Green Polyurethane™ Indoor Floor Coating
Application Instructions FLI4W&FC V.2 (different colors)

Version 1.3 – January 30, 2018

***FLI4W&FC V.2** – epoxy-urethane floor coating designed for indoor applications*

Composition	***FLI4W- Grey:*** *A two-component nonisocyanate epoxy-urethane compound.* *Ratio part A & part B –* ***100 A : 47 B*** ***by weight*** ***FLI4W- Clear:*** *A two-component nonisocyanate epoxy-urethane compound.* *Ratio part A & part B –* ***100 A : 50 B*** ***by weight*** ***FLI4W-FC V.2-Grey****: A two-component nonisocyanate epoxy-urethane fast cure compound.* *Ratio part A & part B –* ***100 A : 37 B*** ***by weight*** ***FLI4W-FC V.2-Clear****: A two-component nonisocyanate epoxy-urethane fast cure compound.* *Ratio part A & part B –* ***100 A : 40 B*** ***by weight***
Surface Preparation	***Cleaning/Grinding of Surface:*** *Surface must be properly prepared, cleaned and dried prior to application of* ***FLI4W&FC V.2****. Prepare surface by mechanical means such as sandblasting, shot blasting, grinding, etc. Remove any dirt, dust, oil, grease, laitance, rust, scale, paint, curing compounds, acids, chemicals or any other contaminants. Grind to a surface profile of 2 or 3 for best results.* ***Substrate Repairs:*** *Repair and fill any deep spalls, control joints and cracks to appropriate standards. Grinding out cracks with a crack grinder is suggested for best results. FLI4W&FC V.2 can be used as a grout to fill cracks. Mix quartz sand together with FLI4W&FC V.2 at a ratio of 50-100% (quartz) to 100% FLI4W&FC V.2. Fill cracks with grout. Sand flat once dry.* ***New Concrete****:* *Allow new concrete to cure for a minimum of 30 days, prior to application of* ***FLI4W&FC V.2.*** *Apply a thin prime coat of FLI4W&FC V.2 or other conventional primer used for epoxy or polyurethane systems to reduce out-gassing or water vapor transmission.* ***Old Concrete****:* ***FLI4W&FC V.2*** *can be applied on old concrete with or without a primer depending on its condition. If there is significant wear or water vapor transmission follow the "Primer Application" instructions below.*
Mixing	1. ***Pre-condition 1****: FLI4W&FC V.2 products must rest at + 59-77 ºF (+ 15-25 ºC) for a minimum 24 hours before use.* 2. ***Pre-condition 2****: FLI4W&FC V.2 products should ideally applied when the surface of a substrate is not less than 59ºF (15ºC) and the relative humidity is not more than 85%*

	3. ***Pre-Mix:*** *Once ready to use, thoroughly pre-mix Part A for 2-3 minutes to disperse pigment and modifiers with an electric Jiffy mixer.* • *Note: mix at any speed if you will be adding or broadcasting aggregate, but if you are not using aggregate and would like a smooth glossy finish, then blend product slower (200-300 rpm) in order to reduce the introduction of air into the product.* • *Note: Keep mixing blade submerged to avoid bubbles and pay special attention to the edges of the mixing container.* 4. ***Agitate*** *(shake) Part B in its container (pail or can) to ensure homogeneity of product for 30 seconds and then pour into a can/pail with pre-mixed Part A.* 5. ***Then mix*** *both products together with Jiffy mixer for 2 minutes. Make sure final product (A+B) is thoroughly mixed so that there is no separation with pigment or any other raw materials. After mixing, let product rest for up to 5 minutes to allow any trapped air to escape and then pour the entire bucket of mixed material on the floor and begin application.* • ***Note:*** *leave bucket upside down after empting it so that as much material as possible is removed from the bucket so the bucket can be reused for the next batch* ***Tip:*** *when mixing multiple 1 gallon can kits together at once:* 1. *Use an empty 3-5 gallon pail, pour ½ contents of Part A can into pail.* 2. *Agitate/shake remainder of material in Part A can for 30 seconds and then pour remaining contents of Part A can into pail.* 3. *Mix all Part A material in pail with electric mixer for 2-3 minutes.* 4. *Agitate/Shake Part B cans for 30 seconds, then empty all Part B cans into pail with Part A and mix both products together for 2 minutes.*
Application	***<u>No Primer Application:</u>*** *If the substrate does not have significant water vapor transmission, due to its exceptional adhesive and water/chemical resistance properties,* ***FLI4W&FC V.2*** *does not need a primer.* 1. ***Test*** *to determine whether you need a primer:* • *Test the entire concrete substrate for the level of water vapor with Calcium Chloride or RH Meter.* • *If Calcium Chloride test shows water vapor under 10 lbs. per 1000 ft² or your RH meter shows the equivalent then you do not need a water vapor primer and can put your base coat directly onto the prepped concrete.* *If the water vapor transmission is less than 10 lbs., simply apply your desired thickness of* ***FLI4W&FC V.2*** *in one layer. As long as the depth of any holes or cracks in the concrete are less than the thickness of the coating you intend to apply.* ***FLI4W&FC V.2*** *will automatically fill the cracks and holes while at the same time achieving a self-leveling, uniform, flat, glossy surface. Note: be sure to follow "Cleaning/Grinding of Surface" instructions prior to application of material as noted above.*

