



TECHNICAL ASSISTANCE

www.MACtac.com

Version: 1
Approved: WEJ
Date: 01/2003

Adhesion of IF-2095 to Powder Coated Paints

Powder coating is the fastest growing finishing technology in North America. It is being used in a wide variety of applications in markets such as automotive, appliance, home & garden equipment, lighting fixtures, office furniture, etc. Some of the reasons for this growth are that powder coatings are durable, scratch resistant, long lasting, attractive, environmentally friendly and efficient to apply.

The powder coating process is a method of applying decorative and protective finishes to a wide range of substrates. Finely ground, electrically charged pigment and resin particles are sprayed onto a grounded substrate. The electrostatic attraction holds the particles in place until they are fused in a curing oven. A wide variety of colors, textures and custom formulations are available.

Due to the nature of powder coatings, there has been some difficulty achieving acceptable adhesion to substrates having this type of finish. Bonding items such as gaskets, dust seals, decorative trim, nameplates, etc., is not always satisfactory using standard adhesives.

A 5 mil pressure sensitive adhesive, **IF-2095**, that was developed specifically for low energy surfaces was evaluated for adhesion on powder coated finishes from five leading manufacturers --- Dupont, Morton(Rohm & Haas), PPG, Protech, and Sherwin Williams. Various colors, glosses and powder chemistries, i.e., epoxy, polyester, urethane, acrylic, and hybrid were examined.

Using the peel adhesion test procedure based on PSTC-101 (ASTM D-3330), tests were conducted on bonded adhesive samples after 24 hours of residence at 72° F. /50% R.H and after aging for 1 week at 140° F. The results were as follows:

After 24 hrs residence --- adhesion values ranged from 7.7 lbs./inch to 9.8 lbs./inch. In most cases the failure was cohesive which indicates the bond to the powder coating was greater than the internal strength of the adhesive.

After 1 week at 140° F. --- adhesion values ranged from 7.6 Lbs./inch to 10.0 Lbs./inch. In most cases there was cohesive failure but with a tendency to favor adhesion to the powder coating.

The above results indicate that excellent adhesion can be obtained using IF-2095 on most powder coating chemistries from a variety of suppliers. However, since there are so many potential formulations of powder coatings and they can be applied in many different textures, it is recommended that the user always determine the suitability on the specific coating being used.

Note: On very smooth coatings or finishes, a 2 mil version of the same adhesive, **IF-2092**, may also provide acceptable adhesive bonding.

Telephone Number 800 321 0011

IMPORTANT NOTICE: The information given and the recommendations made herein are based on our research and are believed to be accurate, but no guarantee of their accuracy or completeness is made. In every case, user shall determine before using any product in full scale production, or in any way, whether such product is suitable for user's intended use for their particular purpose under their own operating conditions. User assumes all risk and liability whatsoever in connection with their use of any product. The products discussed herein are sold without any warranty as to merchantability or fitness for a particular purpose, or any other warranty, express or implied. No representative of ours has any authority to waive or change the foregoing provisions, and no statement or recommendation not contained herein shall have any force of effect unless in an agreement signed by the officers of seller and manufacturer. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent without authority from the owner of the patent. The following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace or credit such quantity of the product proved to be defective at its discretion.

TM Trademark of Morgan Adhesives Company.
[®] Registered Trademark of Morgan Adhesives Company.
www.MACtac.com

