GLASS SYSTEMS

FERRO

SpecTruLite® organics | TECHNICAL INFORMATION

95 SERIES WATERBORNE ORGANIC COATINGS: SINGLE PACK SYSTEM

1.0 PRODUCT CHARACTERISTICS

1.1 GENERAL PROPERTIES

SINGLE pack ready-to-use system with good glass adhesion and broad color range	
Solids	30% Maximum – epoxy base
V.O.C.	LOW - Max 10% by weight
Flash point	>140°F, 60.0°C
Density	1.06 g/ cm^3 +/- 0.03
Viscosity (Clear or Colors)	15-20 seconds #3 Zahn @75°F, 24°C 20-25 seconds #4 Afnor @75°F, 24°C
Thinner	De-ionized water

1.2 RECOMMENDED APPLICATION PARAMETERS

Application methods	Hand held or automatic spray gun, siphon feed, electrostatic disc or aerobell spray equipment.
Recommended application conditions	Glass temperature: 68 - 86°F(20 - 30°C) Air Temperature: 68 - 86°F (20 - 30°C) Relative Humidity: 60-80%
Applied Film Thickness	20 to 30 microns average Wet film thickness
Filtering recommendations	Filtering before use is recommended: Frost > 50 microns filter Clear/colors > 10 microns filter
Atomization pressure	30-60 psi (2– 4 bar) depending on application
Paint supply pressure	14.5 psi (1 bar) maximum
Spray gun nozzle size	Hand held gun : 0.5 – 1.5 mm diameter. Automatic machine : 0.5 – 1.0 mm diameter
Thinning	Product is supplied ready to spray. If thinning is necessary, use the minimum amount of water needed to achieve acceptable spray performance
Suggested cleaning solvents	Wet coating can be cleaned up with water or a wet towel. Dried coating must be cleaned with acetone or MEK. Paint thinners, mineral spirits or turpentine is not recommended.

1.3 CURING/DRYING OF PRODUCT

Curing Method	Radiant heat, convection oven or lehr.
Curing Parameters	Flash dry: 2-3 minutes at room temperature up to 80°C Cure Temp: 210°C (410°F) glass temperature Time: 10 - 20 minutes depending on glass weight

1.4 GENERAL PERFORMANCE CHARACTERISTICS*

Pencil Hardness	>4H
MEK/Acetone Double Rubs	>50
24 Hours soak in Water/Ethanol/G1 liquid	Pass
Dishwasher resistance/Autoclave	Passes 150 Cycles

***Note:** Performance characteristics based on testing conducted in Ferro development laboratories. Data is given for general comparison only; it is not a guarantee of performance in a particular application. It is always recommended that the customer evaluate the coating for suitability in the intended application. We strongly recommend that all safety precautions be followed as per the relevant Ferro MSDS.

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2.0 PRODUCT PREPARATION

The 95 Series water-borne organic coatings are supplied ready to use for spraying, dipping or flow-coating. If desired, the viscosity can be adjusted to meet individual requirements by adding deionized water.

Ensure that the product has been well mixed prior to use. Some settling may occur during prolonged storage. Product temperature should be equivalent to your room temperature prior to measuring viscosity or application of the material. Filtering before use with a 10 - 25 micron filter is recommended.

Thinning may be necessary depending on application equipment. Distilled or deionized water is recommended for thinning. Do not use tap water; salts present in tap water may cause lumps or gelling to occur or may cause water sensitivity of the cured film. Water should be added slowly while the coating is under agitation. Coating should be mixed gently to assure uniformity. Do not mix under high-speed agitation, this may whip or entrap air into the coating and affect spray performance.

The 95 Series contains water; equipment used must be made of stainless steel or corrosion resistant metals. Membrane pumps made of stainless steel or polypropylene are recommended. The compressed air supply must be free of oil and dirt. Immediately after use, wash the guns and alimentation system with distilled or deionized water.

3.0 SUBSTRATE PREPARATION

Cleanliness of the substrate is extremely important. Dirt, dust, fingerprints, wax, lubricants or oils on the glass or in the workplace environment can cause surface defects or performance problems. Cold end coatings based on polyethylenes, soaps, oleic acid are known to cause wetting problems or adhesion issues and should be removed.

4.0 CURING PARAMETERS

For complete curing and best performance the 95 Series coating and the substrate must reach a temperature of about 210°C (410°F). In forced air ovens and Lehrs a recommended starting point cure cycle is 10 minutes at 210°C (410°F). The actual time necessary to cure the coating is dependent on the heat transfer rate of the oven or Lehr and the size, shape, and thickness of the ware. Infrared ovens can allow faster cross-linking cycles of the coating, and hence shorter cycle times. Blistering can occur if the wet film is heated too quickly.

Freshly applied film is opalescent; final appearance, gloss and transparency will be achieved upon curing.Other firing cycles are possible according to the required chemical-mechanical properties. Any firing cycle chosen should be checked on the specific installation under normal production conditions. Where faster curing is required, a faster curing coating base 85-0002, and adhesion promoters are available upon request.

Cured film can be tested by rubbing with a rag soaked in a strong solvent (MEK or acetone) – if under-cured, the solvent will remove the film.

5.0 STORAGE RECOMMENDATIONS

This product contains water and freezing can occur at temperatures below 32°F (0°C). Product must be stored in cool and dry conditions. The storage temperatures should not be below 50°F (10°C) and not exceed 95°F (35°C). Settling may occur if stored for long periods of time. Before use, products must be stirred thoroughly. Partly used containers must be tightly sealed after use. Product should always be filtered as it is transferred into spray equipment. If stored as recommended, a shelf life of six months after the production date is guaranteed.

6.0 QUALITY ASSURANCE

In accordance with the QM system of Ferro Glass Systems, certified to DIN EN ISO 9001, 95 Series organic coatings have to pass stringent quality control after production. Each production lot is carefully checked and compared to our production standard. Only those batches that meet Ferro standards are released for sale.

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