MIRROR, GLASS, REAR VIEW, FIRST SURFACE CHROME, EXTERIOR ∇ **WSB-M26G7-C**

MIRROR, GLASS, REAR VIEW, CONVEX, FIRST SURFACE CHROME, EXTERIOR ∇ **WSB-M26G8-E**

1. SCOPE

The materials defined by these specifications are float glass mirrors. The reflective surface is produced by the vacuum deposition of chromium onto the "first surface" of the glass.

2. APPLICATION

These specifications were released originally for materials used as follows:

∇ WSB-M26G7-C Exterior rear view mirrors (float glass)
∇ WSB-M26G8-E Exterior rear view mirrors (convexed - float glass)

3. REQUIREMENTS

Material specification requirements are to be used for initial qualification of materials.

Note: Mirror assemblers shall use the approved glass mirror manufacturers as shown in the Ford Motor Company Engineering Materials Approved Source List.

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

∇ 3.3 PHYSICAL AND OPTICAL REQUIREMENTS

The glass mirrors must meet all requirements of the following test standards in the European market.

85/205/EEC
71/127/EEC

The above standards are equivalent to each other.

The glass mirrors must meet the requirements of the following standards for the North American market.

FMVSS 111

Compliance shall be demonstrated by conformance to a control plan developed by the glass mirror manufacturer and approved by the Product Development Materials Activity.

Date	Action	Revisions
2006 08 28	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.14, 3.15 & 4
1992 02 21	Released	NB00I10043054161 TRB, R.D. Moore

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3.4 DIMENSIONS

3.4.1 Glass Thickness — Shall be specified on Engineering drawing

3.5 DEFECTS

The coated glass surface shall be free from noticeable defects, such as open pits. The glass surface may contain fine scattered seeds (bubbles) less than 0.41 mm diameter. The chromium coating shall be free of noticeable pinholes which affect the appearance or the optical properties of the mirror. Hairline scratches, not grouped or starting from the glass edge, up to 25 mm long are permitted, when viewed from a distance of 610 mm looking into diffused light from a clear sky without any direct sun or equivalent.

3.6 REFLECTANCE, min — 50% of the light incident on the surface

∇ 3.6.1 Flat Glass (∇ WSB-M26G7-C)
(SAE J964)

∇ 3.6.2 Convexed Glass (∇ WSB-M26G8-E)
(SAE J964)

3.7 TRANSMITTANCE

Luminous transmittance (International Commission on Illumination, Illuminant A) shall not exceed 4% measured at normal incident to the surface. The interior of the case shall not be visible through the glass.

3.8 DISTORTION

3.8.1 Flat Glass (∇ WSB-M26G7-C), max — 3%
(FLTM BO 120-03)

3.8.2 Convexed Glass (∇ WSB-M26G8-E)

When looking in an image of a 25 mm square grid, spaced 254 mm from the mirror, and the eye at 254 mm, the image of the grid shall not exhibit any waviness. Waviness is herein described as the lines of the grid curving in one direction and then reversing the direction of curvature. Test apparatus see Figure 3.

3.9 THERMAL CYCLING, min — Four cycles (96 h)

No evidence of discoloration, poor adhesion of the reflective film to the glass, or loss of reflectivity in excess of 1%.

Test Method: The mirror assembly shall be placed vertically, in a humidity chamber at 95 - 100% relative humidity and 38 +/- 1 °C for 16 h. On removal from the humidity chamber, the assembly shall be placed immediately in a cold box at -40 +/- 1 °C for a period of 4 h. On removal from the cold box, it shall be immediately placed in an oven at 88 +/- 1 °C for a period of 4 h.

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3.10 SALT SPRAY RESISTANCE
(ASTM B 117)

∇ WSB-M26G7-C, ∇ WSB-M26G8-E
(Exterior Mirrors, min) 150 h

No more than 6 failed spots per 930 cm^2 of exposed surface which are visible to the unaided eye at normal reading distance, and no loss of reflectivity in excess of 1%.

Test Method: Two glass mirror blanks shall be exposed to salt spray. The samples shall be placed with the coated side exposed and inclined at an angle of 15° from the vertical. Samples shall be arranged to prevent contact with each other and to permit free settling of the fog on the coated surfaces.

3.11 RESISTANCE TO ABRASION

The reflective surface shall be examined for loss of adhesion of the reflective film to the glass. Slight scratches due to abrasive particles in the rubber eraser shall be ignored. There shall be no loss of adhesion and no loss of reflectivity in the abraded area in excess of 1%.

Test Method: The mirror shall be removed from the case and abrasion tested as follows:

The front reflective film shall be subjected to 1000 cycles of abrasion in a Taber abraser using a clean 6.35 mm diameter pencil eraser under a 1.0 kg load. (Blaisdel 536T New Way eraser or equivalent.)

3.12 RADIUS OF CURVATURE (Convexed Glass)
(∇ WSB-M26G8-E) Requirement specified on engineering drawing

3.12.1 Determination of Radius of Curvature

To determine the average radius of curvature of a convex mirror, use a 3-point linear spherometer (Figure 1), which meets the requirements of 3.11.2, at the 10 test positions shown in Figure 2 and record the readings for each position.

3.12.2 The 3-point linear spherometer has two outer fixed legs 38 mm apart and one inner movable leg at the midpoint. The spherometer has a dial indicator with a scale that can be read accurately to 2.54 micrometer, with the zero reading being a flat surface.

3.12.3 The 10 test positions on the image display consist of two positions at right angles to each other at each of five locations as shown in Figure 1. The locations are at the center of the mirror, at the left and right ends of a horizontal line that bisects the mirror and at the top and bottom ends of a vertical line that bisects the mirror. None of the readings are within 6.4 mm border on the edge of the image display.

3.12.4 At each position, the spherometer is held perpendicular to the convex mirror surface and a record is made of the reading on the dial indicator to the nearest 2.54 micrometre.

3.12.5 Convert the dial reading data for each of the 10 test positions to radius of curvature calculations using Table 1. Consider the change as linear for dial readings that fall between two numbers in Table 1.

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