

# STONE FLAKES™



Product Manual

**ACS**  
INTERNATIONAL

**S**tone Flakes are flat chips about 1/16 inch in diameter and about as thick as a piece of paper, (5 mils). They are available in a wide range of solid and granite colors. The flakes are packaged and sold in dry form only and do not have a limited shelf life. The material the chips are made from has the ability to absorb polyester resin or gel coat. This property allows the chips to become flexible during the application process and greatly increases the chip's ability to flow through spray equipment without clogging. Since the chips are flat, they have a greater surface area than conventional ground materials. This allows the chips to overlap during application and reduces the thickness required to produce a consistent appearance. Increased surface area by weight also improves the vertical adhesion characteristics.

## APPLICATIONS

Stone Flakes are designed to be mixed with a gel coat or resin for applications where a granite or textured appearance is desired. Typical applications include bathroom vanities, wall panels, outdoor furniture, boats, acrylic spas, and many other applications involving coatings. This product may be applied with a spray gun or brush. The colors in the chips are U.V. stabilized and are safe to use in outdoor applications. Stone flakes are also very resistant to water bleaching making them an excellent and cost effective alternative product to cast marble and granite.

## CASTING APPLICATIONS

Stone Flakes are not designed to be a casted product. If your application requires casting we recommend using some of our other filler products that are designed to be used in cast polymer applications. Depending on the application, fillers such as **Dura Stone®**, **Terra Bella™** or **Artistone™** may be a better choice. If you insist on casting Stone Flakes, be aware that this product may settle to the mold surface and have a different cosmetic appearance on vertical surfaces than on flat horizontal surfaces.

## STORAGE & HANDLING

Stone Flakes are packaged either in a plastic lined cardboard box. They should be stored in a dry cool place. When spraying Stone Flakes always wear protective eye wear and an appropriate respirator for the resin or gel coat used.

## RESIN REQUIREMENT

A high quality U.V. stabilized ISO NPG gel coat should be used as a base for mixing with the Stone Flakes. The gel coat will represent about 70% of the total mix weight. Other resins may also be used if they are more suited to your specific application. For post mold applications or if spraying as a backing behind a clear acrylic sheet be sure that the resin selected has desired bonding characteristics.

## EQUIPMENT REQUIREMENT

Most manufacturers of spray equipment produce spray guns designed to spray granites. Types of guns that are capable of spraying Stone Flakes are: gravity cup guns, pressure pot guns, airless pump guns, and high volume low pressure guns.

Your existing gel coat gun can also be fitted with a dry spray system that blows the Stone Flakes into the gel coat stream as a dry powder. This significantly reduces the amount of time consumed in clean up and color changes.

For small scale work, an inexpensive disposable cup gun works well. This is a spray gun that utilizes a standard 32 ounce paper or plastic cup that snaps in place behind the gun tip. The tip size for this type gun should be about 3/16" or a #8 tip.

With standard spray guns it is recommended that the tip size be at least .068" or 200 microns. A valve in the material line should be added to the gun in order to enable stopping the flow of material if the needle should get stuck. If clogging is experienced in the gun tip, a further modification

of shortening the needle by about ¼ inch will help considerably. Once this modification is made, the gun trigger will no longer be effective in stopping the flow of material. To compensate for this, an inline valve on the material line is required to turn off material flow.

## **SURFACE PREPARATION**

### **IN MOLD APPLICATIONS**

For in mold applications wax the surface thoroughly with a high quality mold release wax. For new molds at least four consecutive wax applications will be necessary. If the finished product will be subjected to the outdoors or water, we recommend a layer of clear gel coat be applied at a thickness of about 18-20 mils prior to spraying the Stone Flakes. This clear layer will aid in keeping the surface of the product glossy and smooth to the touch. Without a layer of clear gel coat, the surface may have a slight texture, which will become exaggerated over years of exposure to water and weather. Even with the clear layer of gel coat, invisible patching and repair work is achievable. Once the clear layer of gel coat has cured to the tacky stage the Stone Flakes may be applied either by brush or spray system.

