



ENGINEERING MATERIAL SPECIFICATION

Material Name	File Control No.	Specification Number
HEAT TREATED FLOAT SAFETY GLASS - CLEAR	SMT5028GB1100	VSM-28G4510-A
HEAT TREATED FLOAT SAFETY GLASS - TINTED	SMT5028GB1170	VSM-28G4511-A

1. SCOPE

The material defined by this specification is a grade of heat treated float safety glass.

2. APPLICATION

This specification was released originally for material used for flat or curved automotive glazing except windshields.

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 TERMINOLOGY

3.2.1 Lift from Fixture (Warp)
Maximum warp permitted along edge as specified on Engineering drawing.

3.2.2 Cross Curvature
Height of cord of vertical curve measured at centerline of glass (back window) and height of horizontal curve (side windows) as specified on Engineering drawing.

3.2.3 Sag
Height of cord of horizontal curve measured at centerline of glass (back window) and height of cord of vertical curve (side windows) as specified on Engineering drawing.

Date	Release No.	Release/Revision
1988-04-05	B/031510 TP	Revised 3.7
1987-03-03	B/036756 TP	Retyped on new Form; Added 3.9.7, 3.9.7.1
1969-12-18	BC/12708/EC	Released

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3.3 GLASS GRADING AREAS

3.3.1 Backwindows

For purposes of inspection to this specification, backwindows are divided into two grading areas. These areas are designated "B", the entire exposed glass area, and "C", the covered or concealed border area.

3.3.2 Body Glasses

For the purpose of inspection, these parts are divided into two grading areas. Area "B", the entire exposed glass area, and area "C", the concealed area around area "B".

3.4 INSPECTION METHODS FOR IMPERFECTIONS

The glass shall be examined by an approved method equivalent to looking through the glass into the diffused light of a clear sky without any direct sun or close background. The observer's eye shall be on a level with the centre, and looking perpendicular through the glass at arm's length.

3.5 GLASS IMPERFECTIONS

Imperfections listed below are maximum permissible unless otherwise specified under 3.5.2. No one piece of glass shall contain all of these imperfections and those present shall be scattered so there is no appreciable interference with normal vision.

3.5.1 Definition of Imperfections

Bubble:

Clear, round or elliptical shaped gaseous inclusion.

Open Bubble:

A bubble on the surface of the glass, which has been broken into during handling or fabrication.

Bull's Eye:

Hollow spots in the glass surface caused by excessive scratch polishing.

Hair Crack:

Small surface cracks, caused by local temperature differentials and by contact with cool objects.



Cullet Chips:

Glass particles (chivers) fused to the surface.

Digs:

Deep, short scratches.

Mould Marks:

Slight trough shaped indentations, imprinted on the glass during bending and tempering operation.

Pot Lines:

Very fine straight lines on the surface of the sheet.

Ream:

Regions of different composition within any glass mass. Bands of striae are commonly referred to as ream.

Rubs:

Areas of fine scratches marring the surface of the glass, caused by contact with glass or other substance, leaving a defect on the surface of a milky appearance. Light rubs will transmit light and are greyish in appearance.

Scratches:

Any marking or scoring of the surface produced in manufacturing or handling appearing as though it were done by a sharp or rough instrument (imperfections caused by transportation or handling - coarse, rough and deep).

Scum:

A floating layer of unmelted material (usually silica) on the molten glass surface (unhomogeneity).

Seeds:

Minute bubbles less than 0,8 mm diameter.

Stain:

The leaching, etching or discolouration of the surface of a piece of glass by moisture condensed between two pieces of glass or between glass and some other substance (staining, leaching and impression of paper).

Stones:

Opaque foreign matter in the glass which may be refractory unmelted batch or devitrified glass.