APPLICATION SHEET

SUBSURFACE / CUTTING AGENT / SURFACE REFINEMENT

GREENUMBRELLA®

GreenCut


Indoor


Outdoor

Application Ratio:
400-600 SF per gal.

Dwell Time:
Hydrate substrate first. 60 min. Minimum. If allowed to dry, re-hydrate before profiling.

IMPORTANT:
Read Technical Data Sheet and SDS before application. Follow all directions, including safety information. Installer education, training, and appropriate use are necessary for product success. Use for *@EarlyAge* profile success before 28 days after placement. Not for use with all abrasives, test for compatibility before complete application.


Broom


Hose


Sprayer


Grinder


Edger

Surface Preparation

Before introducing to any sound concrete surface, remove loose debris or contaminants by vacuuming, sweeping, brooming, or power washing the surface clean. Beware of any surface protrusions. Hydrate the surface using water. GreenCut™ is used on *@Profile&Polish™* - *@EarlyAge™* or *@MatureAge™* concrete as a GUNanoInside micro-profiling, nano-cutting agent and slurry treatment formulated to refine concrete during profiling or grinding. Always identify wet surfaces with proper signage.

Environmental Conditions

For Green Umbrella® GreenCut™ to effectively penetrate the substrate, the temperature should be 40°F and rising. Be aware of potential rapid evaporation in high temperatures, hydrate as necessary. GreenCut™ is pH neutral in solution, non-hazardous, and will NOT require special disposal. Follow all local requirements for concrete slurry disposal.

@Profile&Polish™ - Concrete to be Abrasively Polished [*@EarlyAge** or *@MatureAge*]

Coverage Ratio: Green Umbrella GreenCut™ is R.T.U.[2] and should be applied S.O.L.O.[1] to a clean surface with a dedicated, non-metal, clean GU recommended sprayer. Spray evenly on the surface at 400-600 SF per gallon.

1. Hydrate the clean surface using water.

2. Spray GreenCut evenly following 400-600 SF per gallon coverage ratio.

3. Evenly disperse the product as needed using a clean, soft bristle broom.

Allow proper dwell time: *60 min. Minimum. Keep Wet. If applied the day before or several hours before the profile grind, rehydrate with water.*

4. Following proper dwell time - profile using power trowel polishers, walk-behind grinders, and edgers.

@EarlyAge - Before 28 days | *@MatureAge* - After 28 days | [1]Spray-On, Leave-On | [2]Ready-To-Use

TIME, TEMPERATURE & HUMIDITY

For a chemical reaction to occur successfully, time must be allocated for the complete reaction. Likewise, when applying Green Umbrella GreenCut™ to concrete, there must be an adequate amount of dwell time for the reaction to take place. Allow a minimum of 1 hour of dwell time; if the GreenCut or slurry has dried on the surface, re-hydrate before profiling. Doing so will help to achieve the best result.

Humidity also plays a role in dry time. The product applied to a dry concrete slab in an arid climate will dry faster than in a humid environment. In dry climates with low humidity, it may be necessary to hydrate the slab to allow proper dwell time. If several treatments are being applied, product staging should be planned to meet all treatment **dwell times** and **dry times**. It is recommended to use **dew point** data from a mobile hygrometer to determine the best staging of concrete treatments to eliminate needless downtime. The use of on-site hygrometers and thermometers can provide meaningful data to facilitate treatment application success. *Call or Message your Green Umbrella consultant for assistance.*

Abrasives Note: For best results, only use GreenCut with approved abrasives. Never use with hone or polish, resin style abrasives.

Color Note: For best results, stage your polishing process well. GreenCut produces a uniquely closed surface - impacting the introduction of topical colorants.

*GreenCut uniquely allows concrete to be abrasively profiled, honed and polished 28 days after placement. For best results *@EarlyAge*, finish concrete using the GreenIce Cure system.

APPLICATION SHEET

GREENUMBRELLA®

ICESTART

Start High-Performance Concrete

GREENUMBRELLA®

ICESTOP

Stop the Damage @EarlyAge

IceStart™ Application Ratio:
400-600 SF per gal.
IceStop™ Application Ratio:
400 SF per gal.
IceStop™ Dwell Time:
30 min.
IceStop™ Drying Time:
30-60 min.@75F & 50% RH to foot traffic, 3 hours to wheel traffic

IMPORTANT:
Read Technical Data Sheet and SDS prior to application. Follow all directions, including safety information. Installer education, training and appropriate handling is necessary for product success. Due to the variety of concrete, the applicator must test the product for compatibility prior to full application.

