

INTERNATIONAL TRUCK AND ENGINE CORPORATION		
TMS (TRUCK MATERIAL SPECIFICATION)		NUMBER: TMS-7129
TITLE: Coolant Deaeration Reservoir- Polypropylene Copolymer		REVISION: B
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	DATE ISSUED: August 2000
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Change Notice: Reformatted and Editorial Changes		
Reference: File 30-14J	Keywords: Coolant Reservoir, Plastic Coolant Tank, Polypropylene	

1.0 APPLICATION

This specification covers coolant deaeration reservoirs used in coolant systems on medium-duty trucks.

2.0 SCOPE

This specification covers the part performance and material requirements test methods, qualification, KCC, shipping and identification, and source approval and quality control.

3.0 REFERENCE DOCUMENTS

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

Quality System Standard QS-9000 (ISO 9001)	ASTM D-638
INTERNATIONAL IQR Quality Standard	ASTM D-1598
INTERNATIONAL Engineering Design Std. A-16	ASTM D-1599
INTERNATIONAL TMS-7040	ASTM D-2992
CFR 29, Part 1910	ASTM E 1003

4.0 PART PERFORMANCE REQUIREMENTS

Performance tests shall be conducted on production parts made on production tooling and using production processes for which manufacturing process controls have been established.

<u>Test Required</u>	<u>Test Method</u>	<u>Performance Required</u>
Burst Strength @ 265° F	ASTM D 1599	30 psi min
Sustained Pressure (Strength @ 230° F and 15 psi)	ASTM D 1598	250 hours min
Pressure Cycling @ 230° F (0-16 psi, 10 cycles/min)	ASTM D 2992	100,000 cycles min
Hydrostatic Leak Test	ASTM E 1003	No leakage

4.1 Material Requirements

The molding compound shall meet requirements as described in Table 1.

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TABLE 1, Molding Compound Requirements

Properties:	Test Values	Test Methods
Density	0.89-0.91 g/cm ³	ASTM D792
Tensile Stress at Yield	3600 psi minimum	ASTM D638
Elongation@Yield	8 % minimum	ASTM D638
Izod Impact,notched,23deg C	1.3 ft-lb/inch minimum	ASTM D256
Flexural Modulus	170 kpsi minimum	ASTM D790
Heat Distortion@66psi	75 deg C minimum	ASTM D648
Gardner Impact@-30C	12 inch-lbs minimum	ASTM D3029, GB Geometry
Thermal Oxidative Stability	No visual degradation	ASTM D3012, 150C, 336 hrs

5.0 QUALIFICATION

Pre-production samples accompanied by a laboratory test report certifying compliance to all requirements of this specification shall be submitted for Engineering tests and approval. Engineering approval is required before production parts can be supplied to the requirements of this specification.

5.1 KCC - Quality Control Plan

A Quality Control Plan for this product will be established by mutual agreement between International and the supplier. The following characteristics, where applicable*, shall be included in the plan as features for management by statistical process control**.



Hydrostatic Leak Test

- * Other Characteristics for inclusion in the control plan may be specified on the engineering drawing and/or purchase order.
- ** See Engineering Design Standard A-16

6.0 SOURCE APPROVAL AND QUALITY CONTROL

6.1 Supplier Requirements

Suppliers must conform to the requirements of the International IQR Quality 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 the 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.

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