poor adhesion.

✓ Flexstone base adheres to almost any surface: wood, concrete, metal, old vinyl, tiles, fibreglass & torch on rubber (using #3primer).

✓ Do not waste money on Good 1 Side (G1S) plywood or PTD plywood – standard grade T&G Ply works best.

✓ If pressure-treated plywood was used, apply Flexstone #3 Primer-sealer to ensure good adhesion.

✓ Base Coat does not adhere well to smooth surfaces. Rough up metal flashings with grinder &/or coarse sandpaper.

✓ When in doubt, use our #3 primer/sealer first or test for adhesion by applying some base coat on a small area.

✓ Flexstone Base is an odourless solvent-free urethane. Use a #3 primer/sealer when applying over asphalt IE. Torch on rubber.

FLEXSTONE CLEAR COAT

FLEXSTONE ACRYLIC CHIPS

FLEXSTONE AR TOP COAT

FLEXSTONE URETHANE BASE COAT

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CLEANING & PREPARING YOUR SURFACE FOR FLEXSTONE APPLICATION:

Standard grade plywood is recommended – Do not waste money on 'good one side' (G1S) or pressure treated plywood.

Ensure that the all surfaces are clean (free of dust, debris, oils & grease) and imperfections have been filled with base coat.

The surface must *be clean and dry (no dust or oils).* New surfaces like plywood (not PTD) & clean rough concrete do not require priming.

Smooth concrete & flashings should be roughed up or primed. Use Flexstone #3 primer/sealer on smooth or contaminated concrete as well as pressure-treated plywood. If concrete is on grade with trapped water below priming is recommended to avoid blisters.

PREPARING A PLYWOOD SURFACE:

✓ Do not let base coat to get into open gaps as it will protrude when plywood swells and gaps close in humid weather.

✓ If "Tongue & Groove" plywood is not used, leave a 1/16" expansion gap between Square Edge plywood sheets.

✓ If tongue & groove joints are tight, seam-taping should not be necessary. Simply fill the T&G gaps with mixed base coat.

✓ Use **our special adhesive backed fabric seam tape** over open plywood expansion gaps.

✓ Mix a small amount of base coat with water until water is absorbed and press base into seam tape with the flat edge of a trowel or putty knife to ensure it adheres permanently.

✓ Trowel flat and smooth before starting to install the base coat over the entire surface.

✓ For knot-holes, large splinters, deep screw holes, etc. Pre-mix a small amount of base coat and smooth over imperfections with a flat trowel or spatula.

PREPARING AN EXISTING SURFACE:

✓ Ensure that existing membrane is adhered well to substrate before proceeding

✓ If fibreglass is not stuck down well in some areas, use small ring nails to flatten and secure the surface.

✓ Vinyl often shrinks at walls and perimeter drip-edge flashings. Cut these weak areas out and replace existing flashings.

✓ With thicker vinyl where high seams exist, grind them down flush or cut them out & fill the void with mixed Flexstone Base .

✓ Exterior tiles should be cleaned. Then use our #2 Primer/Sealer on smooth tiles to ensure adhesion and to seal grout lines.

✓ When coating existing urethanes, lightly wipe the surface with Xylene. This dissolves the top layer slightly to make for better adhesion.

✓ For any smooth surface (concrete or ceramic tiles) using #2 Primer/Sealer is recommended.

PREPARING THE PERIMETER:

DRIP FLASHINGS FOR OUTSIDE PERIMETER

When water drains off the edge of the deck, install a 2" x 2" (standard 30 gauge - available at most lumber yards) drip-edge flashing. See Blog on flexstones.ca for tips.

Use small flat-head galvanized ring nails (drywall nails work well) to secure the flashing. Keep the nails 4"– 5" apart to prevent buckling to allow water to drain freely over top of the drip edge.

Rough up the top of the drip-edge with sander or grinder to ensure good adhesion of the base coat. No need to go down vertical portion.

SEALING WALLS, POSTS, AND VERTICAL SURFACES

Flexstone base coat can be thickened with fine rubber or sand filler for going up vertical surfaces and can also be used as a caulking.

At vertical surfaces, apply the thickened base-coat up walls under stucco or siding using a brush or trowel. If spaces exist at the wall, you can use adhesive seam tape to bridge the gaps. Engineers prefer reinforcing at walls so it is a good idea to use the seam tape in these cases.

In the new construction code, it is required that the base is installed up the wall 8" and our seam/reinforcing tape is used.