Concrete Placement

1. Proper form setup is essential and must be established from a single benchmark.

2. Ensure sub-grade is properly compacted before placing any concrete. A properly consolidated base will support redi-mix trucks without rutting.

3. Concrete Slump should be maintained +/- 1"

4. Concrete placement should be as uniform as possible in front of the screed to avoid uneven aggregate exposures issues.
   - Placing the concrete too high and striking it off will cause stripes of aggregate when polished; lows will become stripes of cream without visible aggregate.

5. Laser Screed /Truss /Hand-held Vibra Screed acceptable (Vibration is required for proper consolidation)
   - Turn off vibration when stopping screed to avoid creating a cream line with the screed.

6. If above 50 degrees apply the first application of Green Umbrella IceStart @ 1200 sqft/gal
   - Spray system may be mounted to the laser screed for larger pours

(If ambient concrete temperature is below 50 degrees, follow ACI Standard 306R-16 for Cold Weather Concreting. Thus waiting for first application until after the first pan, applying two other applications during finishing.9)

7. Roller Bug (May also be adapted to the Laser Screed)
   - Roller Bug is used to ensure large aggregate is pushed down
   - Should be run in 1/2 overlapping passes

8. Channel Float/Bull Float "Mop" (8' to 10' preferred) to smooth the surface and locate high and low spots that need to be corrected. Any major re-straightening, if required, must be done during this phase.

9. Re-straighten edges, columns, wall lines, and around all protrusions w/ 4'

TIME, TEMPERATURE & HUMIDITY

For a chemical reaction to take place successfully, time must be allocated for the full reaction. Likewise, when applying Green Umbrella IceStop to concrete, there must be an adequate amount of dwell time for the reaction to take place. Doing so will help to achieve the best result.

For IceStop to effectively penetrate the substrate, the temperature should not be less than 40°F (4°C) for several hours after application. If temperatures are lower than recommended, the chemistry may take much longer to react and penetrate the concrete substrate. If the temperature exceeds the recommended maximum of 95°F (35°C), or if conditions are windy, the chemistry could react and dry before penetrating the substrate. In such circumstances, keep floors hydrated with water for recommended dwell time.

Humidity also plays a role in the dry time. The product applied to a dry slab of concrete in an arid climate will dry faster than in a humid environment. In dry climates with low humidity, it may be necessary to hydrate the slab to allow for proper dwell time. If several treatments are being applied, product staging should be planned to meet all treatment **dwell times** and **dry times**. It is recommended to use **dew point** data from a mobile hygrometer to determine the best staging of concrete treatments to eliminate needless downtime. Please consult a GreenUmbrella consultant with any questions. The use of on-site hygrometers and thermometers can provide meaningful data to facilitate treatment application success.

Board and smoothed with a magnesium hand float. (These areas should not have a steel trowel used on them until the body of the floor is being closed with steel trowel blades.) Do not prematurely close the slab.

Finish

1. If it does exist, wait until bleed water sheen has dissipated and a footprint leaves 1/4" or less indentation before breaking the surface the first time with pans or float blades.
   - First break w/pans should follow a pattern 90° to screed direction.
   - Back all edges with a trowel to avoid stacking the aggregate at the edges.

2. Apply the second application of Green Umbrella IceStart @ 1200 sqft/gal
   - This application may be applied via the sprayers on ride on trowels to avoid walking on the slab, making sure to apply at 1200 sq.ft./gal.

3. If there is a need to walk on the slab for any reason, kneeboards or finishing slicks must be utilized to maximize floatation and minimize depressing the aggregate. (Failure to do so may result in visible footprints after polishing.)

4. After each pass, re-straighten edges, columns, wall lines, and around all protrusions w/ 4' board and smoothed with a magnesium float. (These areas should not have a steel trowel used on them until the body of the floor is being closed with steel trowel blades.)

