



AMERICAN SPECIALTY GLASS
All of our colors are green
A DIVISION OF STRATEGIC MATERIALS

How to Use Glass in Decorative Concrete

Variations in the use of ASG glass chips in decorative concrete are limited only by a user's imagination. How the glass is applied, the quantities of glass used, and the mixes of colors chosen can provide a unique and signature decorative concrete product for those up to the challenge.



Broadcasting

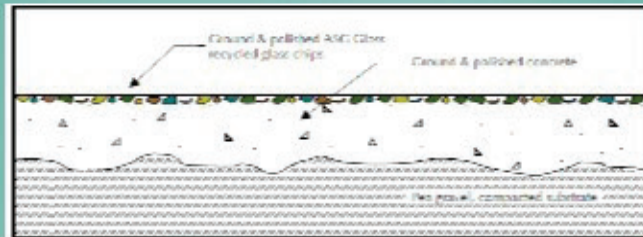
1. Prepare and place your concrete as you normally do.
2. Bull float the concrete to smooth out the surface, but don't rough trowel or finish trowel your project.
3. Spread the glass out evenly on your concrete surface using whatever quantity, colors and mixes of glass that you desire.
4. Lightly trowel the glass into the concrete, gently pushing the glass into the still wet concrete mixture. Take care not to push the glass too far in or your finishing, grinding, and polishing process will take longer. Leave some of the higher glass tips on the surface or even sticking out of the concrete.
5. Allow the concrete to cure for approximately seven days, depending on atmospheric conditions. Attempting to finish the surface too early will damage the surface. Finishing the surface too late will take much longer and will put undue wear on your finishing tools.
6. Begin grinding the concrete surface with a 50 grit diamond grinding pad or similar taking care to wet the surface during the entire grinding process. Wetting the surface reduces the friction between the pad and the concrete, reducing scratching and scarring of the concrete. (The glass grinds uniformly with or without wetting.) Increase to a 100 grit, then 200 grit, and continue doubling the grit until you achieve the finish and polish you desire.
7. Sweep, vacuum, and/or wash the surface (often with muriatic acid) to remove the finishing dust from the grinding and polishing process. Install the sealer of your choice carefully following the manufacturer's recommendation be it a shiny UV-resistant or a flat penetrating sealer.

Quick Tips

Tip 1: Before step 3, some people use a retarding product on the surface to increase the working time.

Tip 2: Use of an acrylic fortifier to the concrete mix helps with the adhesion of the concrete to the glass and other aggregates. Acrylic fortifiers can be found at any concrete supply place and looks like a heavy milk or a liquid Elmer's glue. Not required, but helpful.

Note: Keep in mind during step 5 that finishing methodologies differ by desired outcome of the project. Exposed aggregate, sandblasting, and other finishes are possibilities. The most frequently asked questions are about grinding, polishing, and sealing, so proceed assuming that that finish is your desired result.



Mixing Integrally

Replace traditional aggregate content with ASG recycled glass chips on a 1:1 basis by weight. That is, if a traditional 6-bag mix requires 100 lbs of aggregate per batch, replace all, or a portion of the 100 lbs, with glass. Mixing aggregate and glass 50/50 or any other percentage is fine. More glass provides a more colorful finish, less glass a more subtle color.

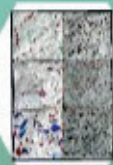
Mix & Pour
Bull-float
Rough trowel
Finish trowel

Follow steps 5, 6, and 7 above by allowing the concrete to cure, grinding and polishing it to the finish you desire, then sealing it with a good sealing product.

Quick Tips



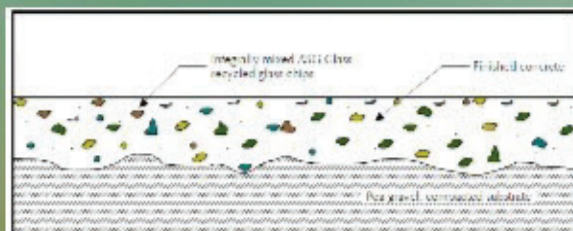
Add fine glass (ground glass minus 30 mesh) to your mixture when glass aggregates are used. The silica in the fine glass chemically reacts well with the cement to better bond the concrete mixture to the glass. An acrylic fortifier helps as well, but the fine glass is highly recommended in this case.



Don't use this glass as a coloring agent. There are numerous companies that make concrete coloring products that will serve you much better in that regard. The fine glass is lighter in color and provides only a subtle color change rather than the deeper color change most customers seek. This glass is ideal for subtle effects, not for deep effects.



Mixture with reasonable success:
RapidSet TRU 50 lbs
Glass chips (#0, #1) 25 lbs
**Note: this mixture will vary depending on the concrete overlay product*



Sources:

All information courtesy of American Specialty Glass, Inc. and collaborative design by Runyon Surface Prep Rental and Supply, Inc.

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Concrete Staining: the 4 basic steps

When done well, reactive stained concrete produces a finish that rivals the best in the high-end flooring market. The following 4 steps accomplish a polished, professional look, so refer to this guide for a crisp, clean result.

1. PREP: remove sealer, paint or bond breakers



This process aims to clean the concrete surface in preparation for subsequent polishing steps. Do this by removing contaminants i.e. paints, glues, mastics, sealers, drywall mud, rough trowel marks, etc.

Keys to Success

- Use purely mechanical methods: grinding and scraping
- Use a 3-head concrete polisher fitted with diamond abrasives
- Maintain a clean work environment with vacuums

2. POLISH: mechanically refine and smooth the concrete floor

The polishing process uses additional diamond abrasive passes to refine concrete floor and continues to make it smoother and smoother. This process mechanically polishes to the desired shine, which must be done on the main section as well as the edges.

note: moving higher and higher in grit size will help free your smooth surface of scratches

recommended process:

- 80 grit metal-bond honing pass to remove contamination
- 100 grit level 1, residential polish with a 3-head polisher
- 200 grit leaves the surface free of scratches and provides a soft satin canvas for coloring
- 400 grit (or 800 grit) finishes add gloss and additional depth



3. STAIN: impart permanent color into the concrete surface

Reactive staining works by using a reactive solution that imparts mineral salts into concrete. These minerals permanently change color and produce floors with variegated and marbled coloring that brings a soft, subtle touch of organic color to a space.



single color stain application
reddish leather color



control joint filling
protects edges of the joint from breaking off and produces a cleaner, more finished appearance -- can be tinted to match stain color



protect finished walls and surfaces

4. SEAL: protect and enhance the surface

The sealer choices for your stained concrete will greatly impact the depth and color and how the floor performs long-term. It creates a sealed, hardened and dust-proofed surface, as well as a beautiful, long-lasting gloss.

two-step process:

- densifier: penetrates into the porous concrete and increases abrasion resistance by 400% and decreases permeability of the surface
- stain guard: applied and burnished to provide additional shine and stain protection

additional benefits

- 10 yr lifetime warranty optional
- 21% increase in impact strength
- exceeds OSHA and ADA recommendations for co-efficient friction
- 30% increase in reflectivity
- completely "green" system

- >> this system is resistant to scratches, scuffs and stains
- >> it creates a surface that is durable and easy to maintain



SOURCES:

all information and design collaborated by Dancer Concrete Design LLC and Runyon Surface Prep Rental & Supply