### **POST MOLD APPLICATION**

Stone Flakes adhere well with most resins and gel coats. It is important to select a resin or gel coat that has good adhesion characteristics to the product being sprayed. Certain resins will adhere better to wood or metal than others. Please check with your resin supplier for the proper resin or gel coat. Applying Stone Flakes with a brush is not recommended in post mold applications.

If a smooth surface is to be sprayed, it is recommended that the surface be scuffed with sand paper prior to application. This will greatly increase bonding and resistance to chipping. If the surface to be sprayed is of a color that does not blend well with the granite color being sprayed, a

surface coating of a compatible color should be applied. This surface coating should be of a material compatible with the resin or gel coat being sprayed. For best results, mix some of the gel coat to be used with the Stone Flakes with a pigment and spray it on as a solid backing color. After the back coat has cured, the Stone Flakes may be applied.

### **MIXING AND CATALYZING**

Mix ratios will vary slightly depending on the viscosity of the gel coat and application for the spray granite. As a starting point we recommend a ratio of approximately 30% chips to 70% gel coat. If this is too thick to spray through your equipment, some adjustment may be required. If your application involves mostly vertical surfaces, a thicker mix will be more advantageous.

Catalyze the mix by gel coat weight. The percentage of catalyst will be the same rate as normally used with the clear gel coat by itself. The addition of the Stone Flakes neither retards nor accelerates gel times. A benchmark of 1% is a good place to start if you are unfamiliar with the gel coat. If an airless spray gun with a separate catalyst pump is being used, set the catalyst rate at one to two parts catalyst per 100 parts resin.

### **SPRAYING**

Set the air pressure and material flow pressure at 25–35 psi. This will be sufficient for spraying the Stone Flake mix. Slow even passes are the best way to apply this material. The thickness to build up to should be at least 25 mils and in some applications thicknesses of 40 mils are required. If sagging occurs on vertical surfaces, a thicker mix may be required. This can be achieved by adding some dry Stone Flakes to the spray gun pot. Be sure to clean all spray equipment thoroughly after each application to prevent damage to the spray equipment.

## BACKING

After the Stone Flake coating is fully cured, the material is ready for backing. The backing material may be a cast marble filler, ultra light filler, or fiberglass. For in mold applications it is important to consider the color of the material to be used for backing. It should not differ greatly from one of the component colors in the spray granite or it may show through the spray granite in thin areas. To prevent this from happening it is recommended that a pigment be used in the backing material to assimilate a non obtrusive color. The other method is to spray a matching layer of pigmented gel coat behind the Stone Flakes prior to backing.

## FINISHING

### IN MOLD APPLICATIONS

Once the part has been removed from the mold a sheen that reflects the mold will already exist. For a high gloss look a clear layer of gel coat should have first been applied to the mold. This allows a working surface for a polisher to bring out additional luster. If there is not a clear layer of gel coat to work with the surface will appear glossy if the mold had a glossy surface. However, using a high speed polisher will expose chips to the surface and may produce a slightly textured appearance. For a matt finish use 400 grit sand paper to take the mold sheen off of the surface.

### POST MOLD APPLICATIONS

The surface of the part will have a coarse texture after spraying Stone Flakes. Considerable sanding will be required to obtain a smooth surface. A wide belt sander will save time in leveling the surface. The procedure for obtaining a smooth surface is as follows:

- 1). Sand with 80–100 grit to remove the high spots.
- 2). 220 grit to flatten the surface completely.
- 3). 320 grit to produce a smooth flat surface.

- 4). 400 grit for a mat finish and preparation for polishing.
- 5). Use a polishing compound with a low speed polisher until desired sheen is achieved.

Some slight texture will result from the polishing step. To avoid this, apply a layer of clear gel coat at a thickness of 20–25 mils after the surface has been sanded with the 80-100 grit paper. After the clear layer cures, continue with steps 2–5. This will allow a better working surface for producing a high gloss.



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