	2. ***Pour*** *mixed material on to the floor immediately after mixing and create needed thickness using a squeegee.* • ***Note:*** *use a notched squeegee to obtain a certain thickness (up to 3mm) or a magic trowel to achieve a flood coat or a tight/thin coat. Back-roll with nap roller to remove any squeegee marks and achieve a smooth finish. If required, apply top coat within 24 hours of base coat application. To ensure a uniform finish, continue to apply product along the edge of a recently coated area where the edge is still wet (Applying new product to a dry edge may leave a noticeable line).* *Examples of recommended application tools are included below for your convenience (Figure 2).* ***Primer Application:*** *If a primer is specified, use* ***FLI4W&FC V.2****, other conventional epoxy primer or water vapor primer if water vapor transmission is greater than 10 lbs. The thickness of the primer layer should be sufficient to seal all pores and cracks. To fill voids and other physical imperfections of the substrate, avoid pin holing in order to ensure a smooth surface coating. Pour out* ***FLI4W&FC V.2*** *or other conventional primer and use a thin roller or magic trowel to pull material throughout the surface of the substrate. Apply top coat of FLI4W&FC V.2 within 24 hours according to "No Primer Application" above.*
Filled System/Grout	***Mix:*** *Parts A and B should be mixed according to instructions above. Then immediately add dried quartz sand (0.15 – 0.3 mm) or other suitable filler at ratio 1: 0.6-1.2 while mixing (or decant mixture of Parts A and B into a clean container and then add dried filler).* *Then thoroughly mix for another 2 minutes or until you reach an acceptable application viscosity (quantity of filler is usually: 30-50%).* *Apply immediately after mixing in order to prevent sedimentation of sand.* *To ensure that the aggregate remains at the surface of the coating, keep the thickness of the coating less than the size of the aggregate.*
Anti-Slipping Systems	***Broadcast****: Quartz can also be broadcast onto FLI4W&FC V.2 up to 50% (see HCT Quartz Green Polyurethane™ Floor Coating System video for instructions). As soon as material has been applied broadcast with aggregate to rejection (clean, dry sand, quartz, aluminum oxide, glass chips, shredded rubber, PVC chips, etc.). Allow base coat to set, then sweep and vacuum off excess aggregate and apply top coat if specified. Apply top coat within 24 hours of base coat application.*
Repairs and Maintenance	*Small repairs to cuts in the coating can be made by brushing on* ***FLI4W&FC V.2*** *after scuffing the damaged area with a sander. Re-applying* ***FLI4W&FC V.2*** *after 24 hours of initial application generally requires the use of sanding to achieve optimum adhesion.*
Clean-up and Disposal	*Clean skin with soap and water. Immediately clean spillages, equipment and tools with warm water and soap (trisodium phosphate may be used) or with a solvent (e.g. ethanol or methyl ethyl ketone) while the product is still wet. Cured product can only be removed*

	mechanically. Cured product may be disposed of without restriction. Un-cured hardener and resin portions should be mixed together and disposed of in a normal manner.
Storage, Shipping and Handling	*Keep in a well-ventilated place in tightly sealed containers. Protect from frost. Keep away from heat, direct sunlight and acids. Store product in a dry location in factory sealed containers at 59 to 90°F (15-32°C). Minimum product shelf life is 6 months in factory-sealed containers.* ***FLI4W&FC V.2*** *component A and cured materials are Class 55 and not regulated by US DOT shipping regulations.* ***FLI4W&FC V.2*** *component B has US DOT Hazard Class 8 (corrosive).* *Avoid contact with skin and eyes, inhalation of high concentration of vapors. Use only in well ventilated areas. When using do not eat, drink or smoke.*
Safety	*Refer to Safety Data Sheets*

FLI4W-Grey & Clear *application temp:*	*°F (°C)*		*+ 59-77 (+ 15-25)*	
FLI4W-Grey & Clear *pot life at temp:*	*min*		*59 °F (15°C)* *40*	*77 °F (25°C)* *20*
FLI4W-Grey & Clear *curing time at temp:*			*59 °F (15°C)*	*77 °F (25°C)*
• *Dry-To-Touch Time*	*hours*	*ASTM D1640*	*8*	*4*
• *Light Traffic Time*	*hours*		*30*	*20*
• *Full Cure Time*	*days*		*10*	*5*

FLI4W-FC V.2 Grey & Clear *application temp:*	*°F (°C)*		*+ 59-77 (+ 15-25)*	
FLI4W-FC V.2 Grey & Clear *pot life at temp:*	*min*		*59 °F (15°C)* *30*	*77 °F (25°C)* *10*
FLI4W-FC V.2 Grey & Clear *curing time at temp:*		*ASTM D1640*	*59 °F (15°C)*	*77 °F (25°C)*
• *Dry-To-Touch Time*	*hours*		*5*	*2*
• *Light Traffic Time*	*hours*		*24*	*12*
• *Full Cure Time*	*days*		*7*	*3*

*Note****: At higher temperatures the time of hardening and pot life are reduced.***

Figure 1. Examples of Jiffy mixers

	
HS-3 *model for medium duty jobs in 1-2 gal.*	***ES*** *model for heavy duty jobs in 2-5 gal.*

Figure 2. Examples of recommended instruments

Notched Squeegee	***Magic Trowel***
	
Nap Roller	