

INTERNATIONAL TRUCK AND ENGINE CORPORATION		
TMS (TRUCK MATERIAL SPECIFICATION)		NUMBER: TMS-4508
TITLE: Metric Blue Identification		REVISION: B - 1
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	DATE ISSUED: September 2000
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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: Reformatted and Editorial Changes		
Reference: File 20-2	Keywords: Metric Blue Identification; Fasteners	

1.0 APPLICATION

This specification covers a blue supplemental treatment suitable for use with phosphate and oil, zinc, cadmium, or plain finishes to provide easy identification of metric parts. This treatment shall not be used where bright, decorative finishes are required.

2.0 SCOPE

This specification covers the general requirements, and requirements for color, coverage, torque-tension relationship, weldability, coating modification, and initial shipments.

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 (*ISO 9001*) CFR Title 29, Part 1910
INTERNATIONAL IQR Quality Standard
INTERNATIONAL Manufacturing Standard D-13

4.0 REQUIREMENTS

4.1 General

This supplemental treatment shall provide the necessary identification without adversely affecting the corrosion resistance of the basic coating. The color shall be other than a paint type coating and shall not transfer to hands, tools, or other objects during handling or shipping. The colored parts shall not be tacky or oily and shall not affect painted coatings on adjacent parts or coatings applied directly over the colored part.

4.2 Color

Shall be blue, easily recognizable under adverse lighting conditions which might be encountered in storage areas or at assembly stations. Dark blue is not acceptable.

4.3 Coverage

Unless otherwise specified, the entire part shall be colored although the color need not be uniform.

4.4 Torque-Tension Relationship

The color addition should not alter the torque-tension relationship of the original finish on threaded fasteners. However, if this characteristic is altered, Engineering approval shall be obtained and accepted limits established by agreement between the supplier and Engineering.

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SEPTEMBER 2000

NUMBER: TMS-4508	TITLE: <i>Metric Blue Identification</i>	REVISION: B - 1
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4.5 Weldability

The color identification shall not adversely affect the welding characteristics and shall not produce noxious fumes or objectionable odor during welding.

4.6 Basic Coating Modification

Dichromate treatment of zinc or cadmium finishes is permissible prior to color identification although it is not required unless the basic plating specification so designates.

4.7 Initial Shipments

On phosphate and oil finish parts, no shipments shall be made until sample parts have been approved by TDTC or the using Plant laboratory. Minimum sample size shall be 10 pieces.

5.0 QUALITY

All production supplied shall be clean and free from dirt, oils, sharp edges, or defects harmful to product performance.

6.0 SOURCE APPROVAL AND QUALITY CONTROL

6.1 Supplier Requirements

Suppliers must conform to the requirements of the INTERNATIONAL IQR Standard which includes conformance to the QS-9000 (*ISO 9001*) Quality System Standard. A mutually acceptable Quality Control Plan as described therein is required for source approval to the requirements of this specification.

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 Truck Development and Technology Center 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 and/or the quality control manager of the using International plant may determine testing and reporting requirements on specific products.

7.0 SHIPPING, PACKING AND IDENTIFICATION

Loading, packing and identification shall be in accordance with Manufacturing Std. D-13.

8.0 DESIGNATION ON DRAWINGS

The drawing shall include the material and standard finish notes (where applicable) and the following:

COLOR IDENTIFY PER TMS-4508

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