



SURFACE VEHICLE STANDARD	J2236™	JUN2023
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	Superseding J2236 SEP2010	
Standard Method for Determining Continuous Upper Temperature Limit of Elastomers		

RATIONALE

This document is up for its Five-Year Review. It needs to be reviewed for any possible updates or changes.

1. SCOPE

This method is intended to define the continuous upper temperature limit (CUTL) of thermoplastic elastomers and thermoset rubber with durometer hardness ≤ 90 Shore A, to oxidation or other degradation when exposed solely to hot air for an extended period of time.

- 1.1 This method established the upper thermal aging limits of commercially available compounds as measured at 23 °C by retention of at least 50% original elongation and tensile at break after 1008 hours of heat aging. This method does not take into account nor measure the effects of stress, environment, or temperature variations on the thermal aging characteristics of the materials tested.
- 1.2 This method may involve hazardous materials, operations, and equipment. This SAE Standard does not address the safety problems associated with its use. It is the responsibility of the user of this document to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.
- 1.3 This test method is based on SI units.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

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Documents
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2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

- SAE J200 Classification System for Rubber Materials
- SAE J2332 Marking of Rubber Parts
- SAE J2558 Classification System for Thermoplastic Elastomers

2.1.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

- ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension, Method A
- ASTM D573 Standard Test Method for Rubber—Deterioration in an Air Oven
- ASTM D1418 Standard Practice for Rubber and Rubber Lattices—Nomenclature
- ASTM D1972 Practice for Generic Marking of Plastic Products
- ASTM D2240 Standard Test Method for Rubber Property—Durometer Hardness

3. TERMS SPECIFIC TO THIS STANDARD

3.1 CONTINUOUS UPPER TEMPERATURE LIMIT (CUTL)

The temperature at which the material retains a 50% minimum of both the original elongation and tensile at break after 1008 hours in an air circulating oven per ASTM D573, Type IIA or IIB. Note per ASTM D573, Type IIB ovens are for use through 70 °C. For higher temperatures, Type IIA ovens are necessary.

3.2 TEST METHOD

A definitive procedure for identification, measurement, and evaluation of one or more qualities, characteristics, or properties of a material, product system, or service that produces a test result.

3.3 PRODUCTION COMPOUND

An identifiable, homogeneous quantity of material from a standard production period with a consistency and properties demonstrated through testing and use.

3.4 COMMERCIAL MATERIAL

A finished compound developed primarily, but not exclusively, for heat resistance from readily available ingredients and processed on conventional industry equipment.

4. SIGNIFICANCE AND USE

- 4.1 Data obtained by this method are applicable to the material under conditions of this test and are not necessarily the same as those obtained in end use applications. The information may be used for comparison, selection, or qualification of commercially available compounds where a level of proficiency is desired beyond short time quality control tests.