

Product Data



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MGH SERIES HydroShield®

HIGH PERFORMANCE PEARLESCENT GEL COAT

HK Research high molecular weight 100% NPG/Isophthalic, UV Stabilized, Gel Coats are unsurpassed in the FRP Industry. The MGH Series High Performance Pearlescent Gel Coat is characterized by the following features:

- * Outstanding Color and Gloss Retention *
- * Acrylic Modified to Further Enhance Durability *
 - * UV Light Stabilized *
- * 100% NPG/Isophthalic Gel Coat Performance *
- * Excellent Boiling Water and Blister Resistance *
- * Significantly Reduced Styrene Emissions *

The MGH Series High Performance Gel Coats are especially formulated pigmented polyester polymers that are designed for use in marine, sanitary-ware, building panels, and other outdoor applications where the gel coat surface will be continually exposed to all existing weather conditions. The UV-light stabilized, acrylic modified, 100% NPG/Isophthalic polyester vehicle used in this gel coat provides superb exterior durability to the finished FRP component. These gel coats are also distinguished by their excellent leveling and fast, even film cure rates.

Typical properties of this family of High Performance Gel Coats are as follows:

	MGH SERIES Pearlescent Colors	MGH SERIES Translucent & Deep Colors
Weight/Gallon @ 77°F:	8.98 lbs.	9.5 lbs
Specific Gravity @ 77°F:	1.08 lbs	1.14 lbs
Viscosity, Brookfield @ 77°F, 6 rpm:	12,000 -14,000 cps	14,000 cps
60 rpm:	1,600 - 2,000 cps	2,300 cps
Shelf Life @ 77°F:		
Uncatalyzed:	3 months minimum	3 months minimum
Catalyzed,2% MEKP*:	10-12 minutes	12-16 minutes

*See HK Research List of Recommended Catalysts.

APPLICATION

HK Research Corporation's MGH Series 100% NPG/Isophthalic based gel coats are formulated for standard conventional spray application, as well as "air-less" application. These high performance gel coats require careful application in order to maximize the properties in the cured gel coat film. Proper catalyzation, following good spraying procedures and application of an adequately thick uniform film of gel coat all contribute to the high performance properties of this gel coat.

The MGH High Performance Gel Coats do offer the added advantage of reduced Styrene emissions during typical spray procedures. Calculations of Styrene emissions using the method outlined in EPA's Air Pollution Handbook, AP-42, indicate that the Styrene emissions of the MGH-Series gel coats would be about 50% less than those of most conventional gel coats.

The pearlescent gel coats are supplied at a viscosity ready to spray in conventional pressure-pot, airless or air-assisted airless spray equipment. No additional thinning is needed nor is it recommended. The gel coat should be stirred before using just like any other gel coat. This product will look streaked in the can, but do not be alarmed--this is the nature of a pearlescent pigment and these streaks will not transfer to the part if the material is sprayed properly.

The pearlescent gel coat will spray essentially just like any of our "MGH" series gel coats; however, we can make a suggestion that can enhance the appearance of the finished part. Increased air atomization will tend to disperse the pigment to a greater extent, thereby changing the appearance of the cured film. We would recommend that the user experiment with his level of air atomization and his spray patterns since this type of pigment can show a great deal of variation with relatively minor changes in these factors. This part-to-part variation is one of the added benefits of this type of pigment.

Other than this variation of air atomization, pearlescents will handle just like any of our other "MGH" series 100% NPG/Isophthalic gel coats. Gel and cure information would be similar to that found in our "MGH Series" technical bulletin. White Pearlescent Gel Coats are in a clear base. In order to achieve satisfactory "hiding", a white backup gel coat is required. This applies to white pearlescent gel coat only. In colors other than white, sufficient hiding is attainable without a backup gel coat.

PERFORMANCE PROPERTIES

Laboratory tests on FRP panels produced using the MGH Series pearlescent gel coats have shown minimal color change and maximum gloss retention when exposed to QUV-B bulb weatherometer exposure. 100-Hour boiling water exposure tests of FRP panels of these gel coats have shown no evidence of blistering, cracking, loss of gloss or color change.

MIXING

Prior to removal from the shipping container and catalyzation, it is recommended that the materials be mixed thoroughly to reincorporate any settled or stratified material. It is further recommended that the material in the shipping container be mixed at least once a week during its use period. This mixing procedure would assure the most uniform properties during application of the gel coat. Mechanical mixing is recommended and should be sufficient to "turn" the material 10 times. Most common gel coat mixing equipment will accomplish an adequate blend in less than 1/2 hour. Again, the pearlescent gel coats will look streaked even when well blended.

We strongly caution gel coat users not to try mixing gel coats by bubbling air through the container. This practice is very harmful to the gel coat as well as being a significant safety hazard. We also consider mixing by rolling a drum of gel coat across the floor an unsafe practice as well as a very inefficient method of mixing.

DO NOT MIX MATERIAL CONTINUOUSLY!---As this may cause loss of thixotropic properties. If gel coat is inadvertently over mixed, hold material for 4 hours without agitation before application.

It is suggested that the catalyst concentration used in the application of MGH Series 100% NPG/Isophthalic based gel coats not exceed 3.0% or fall below 1.5% to retain maximum properties. The recommended range for the catalyst concentration within the applied film is 1.8 to 2.2% at 77°F.

Under normal conditions the gel coat is ready to laminate upon in 30 to 45 minutes. The "time to laminate" is dependent on the room temperature, humidity and air movement, as well as the catalyst concentration and the film thickness. A wet film thickness of at least 18 to 20 mils is recommended for proper hiding, cure, and performance properties. These products should not be used when the temperature conditions, both mold and ambient, are below 65°F as the curing may be adversely affected.

SAFETY CONSIDERATIONS

MGH Series 100% NPG/Isophthalic gel coats are based on a resin, which contains styrene monomer, which is a flammable liquid. Keep away from sparks, heat and open flame (including pilot lights). Electrical equipment should be vapor-proof and protected from breakage.

Styrene vapors are heavier than air and will tend to concentrate in the low areas of molds and in pockets immediately above the floor area. To keep vapors within a safe limit in all areas, adequate ventilation or suction fans should be used that will remove these styrene monomer vapors.

All equipment must be grounded - including spray guns and molds.

Both the polyester gel coat and the catalyst may cause burns to eyes and skin. Do not get in the eyes! Avoid breathing vapors! Gel coat applicators should wear a NIOSH approved respirator effective for vapors, spray mist and dust. In case of accidental contact, remove contaminated clothing and wash affected skin areas with soap and copious quantities of water. Contact a physician if persistent skin irritation occurs. For eyes, immediately flush with plenty of water for at least 15 minutes; call a physician immediately. Wash contaminated clothing before using.