* <u>ALTERNATIVE TO ADDING A FILLER TO THE BASE COAT</u>: MIX BASE WITH WATER AND ALLOW IT TO SET UP A BIT – AS IT WILL BECOME THICKER*

BUILDING A TAPE-WALL AROUND THE OUTSIDE EDGE

In order to prevent product from running over the edge and on to your new flashing, tape the perimeter using 2"- 3" poly tape (available at Flexstone). Leave a lip over at least 1" above the deck surface to create a pool for you to spread your base coat into.

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MIXING THE FLEXSTONE BASE COAT:

RATIO 4:1 (4 pts Base – 1 pt water) | **COVERAGE:** 150–160 sq ft per 5 Gallon pail (more on concrete).

New Pails of Flexstone Base coat <u>must</u> be mixed thoroughly, prior to mixing the catalyst (water). This helps to blend in the resins & polymers that settle at the bottom of the pail so the entire mix is the same consistency.

Flexstone's unique solvent-free Base coat is much thicker than all other urethanes and must be mixed with water in order to cure. If you apply base coat without water, it will not cure and will have to be removed.

> A Small Vial of Green catalyst is available for each pail of Flexstone Base to help it reach a full cure quicker. This is ideal for time-sensitive jobs and colder climates; however, in hot temperatures, the vials can be omitted as base may set up too fast.
> *(Experienced applicators can use up to 2 vials per pail)*

BASE COAT MIX – PRECAUTIONS:

✓ When mixing the water (1 part) in with the base coat (4 parts), the two components will not blend immediately. Mix it thoroughly on slow-medium speed using a variable-speed drill and mixing paddle until the product has fully absorbed all the water.

✓ **DO NOT ADD MORE WATER: The base coat will reject extra water and start to cure even quicker.**

✓ Do not mix on "HIGH" speed. This could result in air-bubbles forming in the base coat.

✓ Once the base coat has been thoroughly pre-mixed and then mixed with water (Reminder: 4 Parts Base / 1 Part Water), it is designed to set up quickly to resist damage from rain. Pour and spread the mix immediately with your Flexstone 3/8" V-Notched trowel or squeegee to ensure all of it self-levels. You may have only **10 – 20 minutes** to spread each batch depending on temperature. <u>Move fast.</u>

✓ Mix base and water into your first pail then pour the mixture on surface scraping out as much as possible from the pail. Then leave the pail upside down to drain on the next section you plan to coat. ***Do not add water to the next mix until prior mix has been spread***

✓ On damp surfaces you can reduce the amount of water added to base from 4:1 to 5:1.

BASE COAT MIX – HELPFUL TIPS:

✓ Prepare a minimum of three clean & empty 5-gallon pails; one for water and 2 for mixing Flexstone base.

✓ Do not add new base into used pail without scraping/cleaning the residue from your previous batch. Leaving the pail upside down over your next section will help ensure that it drains and is empty for the next batch.

✓ Excess residue from previous batches, if not scraped out, may form chunks in your next batch.

✓ Hot temperatures / surfaces will cause the base-coat to set up faster. **You can slow this process by adding ice blocks to the water used for mixing**. Alternatively, in colder temperatures, using warmer water and/or vials of catalyst (max 2 per pail) will speed up the cure.

✓ For larger jobs, it is recommended to have at least one person dedicated to preparing and mixing batches in small quantities. Mixers should not add water to a batch until the spreader has finished (or nearly finished) spreading the previous batch.

✓ FOR BEGINNERS: Start small (1 Gal base & 1 Qt water) to track how much you can apply within 5-10 mins. Once you know how much can be mixed & spread before it starts to set up, increase the batch accordingly (<u>Max</u>: 2 – 2.5 gallons). You should get about 30 square feet of coverage per gallon of mixed base coat. Mixing larger quantities is only recommended for experienced applicators.

✓ Save plastic base pails for future jobs or for storing leftover colour (or clear) coat. Cured base can be easily peeled out and used for samples. Do not stack pails with wet base in them, they will bond together.

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FLEXSTONE BASE COAT APPLICATION: <u>QUICK FACTS</u>

- ✓ MUST MOVE FAST WHEN APPLYING THE BASE ONCE WATER IS ABSORBED (SELF LEVELING MODE)
- ✓ BASE COAT SHOULD SELF-LEVEL TO 63 MILS (1/16") THICKNESS
- ✓ FULL FLEXSTONE SYSTEM SHOULD TOTAL = 80+MILS THICKNESS
- ✓ MIN TEMPERATURE: 5-7 DEGREES CELCIUS FOR 4-5 HOURS FOLLOWING APPLICATION PROCESS

FLEXSTONE BASE COAT APPLICATION: <u>DIRECTIONS</u>

1. Plan your coating strategy before you start. Choose sections according to the size of your mixture (2 Gallon mix = 60 square feet). Move fast trying to maintain a wet edge for your next mixture to flow into. Just spread the base, do not play with it once it is applied.

