



POLYVINYL CHLORIDE (PVC) COPOLYMER, HOT DIP PLASTISOL

ESB-M4D148-A

1. SCOPE

The material defined by this specification is a vinyl chloride copolymer base, hot plastisol dip.

2. APPLICATION

This specification was released originally for material used as a hot dip coating over metal components such as the glove compartment door check to reduce metallic noise and can be used as a decorative coating as well.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 COLOR

As specified on engineering drawings

3.3 SOLIDS CONTENT, min (ASTM D 2834, except heat at 102 +/- 3 °C for 3 h in a mechanical convection oven.)

98%

3.4 VISCOSITY (FLTM BV 103-01, 69 kPa line pressure)

15 - 25 s

3.5 WEIGHT PER VOLUME (ASTM D 816)

1.14 - 1.26 kg/L

The weight tolerance for any one supplier shall be +/- 0.02 kg/L based on the recorded weight of his original approved production sample.

3.6 TENSILE STRENGTH, min (ASTM D 412, Die C)

10.3 MPa

Elongation, min

300%

3.7 HARDNESS, DUROMETER A (ASTM D 2240)

50 - 60

Date	Action	Revisions
2005 01 11	Revised	Inserted 3.0; Deleted 3.1, 3.10, 3.13, 3.14 & 4
1995 06 14	Revised	Retyped and Removed ∇ESB-M4D148-B
1963 06 05	Released	AS1-915 ESB-M4D148-A



3.8 ADHESION

The adhesion of the cured plastisol coating shall be such that it resists peeling from the metal bonding surface. The ability to readily strip this coating shall be basis for rejection. Good adhesion is indicated by a film which offers considerable resistance to stripping and breaks at the bond line.

Test Method: Intersecting cuts are made with a knife through the coating so as to form a 30° angle. The tip of the knife is inserted between the coating and the metal at the intersection. The coating is held firmly to the knife blade and pulled upward slowly.

3.9 LOW TEMPERATURE FLEXIBILITY

No cracking or
evidence of
failure

Test Method: Coat a metal coupon 25 x 200 x 0.91 - 1.07 mm with the primer, ESB-M6J60-A, and the plastisol. Cure as recommended in para 5.3. The specimen is then conditioned for 16 h in a cold chamber at -29 °C. The assembly is bent 180° around a temperature conditioned 25 mm diameter mandrel.

3.11 CHEMICAL RESISTANCE

The cured plastisol shall be resistant to acids, alkalies, oils, fuels and any other media encountered in normal service life.

3.12 TOXICITY

Shall be nontoxic and shall not cause skin rash or irritation to exposed personnel in production operation. The solvents, benzene and chlorinated hydrocarbons are considered toxic and their use is strictly prohibited in formulating material to this specification.

5. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification.

5.1 FLASH POINT, min (ASTM D 93)

177 °C

5.2 APPLICATION

The metal assembly to be coated is primed with ESB-M6J60 and cured. While the assembly is still hot, it is dipped into the plastisol for the desired film thickness and cured to obtain its optimum physical properties.

5.3 RECOMMENDED CURE CYCLE

15 minutes at 191 °C

5.4 STORAGE

Must be stored at temperatures below 32 °C, away from all sources of heat. Heat greatly accelerates aging, effecting a partial cure, due to the greater solubility of the resins at elevated temperatures.