



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

GASKET, STEEL CORE, FPM

WSK-M8G252-A1

1. SCOPE

The material defined by this specification consist of stainless steel or low carbon steel core surface coated with an FPM.

2. APPLICATION

This specification was released originally as a cylinder head gasket.

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

All tests shall be conducted in accordance with ASTM F 104 Type 7 material unless otherwise specified. The requirements of this specification are valid for gasket material of 0.2 to 3.0 mm thickness. Test specimens are to be selected from finished gaskets when practicable.

Prior to testing the materials shall be conditioned for 4 h at 23 +/- 2 C in a closed chamber containing anhydrous calcium chloride as a desiccant. The air in the chamber shall be circulated by gentle mechanical agitation. Specimens shall then be transferred immediately to a controlled humidity room and conditioned for at least 20 h at 23 +/- 2 C and 50 +/- 5 % relative humidity.

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1994 11 02	EP00E10348615000	Released K. Gerhards

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3.4 CONSTRUCTION

Ply Type A Elastomer (FPM)
 Steel (acc. to Engineering Drawing)

Ply Type B Elastomer (FPM)
 Steel (acc. to Engineering Drawing)
 Elastomer (FPM)

3.5 ORIGINAL PROPERTIES

3.5.1 ASH CONTENT OF COVERING MATERIAL, max 9.0 %
 TGA, 1000 C, Ramp 20 C/min,
 20 - 700 C N₂, 700 - 1000 C air)

3.6 HEAT AGING

(ASTM D 573, 22 h at 200 +/- 3 C)

3.6.1 Delamination, (separate test for each ply)

Test Method: Firmly hold the sample at one point on a circular mandrel of diameter 6.0 mm thickness and force slowly but firmly under finger pressure to contact the full diameter of the mandrel. Failure shall be any cracks, breaks or surface separation or delamination at the approximate time (5 +/- 1 s) required to flex the specimen.

3.7 RESISTANCE TO ASTM OIL No. 3

(ASTM F 146, 5 h at 150 +/- 2 C)

3.7.1 Delamination
(See 3.6.1)

3.8 RESISTANCE TO ASTM FUEL C + METHANOL

(ASTM F 146, 22 h AT 23 +/- 2 C,
85 vol. % Fuel C + 15 vol. % methanol)

3.8.1 Delamination
(See 3.6.1)

3.13 SUPPLIER'S RESPONSIBILITY

All materials supplied to this specification must be equivalent in all characteristics to the material upon which approval was originally granted.

Prior to making any change in the properties, composition, construction, color, processing or labeling of the material originally approved under this specification, whether or not such changes affect the material's ability to meet the specification requirements, the Supplier shall notify Purchasing, Toxicology and the affected Materials Engineering activity of the proposed changes and obtain the written approval of the Materials Engineering activity. Test data, test samples and a new code identification are to be submitted with the request.