



COATING, POWDERED, THERMOPLASTIC NYLON (TYPE 11 OR 12)

WSS-M4D240-A2

1. SCOPE

This specification defines the material requirements for thermoplastic nylon (Type 11 or 12) powder coatings applied electrostatically, in a fluidized bed, or a variation thereof. A primer may be required to meet the performance requirements of this specification.

Two types of nylon coating are covered by this specification, as follows:

Type I - Thick Nylon 11 or Nylon 12 coating used on parts which are susceptible to high wear.

Type II - Thin Nylon 11 or Nylon 12 coating.

2. APPLICATION

This specification was released originally for fasteners to prevent metal-to-metal contact and provide wear resistance.

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).

3.4 APPEARANCE

3.4.1 General

The coating shall exhibit no craters, pinholes, solvent popping, seediness, abnormal roughness, or excessive flow.

3.5 FILM PROPERTIES

Testing shall be performed on parts or representative test plaques. Test plaques shall be used for material qualification only.

3.5.1 Film Thickness, range (ASTM B 487 or other mutually agreed upon method)

Type I	0.38 +/- 0.12 mm
Type II	0.15 +/- 0.08 mm

3.5.2 Paint Adhesion (FLTM BI 106-01, Method B)

Grade 0

No flaking or chipping of the coating.

Date	Action	Revisions
2007 01 17	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.9, 3.10, 4
1998 12 07	Activated	



3.5.3 Condensing Water Vapor Test (FLTM BI 104-02)

3.5.3.1 Suffix Codes EX and EX/UV. After 96 hours of exposure there shall be no blistering or appearance change. On parts large enough to receive the specified scribe in para 3.5.2, there shall be no more than 1.5 mm peelback from intersection of scribed lines. No peeling shall occur elsewhere in the taped area.

3.5.3.2 Suffix Codes IN and IN/UV. After 24 hours exposure there shall be no blistering or appearance change. On parts large enough to receive the specified scribe in para 3.5.2, there shall be no more than 1.5 mm peelback from intersection of scribed lines. No peeling shall occur elsewhere in the taped area.

3.5.4 Neutral Salt Spray (ASTM B117)

3.5.4.1 Suffix Code EX. There shall be no more than 10% blistering or peeling of the powder coating after 168 hours.

3.5.4.2 Suffix Code EX/UV. There shall be no more than 10% blistering or peeling of the powder coating after 336 hours.

3.5.5 Environmental Resistance

After exposure and impact per the procedure below the coating must show no chipping cracking blistering, softening effect on adjacent materials (effect on corrosion resistance of the metal, staining, etc., objectionable change in color or other detrimental effects (mushrooming without cracking when impacted is acceptable).

Environmental Resistance/Impact - parts shall be subjected to the following cycle then impacted:

- . 2 h at 82 +/- 2 °C
- . 1 h at 20 +/- 2 °C
- . 3 h at 45 +/- 2 °C and 85 +/- 5% R.H.
- . 2 h at -20 +/- 2 °C
- . 1 h at 0 +/- 2 °C
- . 4 h at -40 +/- 2 °C
- . 1 h at 0 +/- 2 °C
- . 2 h at -20 +/- 2 °C
- . 3 h at 45 +/- 2 °C and 85 +/- 5% R.H.
- . 1 h at 20 +/- 2 °C
- . 4 h at 82 +/- 2 °C
- . 1 h at 20 +/- 2 °C
- . 3 h at 45 +/- 2 °C and 85 +/- 5% R.H.
- . 2 h at -20 +/- 2 °C
- . 1 h at 0 +/- 2 °C
- . 2 h at -40 +/- 2 °C

1 h ramp time between each step.

Appearance Evaluation: No evidence of cracks, no blistering, no change in appearance or other failure when compared with original unaged test sample.