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INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J100

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Submitted for recognition as an American National Standard

Class "A" Vehicle Glazing Shade Bands

1. Scope—This SAE Recommended Practice establishes boundaries for shade bands on glazed surfaces in class "A" vehicles. These boundaries are located so that the shade band will provide driver vision protection from glare, and occupant comfort with respect to solar radiation. Since shade bands transmit less visible light than surrounding glazed surfaces, the boundaries establish limits for the driver's field of view.

2. References

2.1 Applicable Publications—The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J941—Motor Vehicle Drivers' Eye Locations
ANSI/SAE Z26.1—American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on and Highways - Safety Code

2.2 Related Publication—The following publication is provided for information purposes only and is not a required part of this document.

2.2.1 SAE PUBLICATION—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1100—Motor Vehicle Dimensions

3. Definitions

3.1 Eyellipse—A statistical representation of the driver's eye positions in a vehicle, as defined in SAE J941.

3.2 Glazed Surfaces—Exposed transparent safety glazing materials mounted within exterior body openings of the passenger compartment.

3.3 Glazing Shade Band—An area immediately adjacent to and below the top edge of the vehicle glazing, through which light transmission is less than that required for glazings that are requisite for driving visibility, as defined in ANSI Z26.1

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Examples of shade bands:

a. Laminated Safety Glass—A color band in the laminated product formed by the application of a dye or pigment to the interlayer material prior to lamination.
b. Tempered Safety Glass—A pattern comprised of lines and spaces, or dots and voids, printed onto the glass surface from a durable opaque or translucent material.

3.4 Horizontal Plane—A plane parallel to the ground line of the vehicle, when there is a driver and one passenger seated in the front outboard seating positions.

3.5 Surface of Interest—The surface of the vehicle glazing on which the shade band is placed. For a monolithic safety glazing, this can be the inner or outer surface. For a laminated safety glazing, this can be the inner or outer surface, or the interlayer.

4. Shade Band Boundary Requirements—The shade bands are to be located with their lower edges at or above the described boundaries. (See Figure 1.)

4.1 Forward Glazing—The boundary of the shade band is established by connecting points a1, b1, c, b2, and a2 on the windshield glazing surface of interest.

4.1.1 Points a1 and a2 are the intersections of the horizontal plane A and the outline of the exposed glazed surface at the left and right A-pillars, respectively. Plane A is a horizontal plane tangent to the upper edge of the 95th eyellipse.

4.1.2 Point b1 is the intersection of the vertical plane B, the inclined plane C, and the windshield surface of interest. Point b2 is on the right side of the windshield surface of interest, symmetrically opposite to point b1. Plane B is seen in plan view as a line tangent to the left edge of the 95th eyellipse at an angle of 10 degrees to the left of the longitudinal axis of the vehicle. Plane C is seen in side view as a line tangent to the upper edge of the 95th eyellipse, and inclined 5 degrees up from the horizontal.