5. Second break w/pans should follow a pattern 90° to initial break direction.
   - Apply the third and final application of Green Umbrella IceStart @ 1200 sqft/gal
   - This application may be applied via the sprayers on the riders to avoid walking on the slab.

** Green Umbrella IceStart may still be utilized as a "Finishing Aid" to correct surface defects and "Cat-Faces" during this phase of floating and even in the early finishing.

6. Third break w/pans if needed; however, the finisher may use their judgment and experience to begin laying the floor down with combination blades.

7. Combination Blades should be used to close and finish the floor.
   - Blades should be pitched as low as possible 5-8° maximum pitch to minimize edge pressure and ensure the aggregate matrix is consolidated as much as possible and to minimize rolling the aggregate and breaking the cementitious bond.

8. Use a rider trowel or walk behind for final finish. For best results, use a combo machine that has been kept clean for this purpose. At the time of final burnish its very important to make sure any small pieces of concrete that are on the surface are blown off the surface with a leaf blower. Do Not finish over these as there may be noticeable defects. Use the edge of a finish trowel to cut any of these off the surface and then correct if possible with the trowel.

9. After the finishing has been completed and the trowels have moved off the area ensure you can walk on the surface without marring and then apply Green Umbrella IceStop @ 400 sq ft per gallon.

APPLICATION SHEET

SUBSURFACE / PENETRATING-REACTIVE / REPAIRABLE ENHANCEMENT

GREENUMBRELLA®

INTERIOR MICROFILM

Application Ratio:
1,000 - 3,000 SF per gal.
Dwell Time:
20 min.
Drying Time:
30-60 min.@75F & 50% RH to foot traffic, 3 hours to wheel traffic

IMPORTANT:
Read Technical Data Sheet and SDS prior to application. Follow all directions, including safety information. Installer education, training and appropriate handling is necessary for product success. Due to the variety of concrete, the applicator must test the product for compatibility prior to full application. Respect Time,Temperature & Humidity.

Surface Preparation

@Profile&Polish™ concrete should be free of all debris and potential contaminants—including film-forming cure and seal, wax, topical coatings or sealers and oil or food spills and all slurry or dust from the profile, hone and polish process—prior to application. Surface should be autoscrubbed with Green Umbrella GreenClean & Degreaser or GreenClean w/ Slip Resist and dust mopped with a clean, untreated dust mop.

Environmental Conditions

For Green Umbrella® Interior MicroFilm™ to effectively penetrate the substrate, the temperature should be 40° F and rising, not exceeding 90°F. For windy conditions or temperatures exceeding 95°F (35°C) on *@Profile&Polish* concrete: Exercise caution. It is not recommended to apply Interior MicroFilm in high wind conditions. If the substrate is exposed to the elements, do not apply Interior MicroFilm if there may be standing water within the first 72 hours after application.

@EarlyAge & @MatureAge Concrete To Be Abrasively Polished:

When desiring an *@EarlyAge* profile, use Green Umbrella GreenIce Cure System™ during and immediately after concrete placement & finishing, proceed with abrasive hone and polish process a few days after the pour. Consult IceStart and IceStop TDS for details.

1. Profile or Hone to achieve a specified or desired class of grind with GreenCut™ cutting agent and GC™ abrasives. Trowel or Variable speed concrete Grinder should be used to refine the surface. Surface abrasive profile should be taken to Polish - following best practice - Profile, Color introduction, Densification, Hone and Polish.

2. After final abrasive Polish - Double-scrub with an auto-scrubber equipped with GU recommended pads/brushes.

3. Prior to introducing Interior MicroFilm™, the floor must be dry, protected from the elements such as rain or standing water.

4. Interior MicroFilm™ is R.T.U. and should be applied S.O.L.O. to a clean surface by a team of installers.

TIME, TEMPERATURE & HUMIDITY

For a chemical reaction to take place successfully, time must be allocated for the full reaction. When applying Green Umbrella Interior MicroFilm™ to concrete, the installer must allow adequate dwell time for the reaction to take place. Doing so will help to achieve the best result.