2. Add 1 part water to 4 parts Flexstone Base. (You get 6.25 gals of mixed base per 5 Gallon pail of Flexstone Base).
   DO NOT EXCEED 1 part water to 4 parts base or it will disrupt the self-levelling process.

   ✓ **IMPORTANT:** *Start by mixing 1 Quart of water in to 1 Gallon of base to get the feel of spreading the base coat. Trowel out the batch quickly and allow it to self-level (don't play with it). <u>You should be getting 30 square feet of coverage per gallon</u>, you are applying the material too thick and need to angle your trowel lower. Unless you are an experienced applicator, we do not recommend mixing more than 2 Gallons of base per batch.*

3. Stir the base / water mixture slowly for a few minutes. Once water is fully mixed in to the base, pour out the entire mix in an area spreading it quickly and as evenly as possible. *Ensure that you move fast in order to keep the base in self-level mode.*

4. Try to maintain a wet edge for the next batch to flow into *when possible*. If you are stopping for the day or the base coat will be hardened by the time you are ready to tie-in the next batch – <u>feather the perimeter with the flat edge of your trowel to mitigate any ridges</u> when you bond the new batch with the batch that was previously spread.

5. Spread the mix by grounding our custom Deep V-Notched trowel (3/8" deep teeth) spreading the base as quickly as you can. For large areas, our wider Deep V-Notched (3/8") Squeegees expedite the application process and allow the product to be spread while standing up.

6. While spreading the mix, DO NOT INTERRUPT the self-levelling process by "playing" with base after it is spread as it self-levels. Minor imperfections can be fixed later, it is never a good idea to try to fix a section of base after it has been initially spread.

7. If you encounter imperfections and/or trowel marks, they can be easily fixed by using an belt sander or angle grinder using very coarse sandpaper (25-35 grit) Lightly sand or Grind out imperfections and touch-up with additional base if needed. Ensure the base is fully cured before attempting to sand or grind the surface.

THE BASE COAT CURES AT A SLOWER PACE WHEN THE COMPONENTS ARE KEPT COOL. THIS GIVES THE APPLICATOR MORE TIME TO SPREAD THE PRODUCT. IN ORDER TO HELP BUY YOURSELF MORE TIME TO SPREAD THE BASE BEFORE IT SETS-UP, YOU CAN TRY THE FOLLOWING:

- ✓ On hot days, add a block of ice to your water and use ice-water as the catalyst
- ✓ Pre-stir all the base-coat pails and set aside prior to starting the job to avoid wasting time during the application process.
- ✓ Keep pails in a cool dry area prior to applying the product, like a cool room or basement.
- ✓ Have your mixer refrain from adding water to the next batch before the first batch is spread (or nearly spread)
- ✓ Try to apply the base when the temperature outside is cooler. A hot plywood surface will cause it to set up quicker.

FLEXSTONE BASE COAT APPLICATION: <u>HELPFUL HINTS</u>

- ✓ The Flexstone base will form a skin in a few hours which protects it from rain damage. In warm weather the base fully cures in a day.

- ✓ When coating larger areas, it is helps to have 2 people – 1 to mix and 1 to spread the membrane moving quickly.

- ✓ To measure the mix quickly you can use a thin wood stick cutting notches up the stick to maintain the 4 to 1 ratio of base to water.

- ✓ Even if the base coat is tacky the following day you can still apply the finish coats as long as you are not sticking to the base coat.

- ✓ After the finish coat(s) has (have) been applied wait until they are no longer tacky before walking on it.

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SECTION A: FLEXSTONE TEXTURED STONE: APPLICATION STEPS

- ✓ Multi coloured blends of specially engineered polymer-acrylic flakes (chips) are used in conjunction with our AR (aromatic) colour coat. Our unique 1-part Flexstone Clear urethane top coat is then applied over the chips for a stunning luxurious textured stone finish.

- ✓ Using a STD 10mm roller apply a thin AR (aromatic) colour coat over the base coat. AR urethanes are less costly used with the chips.

