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GENERAL INSTRUCTIONS FOR HOT DIPPING PLASTISOL

1. Parts being dipped should be free of grease, dirt, etc. Clean with a degreasing solvent such as Trichlorethylene.
2. If the coating is to be bonded to the part being dipped, use a primer adhesive. See Technical Bulletin #11.
3. Fasten suspension wires to items to be coated.
4. Preheat metal items in oven set between 350° F and 450° F. Preheat wood at 475° F to 500° F. Wood must be heated longer than metal to bring it up to temperature and to "Degas". Don't overheat wood or it will char.
5. Immerse section to be coated at the rate of 1 inch every 1 to 10 seconds depending on specific part and configuration.
6. Allow part to remain in plastisol 15 to 45 seconds depending on thickness desired. Usually no further building will occur after 30 to 45 seconds.
7. Withdraw part at the rate of 1 inch every 1 to 10 seconds. Make withdrawal smooth or surface will be wavy.
8. Allow to hang until dripping stops. Remove "pips" by carefully touching with a small piece of paper or cardboard, or by inverting the dipped part. Drips can also be avoided by withdrawing the coated item before the preheat is expended. On withdrawal the plastisol will gel in place before it runs.
9. Suspend in oven set between 365° F to 400° F for 5 to 10 minutes to cure. Plastisol is cured when it completely reaches a temperature about 360° F. Cool parts by hanging in air or dipping in water.

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10. Common Hot Dip Plastisol Problems

	<u>PROBLEM</u>	<u>PROBABLE CAUSE</u>	<u>PROBABLE CORRECTION</u>
A.	Insufficient pick up	Preheat time too short	Increase preheat time.
		Preheat temperature too Low.	Increase preheat temperature.
		Dwell time too short.	Increase dwell time.
		Parts to be coated cool to fast.	Increase preheat time and temperature or use faster pickup formula. Reduce time from preheat oven to dip tank.
B.	Plastisol drips or runs off	Any one of four causes under Section 1	Use applicable correction.
		Trying to apply only 10 -25 mils.	Use a low pickup formula.
		Withdrawing too fast	Slow down. Withdraw at rate that plastisol runs off.
		Part is hung wrong	Try hanging a different way.
		Dwell time too long	Withdraw sooner while plastisol is still gelling.
		Drip on bottom end of part	Invert part before curing.
C.	Plastisol burning, discoloring, or sagging	Cure temperature too high or cure	Decrease cure time and/or temperature. cure time to long
		Cure temperature too high or preheat temperature to low (if burned on outside and not cured inside)	Lower cure temperature and cure longer or preheat at a higher temperature and cure for a shorter time

D.	Poor adhesion or no adhesion	Metal substrate was not cleaned	Clean part, prime and coat. If you get adhesion, clean metal better in future
		Primer has MEK. MEK will wash excess grease off the part and primer can eventually get dirty	Try fresh primer If you get adhesion, you change primer in tank.
		Too low or too high temperature on preheat	Raise or lower temperature 300°F minimum, 600°F maximum 375°F to 450°F most common.
		Not long enough or too long time in preheat	Adjust accordingly.
		Plastisol not cured	Longer time or higher temperature on cure. (5 min to 20 min at 375°F to 450°F are ranges used 90% of the time.)
		If primer was thinned, may be too thin	Try fresh batch primer
		Wrong plastisol or primer	Check with supplier to see if plastisol and primer are compatible
E.	Voids in plastisol		
1.	Volcanic type	Some type of solvent is in the plastisol	Switch to a fresh drum of plastisol.
2.	Rounded or bubble type (air trapped in the plastisol)		
a.	Voids on surface	You may be trapping air during dip or air is coming out of pores in metal (principally castings)	Dip at different angle, or fill up pores where air pockets might occur.

E.	Voids in plastisol - continued		
b.	Voids through - out	Air is trapped within the plastisol	Fuse a sample of plastisol in a can or aluminum cup. If voids are present, plastisol must be deaired or allowed to stand overnight.
c.	Voids at surface which go all the way to the metal	Too fast a dip or dipping at the wrong angle	Change dip time and/or angle of dip.
d.	Voids which are slit shaped	Moisture is present in plastisol	Switch to fresh material.

e. CAUTION: Liquid plastisol will be ruined if it becomes contaminated with water.

F.	Uneven surface or globs on the finished product	Gel particles in dip tank	Plastisol should be stirred or recirculated continuously during dipping operation
		Withdrawn too fast or at uneven rate	Withdraw slower and at even rate.
		Cold plastisol added to tank without proper stirring	Always stir gently as you add fresh plastisol.

These instructions are meant to serve only as a general guide and starting point. Specific conditions will depend on the configuration of the part being dipped and the characteristics of the plastisol being used.