

INTERNATIONAL TRUCK AND ENGINE CORPORATION		
TMS (TRUCK MATERIAL SPECIFICATION)		NUMBER: TMS-7086
TITLE: Decorative Hot Stamp Roll Leaf Coating - Plastic		REVISION: E
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	DATE ISSUED: August 2005
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<i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i>		
Change Notice: Modified Section 4.2 on accelerated weathering test methods.		
Reference: File 30-13E	Keywords: Decorative Hot Stamped Coating	

1.0 APPLICATION

This specification covers a metallized plastic coating, hot stamped on either interior or exterior plastic parts. The hot stamped coating may be either colored or bright metallic. Typical uses may include decorative trimming of light bezels, panel inserts, instrument clusters and name plates.

2.0 SCOPE

This specification covers the performance requirements, and quality.

3.0 REFERENCE DOCUMENTS

Unless otherwise specified, the latest issue of all referenced standards shall apply. The following standards, specifications and regulations are referenced in this specification.

Quality System Standard QS-9000 (<i>ISO 9000 or TS-16949</i>)	CEMS GT-31
INTERNATIONAL IQR Quality Standard	SAE J 400
CFR Title 29, Part 1910	ASTM B 117
	ASTM G 53

4.0 PERFORMANCE REQUIREMENTS

4.1 Adhesion

4.1.1 Method

Apply a strip of adhesive tape (#710 Scotch Tape - 3M Company) 1.9 cm (3/4 in) wide to the coated surface. Pull tape at 90° to the surface.

4.1.2 Required

Coating shall not adhere to tape.

4.2 Accelerated Weathering

4.2.1 Method

Interior parts, per Method A of CEMS GT-31, 1200 kj minimum exposure.

Exterior parts, per Method B of CEMS GT-31, 3600 kj minimum exposure.

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4.2.2 Required

No visual evidence of blistering, color change greater than ΔE of 3, or loss of adhesion.

4.3 Gravelometer Test (Exterior Applications)

4.3.1 Method

SAE J400 at room temperature - Method II.

4.3.2 Required

Rating - 7B maximum.

4.4 Thermal Cycling

4.4.1 Method

Subject to three complete cycles consisting of the following sequence:

- 1) $29 \pm 3^{\circ}\text{C}$ ($175 \pm 5^{\circ}\text{F}$) for 20 hours.
- 2) $22 \pm 3^{\circ}\text{C}$ ($72 \pm 5^{\circ}\text{F}$) for 4 hours.
- 3) $-29 \pm 1^{\circ}\text{C}$ ($-20 \pm 2^{\circ}\text{F}$) for 20 hours.
- 4) $22 \pm 3^{\circ}\text{C}$ ($72 \pm 5^{\circ}\text{F}$) for 4 hours.

4.4.2 Required

No visual evidence of blistering, cracking, loss of adhesion or discoloration.

4.5 Wear Resistance

4.5.1 Method

Expose coating surface to RCA abrasion machine for 30 cycles (interior) or 60 cycles (exterior). Use Perfection Paper Company #7967 perforation tape [buff colored, uncoiled 1.7 cm (11/16 in) wide, 5.1 cm (2 in) core, and 21.6 cm (8.5 in) diameter roll]. Speed 2.94 cycles/second.

4.5.2 Required

No deterioration of surface.

4.6 Salt Spray

4.6.1 Method

168 hours per ASTM B-117

4.6.2 Required

No visual evidence of blistering, cracking, loss of adhesion or discoloration.

5.0 QUALITY

Coating shall be smooth and adherent. No runs, sags, wrinkles, or skips shall be permitted.

6.0 SOURCE APPROVAL AND QUALITY CONTROL

6.1 Supplier Requirements

All suppliers to INTERNATIONAL Truck and Engine are required to be registered to QS-9000 Quality System Requirements. INTERNATIONAL will also accept ISO 9000 or TS-16949 registration as long as the supplier can also fulfill all AIAG PPAP (Production Part Approval Process) documentation and approval requirements. Suppliers must maintain their certification with an

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