ALTANA Electrical Insulation

The P. D. George Company

TECHNICAL DATA SHEET

5200 North 2nd Street St. Louis, MO 63147 USA Tel: (314) 621-5700 Fax: (314) 436-1030 Web Site: www.pdgeorge.com

P.D. GEORGE/STERLING

80IP-545M RED C5 ANNEALING COREPLATE

P.D. George / Sterling 80IP-545M Red Annealing Coreplate was designed as a water reducible electrical insulating coating for application to electrical sheet steel which, after cutting, is stamped and then annealed to relieve cutting stresses. After the annealing operation the coating is a good separator and retains its electrical insulating properties. It may also be used as an insulator for steel laminations which are coated after stamping and annealing and when so used offers several advantages.

APPLICATION/USE

P.D. George / Sterling 80IP-545M Red Annealing Coreplate is a silica-free inorganic material which must be thinned with water for application.

When properly applied and baked the coreplate reacts chemically with the steel and thus provides a coating that is so firmly bonded that it cannot be removed except by the most severe abrasion.

Since 80IP-545M does not re-soften and flow under high pressures and high temperatures, it will maintain its high insulation resistance even when the completed electrical apparatus is operated at excessive overload temperatures. Hence, it should be very effective in reducing core loss.

RELATIVE ADVANTAGES

- Water, solvents or insulating varnish have no effect upon the thoroughly dried film
- Will withstand annealing temperatures in excess of 1500°F
- Improves die life by reducing die wear

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- Will not affect the magnetic properties of the steel

PHYSICAL PROPERTIES

COLOR	Red
WEIGHT PER GALLON (pounds)	12.2 - 12.8
REDUCED VISCOSITY (2 parts 80IP-545M : 1 part water)	
#2 Zahn	19 seconds, typical
#3 Zahn	11 seconds, typical
SOLIDS (0.4g - 1hr @ 110°C)	52 - 54%
STORAGE / SHELF LIFE	Shelf life of this resin in unopened containers is typically 9 months @ 25°C when stored in a dry/controlled environment. Settling may occur agitation is required before use. Store resin between 15-30°C.

METHOD OF APPLICATION

Sterling 80IP-545M can be applied by the same equipment that is now being used for the application of the flash-bake type coreplate varnishes except since it is a water solution the flash chamber can be omitted.

The rollers used for distributing the coating over the steel surface may be Neoprene, felt covered, or grooved rubber. The latter will probably produce the smoothest finish.

It may also be applied by spray or manual roller. The amount of thinning required for application will depend upon the thickness of coating desired and the type of rollers used. Very satisfactory results have been obtained by thinning in the ratio of 2 parts of varnish to 1 part of water.

CURE SCHEDULE

- Heat steel to peak metal temperature of 600°F for 60 seconds or 1000°F for 20 seconds

- For lower temperature oven curing requirements the following schedule may be utilized:
  - 20-30 minutes @ 500°F
  - 60 minutes @ 375°F to 400°F