

**Stop-off paint for carburizing and carbonitriding**

**LIST FOR TROUBLESHOOTING**

**PREFACE :** CONDURSAL 0090 is as easily applied as an oil based paint. As with all painting, it is important to clean and degrease the surfaces to be coated thoroughly. A soft bristle brush should be used to insure a uniform coating thickness. Allow the coating to dry thoroughly before the workpieces are put into the furnace. The following list is provided to address possible causes on ineffective stop-off of this paint.

TROUBLE	POSSIBLE REASONS FOR TROUBLE	HOW TO AVOID TROUBLE
<b>Paint runs off after applying by painting / spraying / Immersion</b>	1. Paint has been stored at too high a temperature	Store at ambient temperature
	2. Workpieces have not been degreased satisfactorily prior to coating	Clean parts thoroughly by vapor degreasing or alkaline washing
	3. Workpieces were too warm at the time when paint was applied (for instance after vapor degreasing)	Let workpiece cool down to ambient temperature (68 to 80°F) prior to coating
	4. Paint has been thinned excessively	Use paint as delivered; add small amounts of "Special Thinner" only if thickening has occurred due to evaporation of solvent
	5. Paint has been applied in too thick a coating	Apply paint in a thin coating of uniform thickness (.008-.012") ; if necessary because of deep case, apply twice
<b>Paint pops off after drying</b>	1. Surfaces of workpieces were wet or greasy when paint was applied	Clean parts thoroughly by vapor degreasing or alkaline washing and make sure that they are dry prior to coating
	2. Coated parts have been stored for too long a period of time at high atmospheric humidity	Store coated parts at a dry place and for not more than 24 hours prior to carburizing
<b>Paint runs off in the carburizing furnace</b>	1. Paint has been applied in too thick a layer / coating has not been allowed to dry thoroughly	Apply paint in a thin coating of uniform thickness (.008-.012") and let it dry thoroughly
	2. Coated parts have been stored for too long a period of time at high atmospheric humidity	Avoid storage of the coated parts at high atmospheric humidity
	3. Parts have been preheated at temperatures of more than 400°F with oxygen present	Limit preheating temperature to 350°F max.
	4. Coating has come into contact with humidity in the carburizing furnace due to: - defective endothermic generator - leaking of retort cooling system - incomplete cracking of liquid carburizing media  - putting coated parts in the furnace together with other workpieces insulated with water or silicate based stop-off paint	Repair generator Repair cooling system Start feed of liquid carburizing media after the furnace temperature has reached 1400°F min. Do not combine in the same batch parts coated with Condursal 0090 with others coated with water or silicate based stop-off paints
	5. Coating has come into contact with oxygen in the carburizing furnace due to: - incorrect atmosphere regulation  - cracking / leaking of the retort of the furnace	Make sure by purging with nitrogen that furnace atmosphere, even in the beginning of the carburizing process, does not contain oxygen Repair retort
<b>Residues of the paint are hard to remove after carburizing / surface attack is noted</b>	Coating has come into contact with humidity	See RUN-OFF PROBLEMS
	Coated parts have been cooled down after carburizing and then reheated for quenching	Remove residues of the paint after carburizing
<b>Protection against carbon pickup has been found to be nonuniform or nonsatisfactory</b>	Paint has been applied in a too thin or nonuniform layer	Stir paint thoroughly prior to use; apply paint in a layer of even thickness; if necessary for deeper cases apply twice but keep in mind that first coating must be dry prior to application of second one