

PRIMERS for PLASTISOLS – TECHNICAL PRESENTATION

Lakeside Polymer Services provides a variety of primers (solvent and water-based) when good adhesion of plastisol to metal is required. The following is a summary of the application of primers for plastisols. Lakeside Polymer Services offers both pre-bake and non-pre-bake primers. Additional information on Dip Molding Plastisols and a typical procedure for dip molding plastisols, can be found on other Lakeside Polymer Services Technical Presentations. Please contact Lakeside Polymer Services directly to see how we can meet your specific needs.

Primers for Plastisols

If good adhesion of plastisol to metal is required, the metal substrate should be primed prior to coating with plastisols. Typically, the metal substrate is primed prior to pre-heating of the substrate. Lakeside Polymer Services also offers primers that do not require a pre-bake for adhesion. Non pre-bake primers are utilized in many molded applications of vinyl plastisols.

For dip molding plastisol where adhesion to metal is required, the following is a typical cycle. Dip or spray a cleaned piece of metal with a Lakeside Polymer Services primer. The primer coated substrate is then pre-baked. It is recommended the metal surface reach a minimum of 325°F, and ideally 350-375°F. The primer coated substrate is then dip molded in plastisol until the desired plastisol coating thickness is obtained (gelling the plastisol to the heated and primed substrate). The gelled coated primer substrate is then placed in an oven for fusion. It is recommended the surface metal reach a maximum of 375-400°F. It is recommended to allow plastisol with primer coated substrate to be air cooled. Adhesion can be tested upon cooling, but it is recommended to wait 24 hours for the development of full adhesion.

The metal substrate to be primed should be clean and free of rust or contamination. In some instances, the metal surface may need treatment to obtain adhesion. If roughening of the surface is performed, it is recommended the substrate is clean and dry prior to applying the primer coating.

Solvent based primers are typically thinned with MEK (methyl ethyl ketone) or a MEK/Toluene blend. It is recommended to keep the liquid primer covered, as contamination can cause the primer to lose adhesion properties.

Typically, poor adhesion results if the plastisol is under-fused. If the primer to metal substrate surface adhesion is lost, a low primer pre-bake may be the cause. If the primer to plastisol adhesion is lost, a low plastisol bake or an over-bake of the primer may be the cause.

Lakeside Polymer Services offers a variety of solvent and water-based primers. Depending on the substrate and application, Lakeside Polymer Services would be glad to recommend a primer for your needs.

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