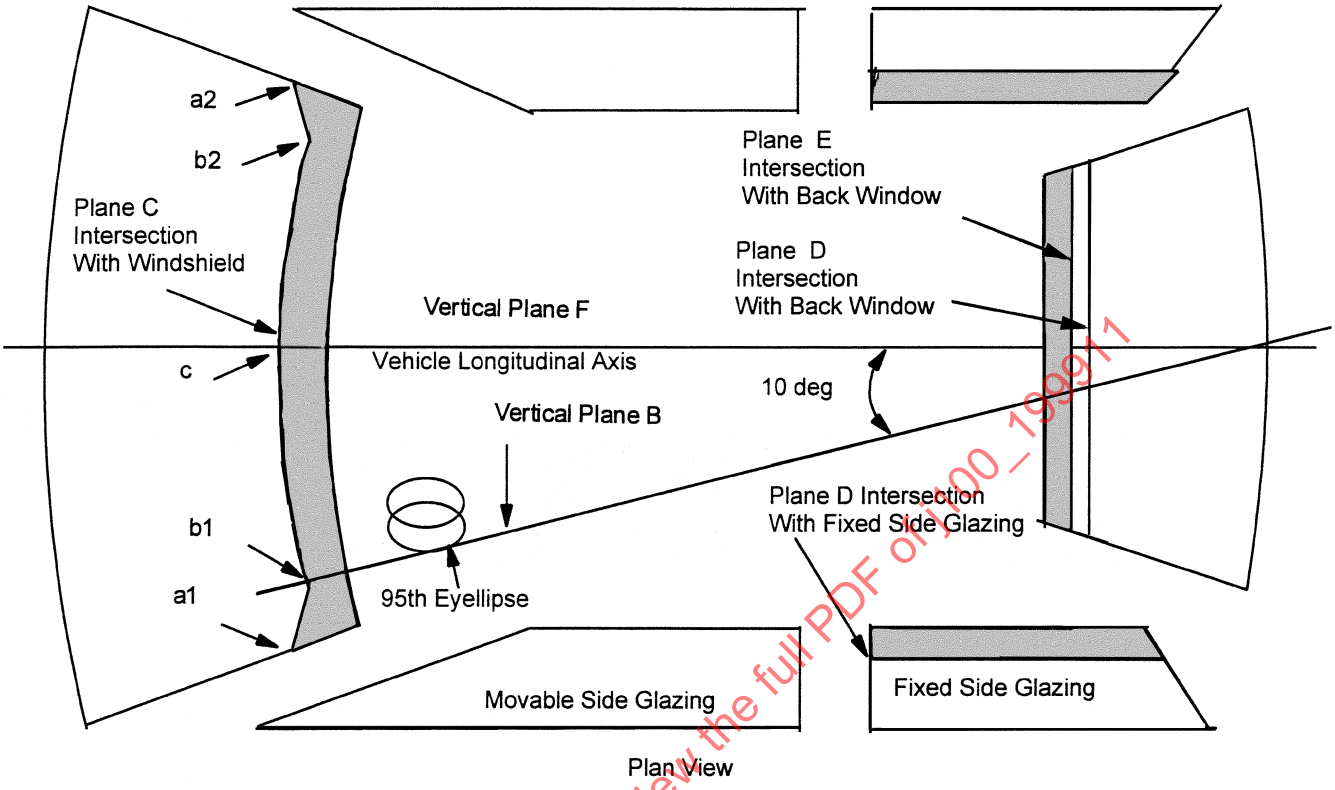
4.1.3 Point c is the intersection of the inclined plane C, the vertical plane F, and the windshield surface of interest. Plane F is seen in plan view as a line superimposed on the longitudinal axis of the vehicle.

4.2 Fixed Side Glazing—The boundary of the shade band is the intersection of plane D with the fixed side glazing surface of interest. Plane D is a horizontal plane located 25.4 mm (1 in) above the top edge of the 95th eyellipse.

4.3 Rear Glazing—The boundary of the shade band is the intersection of the rear glazing surface of interest with the higher of either of the two following planes.

a. Plane D or
b. Plane E, a horizontal plane located at the upper boundary of the field of view through the inside rear view mirror at design position.

4.4 Movable Glazing—Such a glazing can be repositioned by an occupant. If the motion is vertical, as in rolling down a side window, the repositioning can place the top edge of the glazing below the shade band boundaries within the exterior body openings. No shade band shall be used on a vertically movable glazing.



The shaded area in the illustration is the shade band on the glazing surface of interest

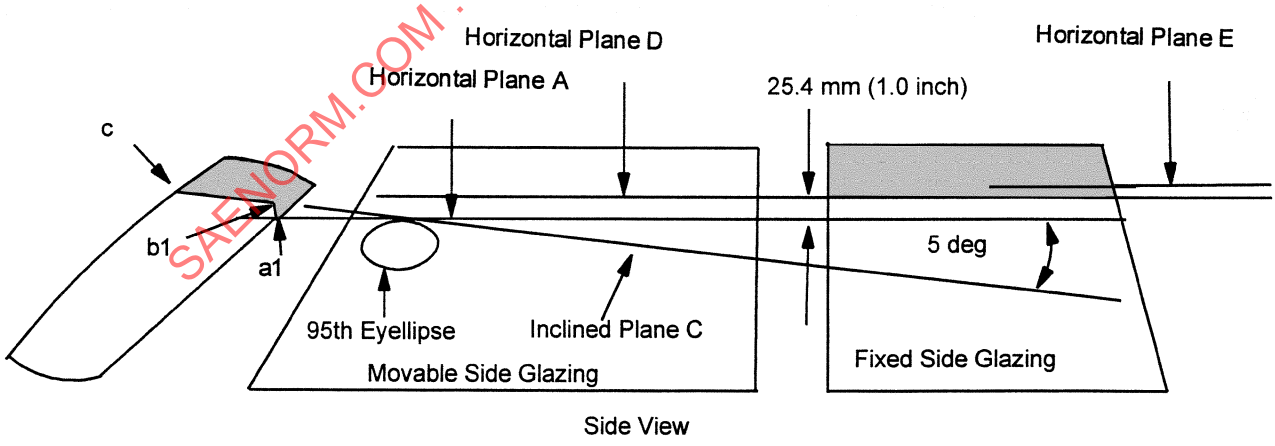


FIGURE 1—SHADE BANDS

PREPARED BY THE SAE DRIVER VISION COMMITTEE