Humidity also plays a role in the dry time. Product applied to a dry concrete surface in an arid climate will dry faster than in a humid environment. In dry climates with low humidity, it may be necessary to hydrate the slab pre or post application to allow for proper dwell time. If several treatments are being applied, product staging should be planned to meet all treatment **dwell times** and **dry times**. It is recommended to use **dew point data** from a mobile hygrometer to determine the best course of action and to eliminate needless downtime. Please consult a Green Umbrella consultant with any questions. The use of on-site hygrometers and thermometers can provide meaningful data to facilitate treatment application success. ***Call, e-mail or text your Green Umbrella consultant for assistance.***

5. Using a dedicated, clean, dry, GU recommended (non-metal) sprayer with a conical tip, spray evenly on the surface at a rate of 3,000 SF per gallon.

6. Use a clean GU T-bar to evenly applicate, working the material over the surface, moving excess material ahead, without puddling. Periodically check applicator head for cleanliness and change as necessary. Dirty applicator heads may be cleaned with water and immediately re-used.

7. Spray and apply, keeping a wet edge without walking or tracking over any completed areas, work toward the exit. Introduce and apply evenly to achieve proper dwell time and reactivity. Do not attempt to re-wet or re-apply treatment to quick dry areas.

8. Following the application of the first coat, ALWAYS apply a second coat. The second application will be 'thinner' but is not a 'spiff coat'. The second application will remain wet for 15-20 minutes before drying.

9. Allow to air dry. Burnish with a weighted, concrete equipped, UHS burnisher outfitted with a GreenGloss thick black pad. Never use a 'diamond impregnated' pad. For best results, use a concrete weighted GreenGloss burnisher.

10. For maximum protection 24 hours after the second coat, apply the THIRD application of Interior MicroFilm™. Follow the methodology of the second coat AND burnish using a propane-powered, UHS, concrete-weighted burnisher.

11. Scrub with an auto-scrubber equipped with GU recommended pads/brushes. Proceed with PHP process. (If using MaxDefense introduce Shield & Enhance after Dry Shield. The surface should be clean & dry.)

APPLICATION SHEET

SUBSURFACE / WATER & SALT RESISTANT HARDENER / COLOR GUARD

GREEN UMBRELLA® SHIELD&ENHANCE

Indoor Outdoor

Application Ratio:
400-600 SF per gal.
Application Ratio w/GreenCut™:
500-700 SF per gal.
Dwell Time:
30 min.
Drying Time:
30-60 min.@75F & 50% RH to foot traffic, 3 hours to wheel traffic

IMPORTANT:
Read Technical Data Sheet and SDS prior to application. Follow all directions, including safety information. Installer education, training and appropriate handling is necessary for product success. Due to the variety of concrete, the applicator must test the product for compatibility prior to full application.

Broom Autoscrubber Sprayer

T-Bar Grinder Burnisher

Surface Preparatio

@EarlyAge, *@MatureAge*, or *@Profile&Polish* concrete should be free of all surface debris and potential contaminants—dust, dirt, oil or food spills. To attack subsurface contamination, pre-treat the substrate with Green Umbrella GreenClean & Degreaser (not a shock treatment) following manufacturer instructions. Any topical coatings or sealers — including film-forming cure and seal, wax, etc. — must be completely removed prior to application.

Environmental Conditions

For Shield & Enhance to effectively penetrate the substrate, the temperature should be 40°F and rising, not exceeding 90°F. For windy conditions or temperatures exceeding 95°F (35°C) on *@EarlyAge* & *@MatureAge* concrete: Consult ACI 305R-20 for Wind Advisory.

@EarlyAge Concrete & *@MatureAge* Concrete:

1. Shield & Enhance is R.T.U.[2] and should be applied S.O.L.O.[1] to a clean surface with a clean, non-metal, dedicated GU recommended sprayer with a drip-free conical tip. Spray evenly on the surface following manufacturer recommended application ratio.

2. **Application Ratio:** Yield will vary depending on the concrete surface. Broom finish 250-350 SF per gallon, Trowel finish 400-800 SF per gallon.

3. **Do Not Broom @EarlyAge concrete prior to the 3rd day.** If necessary to distribute next-day treatment, use a GU T-Bar with a clean pad to ensure uniform coverage, or disperse puddles — no need for agitation.

4. **Dwell Time:** 20 minutes for full reaction. Product will not gel or require rinsing.

5. **Dry Time:** 1 hour. Allow product to air dry. If treatment is not dry within one or two hours, indirect blowers or fans may reduce dry time. Do not attempt to use direct air movement over the treated surface, doing so may produce an undesirable finish that may require grinding to repair. Environmental controls will facilitate consistent dry times.

