



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

GASKET, PERFORATED STEEL CORE,
COMPRESSED GRAPHITE SHEET

ESE-M8G201-A

1. SCOPE

The material defined by this specification consists of a perforated low carbon steel core covered equally on both sides with a compressed graphite sheet.

2. APPLICATION

This specification was released originally for material used on engines as a cylinder head gasket, where high compressive strength and high temperature resistance is required.

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 CONSTRUCTION

The gasket consists of a perforated low carbon steel core with a material consisting of compressed graphite glued and/or mechanically bonded to each side of the core. Grommets of rustless steel, copper or carbon steel are used as required.

3.2.1 Metal Core

Tin plate or low carbon steel. Thickness and perforations as specified on engineering drawings.

3.2.2 Fabrication

The compressed graphite sheet shall be plied uniformly and bonded to each side of the metal core to meet requirements of the application, the thickness as specified on engineering drawing.

Date	Release No.	Release/Revision
1991 11 20	NE01-E 10127076-030	Revised 3.3.3, Updated E.J. Duda 11-19-91
1988 03 09	NE01E10000474005	3.3.2, 3.3.4 Rearranged/Retyped E.J. Duda
1986 01 23	CE3Q-RD863100-E192	Released

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3.3 FINISHED GASKET

All tests shall be conducted in accordance with ASTM F 104, Type 5 materials, unless otherwise specified.

3.3.1 Immersion in Liquids

Distilled Water 22 h at boiling

Permanent Antifreeze 48 h at boiling

After immersion in above fluids, as specified, the graphite shall be firm and must not separate from the steel core.

3.3.2 Original Properties

Compressibility
(ASTM F 36, 34.5 MPa load)

Facing Thickness One Side After Processing

0.508 and larger	20 to 38 %
Less than 0.508	11 to 27 %

Recovery, min	18 %
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3.3.3 Fluid Immersion

Thickness
Change

Weight
Change

ASTM No. 1 Oil (5 h at 150 +/- 2 C)	0 to + 12 %	0 to + 26 %
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ASTM No. 3 Oil (5 h at 150 +/- 2 C)	0 to + 12 %	0 to 28 %
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ASTM Fuel B (5 h at 23 +/- 2 C)	0 to + 10 %	0 to + 25 %
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3.3.4 Air Aging
(22 h at 535 +/- 5 C)

Compressibility

Facing Thickness One Side After Processing

0.508 and larger	20 to 35 %
Less than 0.508	12 to 27 %

Recovery, min	20 %
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Weight Change, max	0 to - 6 %
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3.3.5 Creep Relaxation, max
(ASTM F 38, Method B,
22 h at 150 +/- 2 C)

15 %