

INTERNATIONAL TRUCK AND ENGINE CORPORATION		
TMS (TRUCK MATERIAL SPECIFICATION)		NUMBER: TMS-4115
TITLE: Weldable Primer on Steel		REVISION A
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	DATE ISSUED: August 2004
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Change Notice: Added Section 4.3, Product Quality		
Reference: File 30-13A	Keywords: primer, weldable, sheet steel	

1.0 APPLICATION

This specification outlines the requirements for a primer coating intended to be roll coated on galvanized steel sheet in coil form, and suitable for resistance spot welding. The coated product shall be weldable by conventional spot welding methods, formable, paintable, and provide good corrosion resistance.

2.0 SCOPE

This specification covers general requirements of the base metal and the weldable primer coating, as well as requirements for parts/products made from sheet material coated with weldable primer.

3.0 REFERENCE DOCUMENTS

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

Quality System Standard QS-9000 (ISO 9000 or TS-16949)

INTERNATIONAL Manufacturing Std. D-13

CFR Title 29, Part 1910

INTERNATIONAL CEMS A-6, PARTS I & II

INTERNATIONAL TMS-9516

INTERNATIONAL TMS-9009

CEMS G-5, Part II

4.0 GENERAL REQUIREMENTS

4.1 Base Metal

The base metal shall consist of Grades 1, 2, or 6 sheet steel per CEMS A-6, Parts I and II, which has been galvanized on both sides prior to application of primer (unless otherwise specified on drawing). The applicable specifications for the grade of steel and class of galvanize coating required for a given part will be specified in the "Material" block on the engineering drawing.

4.2 Primer Coating

The primer will consist of a metallic zinc-rich epoxy coating with a dry film thickness of 2.5-4.5 μm (0.0001-0.0002 inch) applied to the raw galvanized sheet. Unless otherwise specified on the drawing, the as-received primed sheet must meet the performance requirements for Class IIA, per TMS-9009 (Metal Parts Painting). Weldable primer must be compatible with Grades 17, 18, or 19 topcoats per CEMS G-5, Part II.

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4.3 Product Quality

4.3.1 Weldability

For parts being fabricated from sheet steel coated with weldable primer, the part must be able to meet all quality and performance requirements defined in TMS-9516 for spot welded assemblies. Weldable primer must be compatible with plant welding processes in use at the applicable manufacturing plant.

4.3.2 Spot Prime

Spot welds of weldable primer coated steel should be spot primed prior to painting if full prime is not going to be applied in order to enhance corrosion resistance.

4.3.3 Condition

Finished parts fabricated from sheet material coated with weldable primer will be clean and free from dirt, oils, or defects harmful to product performance prior to shipment to the assembly plant(s).

5.0 QUALITY

5.1 Qualification

Engineering qualification of primer coating sources is required in advance of production shipments. Suppliers shall submit samples for approval of finish, appearance, and performance to the Non-Metals Laboratory at TDTC. Samples shall be accompanied by test data certifying that all requirements of the specification have been met.

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. A mutually acceptable Quality Control Plan as described therein is required for source approval to the requirements of this specification. Alternatively, International will accept *ISO 9000* or *TS-16949* registration, providing the supplier can also fulfill all AIAG PPAP documentation and approval requirements. Suppliers must maintain their certification with an accredited registrar and must furnish copies of registration certificates to their International Corporate Buyer upon receipt.

6.2 Approval

Parts supplied against contracts or purchase orders citing this specification shall be equivalent in all respects to those samples which were approved by the purchaser. No changes in formulation or processing practices are permitted without approval. In the event that changes in material, properties, processing practices, construction, color, or labeling of the product are required, the supplier shall notify Materials Engineering at TDTC and International Purchasing and Supplier Development of the proposed change(s). Test data indicating conformance to all requirements of this specification, test samples, and new or amended or updated Material Safety Data Sheet(s) (MSDS), in accordance with CFR Title 29, Part 1910, shall be submitted with the request for change.

6.3 Process Control

The supplier shall either perform and report results of tests on specific lots of parts produced or provide statistical evidence of the lot having been produced in a state of statistical control and with a process capable of providing all required properties. The part supplier and the plant metallurgist

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