

Everything you always wanted to know about Screen Goo but were afraid to ask

By Ken Hotte, Goo Systems technician and head of research and development:

Goo Systems' *Screen Goo* products are specially formulated and color corrected screen coatings designed to achieve the highest performance levels possible from a given display surface. *Screen Goo* products are being used by all levels of the video industry from do-it-yourself home theater aficionados to large scale commercial and industrial clients. The coatings have been formulated in a laboratory environment and benefit from many years of research and development. Designed for easy application via spraying or rolling, screen goo products can be successfully applied by the novice or professional alike. A simple rolled application yields impressive results, but a professionally sprayed application can provide spectacular performance levels unprecedented in the video industry.

Extensive research and development at Goo Systems has allowed us to produce a coating system that places the highest levels of video screen design in fluid form. In the hands of the end user the cost of screen execution can be as little as the price of the coatings themselves - when applied to an available wall space. More dedicated videophiles can investigate the possibilities of elaborate framing systems and custom screen design.

Screen Coatings of this quality and performance level have previously been unavailable to the end user, consequently over inflated high-end video screen pricing will now be a thing of the past. In addition, the very custom nature of the coatings allows a professional installer to custom design the best screen for any given projection system and charge appropriately for their skills, knowledge, and execution. This is due to the fact that the different mixtures can be added together or mixed together to create almost any specific surface for any given application.

Coverage levels:

Topcoat and *Basecoat* coverage per sq ft. can vary somewhat, depending on the surface conditions. 1 liter (just slightly less than a US Quart in volume) will cover approximately 45-60 sq. ft. with two thin coats, under ideal conditions on an ideal non-absorptive surface. When rolling the product, a short nap semi-smooth to smooth type roller, in the 1/4" nap range should be used. Rolling should be executed with two thin coats each, of *Basecoat* and *Topcoat* mixtures. This ensures proper coverage, without texture build up. Usage when spraying will vary as well. Some have done 5'x10' screens with 2/3 of



a liter of *Basecoat* and *Topcoat*, and some have used three to four times that amount!

Basecoat AND *Topcoat* are both required, in equal amounts for proper screen design. The *Topcoat* and *Basecoat* work together to create a screen. You can create a screen solely with either, but you will not achieve the highest level of performance that is possible when they work together. In addition, starting with a primed white surface is strongly recommended, to get to the quality of results that the product was designed to reach.

When spraying, as much of the product should be used as is possible. This specific aspect of usage concerns spraying only! The exact texture of the surface will dictate the gain of the finished screen. 'Gain' meaning: The surface reflectivity combined with the light absorption properties of the screen. More texture will create lower gain, but better off-axis viewing qualities. A smoother surfaced screen will create higher on-axis gain (brighter) but off-axis screen light output will drop slightly. The *Screen Goo* coatings are designed to look best when sprayed as flat and evenly as possible, and will take care of the "gain curve" characteristics automatically, due to the inherent properties of the mix. Surface texture is controllable via sprayer handling techniques. The thinning required for a particular spray system to work optimally with *Screen Goo Basecoat* and *Topcoat* mixtures will vary depending on the spray system in use and the experience of the user. It is difficult for us to predict how a specific spray system will react with our product, and how the spraying conditions will affect the outcome. Spraying should be done by people who are familiar with paint spraying systems. Do not use solvent thinners of any kind in the screen goo acrylic mixtures.



Which product for which projector?

Digital Grey mixture should be used on smaller screens (up to 8 feet wide), with 800 lumen projectors, in perfectly light controlled rooms. With lower output projectors or bigger screens, the lighter colored mixtures should be utilized. One can use the differing coating mixtures to make whatever screen is required for the given situation. For example, a low lumen projector, in the 500 lumen range, with a 35 Sq. Ft. screen, would look best with the *CRT White* Coating Mixtures. One can mix the different *Topcoat* mixtures together, or the two different *Basecoat* mixtures together to create custom mixtures



and grey levels to match a given projector and given situation. For CRT projectors, the *CRT White* mixtures are the only reasonable choice. Digital Projectors (LCD, DILA, ILA, and DLP types) may utilize either or both. For example, a high contrast ratio projector like the infocus X-1, with a 7 foot wide screen, may look best with the *Digital Grey Basecoat* and the *Digital Grey Lite Topcoat* as a screen design mixture.

Curing Times:

The product can be used immediately after rolling or spraying and will look very good after the first day, but it's performance will continue to improve for up to 6 weeks by which time The acrylic mixtures should be fully cured and clarified.

Rolling technique:

Each coat rolled should be allowed to dry for 1 to 2 hours before application of the next coat. Check the condition (dryness level) of each layer before proceeding with the next coat. The drying times are stated based on a standard living environment of 68 degrees, with 35% humidity.

Rolling instructions:

Rolling this product is a bit trickier than rolling normal latex paint. Since you are going to be looking at the finished surface for thousands of hours in a rather intense manner, the coating of your screen surface must be as good as possible. This means that attention must be paid to application method and roller handling. When rolling a screen, place the required amount of *Basecoat* in the paint tray, and load the roller very lightly. Dab some on one side of the roller, rotate and dab some on the other. What you want is enough paint on the roller to complete approximately two roller width rows plus a bit, that go from the top to the bottom of the screen. This applies for standard 16x9 ratio, mid size (up to 60 inch high) screens. Larger wall type screens may benefit from an extra agent called "Retarder" added into the coatings to slow the drying enough to minimize potential problems in application during the dry winters of

northern climates. Please ask for our advice if you are intending to execute a substantially large screen. Retarder will dramatically slow the drying time (double it, or more) and allow for much more perfect surfaces on large screens. It may take 3-6 hours to have a layer dry with this product in use, but the 'lay' of the coatings on the surface will be noticeably more correct and you will have more time to work the surface.

When rolling the coatings use top to bottom strokes as straight as possible covering the full height of the screen. The coating density should be not too thin or thick, but somewhere in between and kept as consistent as possible. After the first stroke, apply the second full height stroke, with a slight overlap. Place approximately the same amount of paint on the roller again, and lay down an adjacent two to three rows of coating. Then go back to the start of the screen and complete a full finishing stroke over the original first stroke, in a straight run, from top to bottom of the screen. You must go from over the top edge, to off the bottom of the screen. This is to prevent marks from stopping the roller on the surface of the viewing area. From this point, continue the screen coating job by moving across the screen, bit by bit, two rows at a time. When applying the finishing strokes, make sure the open end of the roller (which receives less pressure) is on the finished side, so that the overlaying layer will have a somewhat feathered edge. The wire support side of the roller mechanism naturally presses harder on the surface of the screen, so it should be on the unfinished side of the screen. The 'finishing' strokes should be done no more than 2-3 minutes after the original paint strokes in a given area. Remember, the finishing strokes should have a slight overlap, run from top to bottom of the screen and travel past the perimeter edges. You should be using just over 1/3 of a liter for a 32 sq. ft. (8ft. by 4ft.) screen per layer of coating. After the first full screen layer coating of the *Basecoat*, you should have a better idea of usage levels. After allowing the *Basecoat* to dry thoroughly (approx 2 hrs.), repeat the above procedures for the two coats of *Topcoat*.

Following these instructions when applying *Screen Goo* coatings will give you a uniform high-performance screen surface that will look fantastic for many years to come. Sit back and enjoy, you won't believe your eyes!

