



RPG Tech Brief on Painting Thermoformed Plastic Sheet Products

[Trade Names: Harmonix™-K, Formedffusor™]

INTRODUCTION

RPG® Harmonix™-K and Formedffusor™ are thermoformed plastic sheet (TPS) products and can be successfully painted if recommended paints are used in accordance with manufacturer's recommendations. Due to the high chemical resistance of them, only certain paints adhere well. It is very important to use recommended paints to paint RPG® TPS products. The following methods have proven successful in the field and will provide excellent results.

PAINT SELECTION

Recent environmental concerns and legislation have caused the creation of paints with differing levels of "Volatile Organic Compounds" (VOC). High VOC level paints have a high solvent content. Low VOC level paints exhibit a lower level of solvent content, and also do less environmental damage. Some municipalities have legislation on what VOC levels may be legally used in their jurisdiction. Please check with local officials to learn if any restrictions on VOC levels exist before selecting paint. Normal VOC level paints have proven successful to paint RPG® TPS products.

The following paints have been tested and are recommended for painting RPG® TPS products:

Sherman Williams SuperPaint®, Duration™ and Polane™ Series (spray application only)
Phone: (800) 331-7979 (Ronseal U.K.: 44.114.246.7171) | web: <http://www.sherwin-williams.com>

Cardinal Polyurethane 6400 Series (Spray application only)
Phone: (323) 283-9335 | web: <http://www.cardinalpaint.com/>

SURFACE PREPARATION

Isopropyl Alcohol (IPA) Wiping – The RPG® TPS product surface should be wiped using IPA or rubbing alcohol prior to painting. This method of treatment helps paint attack the surface and create a strong bond to the RPG® TPS product.

If paint adhesion problems are encountered, try the following surface preparation techniques. Always check to make sure they will not violate existing environmental statutes.

Sanding – Sand the surface using fine grit sandpaper. This will roughen the surface and make it more suitable for paint adhesion, similar to prepping a glossy-painted wood surface. Wipe the surface with dry cloth or IPA after sanding to remove debris.

CONSIDERATIONS

Overheating during thermoforming may cause paint adhesion problems due to excess gloss. Be sure to address these areas during preparation with the highest attention.

Low VOC level paints have demonstrated lower adhesion properties. If a low VOC paint must be used, care during surface preparation prior to painting may increase adhesion.

Retarding agents are available from paint manufacturers which have increased paint adhesion in laboratory testing. These retarding agents cause the paint mixture to evaporate slower, giving the paint more time to attack and adhere to the surface. As an example, adhesion of Polane™ T Plus paint was increased when Reducer R7K84 was replaced by retardant R7K216 in the paint mixture.

PAINTS NOT RECOMMENDED

The following types of paints have provided poor adhesion in laboratory testing. RPG® does not recommend the use of the following paint types:

Epoxy Paints
Water-Based Latex Paints
Oil-Based Enamels