- ✓ While top-coat is still wet, broadcast special colour chips to rejection using a small pail with holes (1/4" bit for holes) or by dispersing evenly by hand. Coat what you can reach with the chips and keep coating & chipping until done. Special hopper chip guns are an option for larger jobs.

- ✓ Allow colour coat to cure sufficiently (colour coat accelerators can be used to expedite this process.) Sweep off excess flakes which can be re-used.

- ✓ Lightly pole sand (100-150 grit) surface to knock down any jagged chip pieces and then blow off, sweep, or vacuum up the dust.

- ✓ Using a Thick Nap Roller (19mm) spread the Flexstone Clear Coat moving in all directions (like painting a wall) until every inch of exposed chips are covered evenly and consistently. Flashing / shiny spots can result if some areas are overlapped and thicker.

- ✓ We recommend using a thicker nap roller (15mm – 20mm) to ensure a consistent texture and thickness. The clear coat cures to a glossy finish but will gradually lose it's sheen, leaving a consistent and incredibly protective matte finish.

Hand-spreading chips

Pail Method of chip spreading

SECTION A: FLEXSTONE TEXTURED STONE: HELPFUL TIPS

- ✓ Sanding the flakes dictates how rough the surface is for slip resistance. Sanding more aggressively gives you a smoother finish and a light sanding leaves the surface rougher. Be careful not to sand too much – you will lose your slip resistance.

- ✓ When rolling out the clear coat, ensure that the product is being applied evenly to avoid roller-marks and flashing. We recommend using a "W" pattern to ensure that all sides of every chip are coated evenly.

- ✓ Avoid broadcasting chips if there is rain in the immediate forecast. The chips will clump together and require more work to remove the excess chips. May also require a second pass with top coat and chips.

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SECTION B: FLEXSTONE STANDARD COLOUR COAT

The Standard System uses a rugged one part AL (aliphatic) coloured urethane top-coat. Flexstone UV stable top coats are superior, as they will not to fade, crack, or peel like other urethane top coats.

SECTION B: FLEXSTONE STANDARD COLOUR COAT: APPLICATION STEPS

✓ Stir the pail of AL (aliphatic) Colour Top-Coat a bit before use. (See instructions on the pail)

✓ Pour some AL Colour Top-Coat into the roller tray and roll it out with a 10mm roller sleeve and roll out evenly over the surface.

✓ For slip-resistance, broadcast #20-30 grit silica sand over the applied top-coat; roughness depends on the amount of sand you use & how rough you want the surface. (Broadcast sand sparingly). Silica sand is available at most lumber yards and concrete suppliers.

✓ Back-roll more AL colour coat over the first colour coat (and silica sand) to even out the grit. With darker colours you may see some base coat through the colour coat (fish eyes). A final thin coat may be required.

✓ One thick layer of top-coat is usually sufficient for a home but for heavy traffic areas always use two coats. A second coat will also solve any potential fish-eyeing issues after the initial coat. Sand sometimes causes separation of top coat.

SECTION B: FLEXSTONE STANDARD COLOUR COAT: HELPFUL TIPS

✓ If the applied base-coat has been exposed for an extended period of time, it can harden and become smooth making it difficult for finish coat(s) to adhere. This depends on time-frame and temperature.

✓ Wipe the surface with a small amount of Xylene on a rag to soften the base. This will ensure good adhesion of the top coat on the base.

✓ In warmer temperatures the top-coat usually cures in one full day . When it is not tacky you can walk on it. Colour coat accelerators are available to expedite this process

✓ Pour leftover top-coat into an air-tight plastic base pail to save for future use & store in a cool dry place.

CLEAN-UP

✓ For cleaning up on the job wipe away any drips or excess product with a rag as soon as possible.

✓ You can also use a small amount of Xylene on your rag to remove any product from flashing, concrete, or siding.

✓ Clean tools with Xylene at the end of the job. Dispose of brushes and roller sleeves.

✓ Save the base-coat plastic pails & peel out the skin which you can cut up & use to as samples to demonstrate how strong it is.

✓ Save the plastic Base pails to use on your next job. Store any leftover colour and clear coats in plastic pails with o-rings.

QUESTIONS? *Call us at (604)222-8453 or 1(866)419-8453. Our staff can walk you through any part of this process.*

Flexstone Coatings have a Manufacturer's Warranty against defects that protects consumers from faulty products. Defects, as a result of improper installation, poor weather conditions, or faulty workmanship, are not covered by the warranty.