



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

GASKET, FIBER SHEET, REINFORCED
WITH STEEL SHEETS

WSK-M8G235-A

1. SCOPE

The materials defined by this specification are perforated or non perforated steel sheets and a rubber bonded asbestos-free fiber center sheet.

2. APPLICATION

This specification was released originally for exhaust manifold gaskets and heat shields.

3. REQUIREMENTS

3.1 STATISTICAL PROCESS

Suppliers must conform to the requirements of Ford Quality System Standard Q-101. A mutually acceptable Control Plan as described therein is required for material/source approval. Appropriate statistical tools must be used to analyze process/product data so that variation in the final product is continuously reduced.

3.2 INFRARED SPECTROPHOTOMETRY AND/OR THERMAL ANALYSIS

Ford Motor Company, at its option, may conduct infrared and/or thermal analysis of material/parts supplied to this specification. The IR spectra and thermograms established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce IR spectra and thermograms that correspond to the reference standard when tested under the same conditions.

3.3 CONDITIONING AND TEST CONDITIONS

Prior to testing, the materials shall be conditioned in an oven at 100 +/- 2 C for 1 h and allowed to cool to 23 +/- 2 C in a desiccator containing anhydrous calcium chloride. All tests shall be conducted in accordance with ASTM F 104, Type 1 material unless otherwise specified. The requirements of this specification are valid for gasket material of 1.5 to 2.5 mm thickness. Test specimens are to be selected from finished gaskets when practicable.

Date	Release No.	Release/Revision	
1993-01-04	EP00E10258796000	Revised para 1. and 3.10	K. Gerhards
1991-11-04	EP00E01089490000	Revised Page 1-3	M. Siewert
1990-08-01	EP00E01031538000	Released	M. Siewert

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3.4 CONSTRUCTION

Consists of two low carbon steel sheets which are properly recessed and formed so as to have closely projecting tangs which are deformed during processing and serve to close over and hold the fiber sheet to the steel sheets without the use of cement.

3.4.1 Steel Sheets

Low carbon steel, thickness and finish as specified on Engineering Drawing.

3.4.2 Center Fiber Sheet

Synthetic rubber bonded asbestos-free fiber sheet.

3.5 ORIGINAL PROPERTIES

3.5.1 Ignition Loss of Fiber Sheet (ASTM F 495)	12 - 20 %
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3.5.2 Compressibility (ASTM F 36, Procedure A)	8 - 16 %
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3.5.3 Recovery, min (ASTM F 36, Procedure A)	30 %
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3.6 HEAT AGING
(ASTM D 573, 22 h at 200 +/- 2 C)

3.6.1 Compressibility	6 - 16 %
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3.6.2 Recovery, min	28 %
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3.7 RESISTANCE TO ASTM OIL No. 1
(ASTM F 146, 5 h at 150 +/- 2 C)

3.7.1 Thickness Change	0 to + 5 %
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3.7.2 Compressibility	8 - 18 %
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3.7.3 Recovery, min	35 %
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3.8 RESISTANCE TO ASTM OIL No. 3
(ASTM F 146, 5 h at 150 +/- 2 C)

3.8.1 Thickness Change	0 to + 6 %
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3.8.2 Compressibility	8 - 18 %
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3.8.3 Recovery, min	35 %
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