6. If unreacted material would exist, remove it with a broom, after the product has completely dried.

@EarlyAge - Before 28 days *@MatureAge* - After 28 days [1]Spray-On, Leave-On [2]Ready-To-Use

TIME, TEMPERATURE & HUMIDITY

For a chemical reaction to take place successfully, time must be allocated for the full reaction. When applying Green Umbrella Shield & Enhance to concrete, there must be an adequate amount of dwell time for the reaction to take place successfully. Proper dwell time will help to achieve the best result. For Shield & Enhance to effectively penetrate the substrate, the temperature should be 40°F (4°C) and rising for several hours from application forward. If temperatures are lower than recommended, the chemistry may take much longer to react and penetrate the concrete substrate. If the temperature exceeds the recommended maximum of 95°F (35°C), or if conditions are windy, the chemistry could react and dry before penetrating the substrate.

Humidity also plays a role in the dry time. The product applied to a dry concrete surface in an arid climate will dry faster than in a humid environment. In a PHP process, several treatments are being applied - product staging should be planned to meet all treatment dwell times and dry times. It is recommended to use dew point data from a mobile hygrometer to determine the best staging of concrete treatments to eliminate needless downtime. The use of on-site hygrometers and thermometers can provide meaningful data to promote treatment application success.

7. **Time to Traffic:** For best results - light foot traffic when dry, or after 1 hour. Wheeled traffic after 1-3 hours.

@EarlyAge & *@MatureAge* Concrete To Be Abrasively Polished

When desiring an *@EarlyAge* profile, use the Green Umbrella GreenIce Cure System™ during and immediately after concrete placement & finishing, proceed with abrasive hone and polish process a few days after the pour. Consult IceStart™ and IceStop™ TDS for details.

1. Profile or Hone to achieve a specified or desired profile, aggregate reveal or class of grind with GreenCut™ liquid cutting agent and GC™ abrasives. Consult GreenCut™ TDS for details. For best results use equipment designed with the weight and RPM to produce planetary action (active or passive).

2. When NanoDye™ colorants are used, the floor must be in the dry, protected from the elements such as standing water or UV exposure. Green Umbrella NanoDye™ indoor colorants must be applied before proceeding with Shield & Enhance application. Consult NanoDye™ TDS for details.

3. Double-scrub with an auto-scrubber equipped with GU recommended pads/brushes.

4. Dust Mop using a clean, untreated head to remove any potential surface contaminants.

5. Shield & Enhance is R.T.U. and should be applied S.O.L.O. to a clean surface with a clean, non-metal, dedicated GU sprayer.

6. Application Ratio: 600-800 SF per gallon. Yield based upon use with GreenCut and will vary depending on the concrete surface.

7. Plan application to maintain a wet edge and work toward an exit. Spray onto concrete and applicate using the weighted T-Bar to distribute evenly. Maintain a wet edge, exercise caution to connect passes without tearing drying product. Do not re-apply to fast drying areas. Work toward the exit. Do not walk over the freshly placed or wet surface.

8. T-Bar Note: Change applicator pads frequently to prevent surface contaminant build-up which may affect final finish. Clean used T-Bar pads using clean water for future re-use.

9. Overspray: Immediately wipe with a wet cloth and follow with a dry cloth to remove treatment from finishes or furniture after contact.

10. Dwell Time: 20 minute wet finish for full reaction. Product will not gel or require agitation or rinsing.

11. Dry Time: Allow product to air dry. The surface should be dry 1-3 hours prior to using a PolishPlus™ abrasive. If treatment is not dry within one or two hours, indirect blowers or fans may reduce dry time. Environmental controls will facilitate consistent dry times.

12. Time to Traffic: For best results - light foot traffic when dry, or after 1 hour. Wheeled traffic and profiling after 1-3 hours.

13. Shield & Enhance is designed to be introduced into the substrate before abrasive polishing. Polishing may be passive or active planetary, trowel or concrete grinder. High RPM, using a PolishPlus abrasive.

14. Proceed with PHP process and specified treatment system. (Polish, Interior MicroFilm for MaxDefense and MaxDefense with Color System).