



SURFACE VEHICLE INFORMATION REPORT

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Design Guidelines for Fiberboard Materials

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. Scope

This document provides information on the various fiberboard products, which are available for automotive application. It is intended to give engineers and designers a better understanding of product usage, characteristics, properties and industry terminology.

The following sections cover these topics:

2. General Product Information
3. Design Characteristics
4. Physical/Mechanical Properties
5. Fiberboard Definitions

In sections 2, 3 and 4 the fiberboard products are categorized. These sections give an overview of product types, with general information about characteristics and properties. In cases where product categories encompass more than one material or material grade, ranges were established to cover all of the products in that category. The individual companies that supply fiberboard products should be consulted for specific information about a particular product or application.

2. References

2.1 Applicable Publications:

The following publications form a part of this specification to the extent specified herein. Unless otherwise specified, the latest issue of publications shall apply:

2.1.1 SAE PUBLICATIONS

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

SAE J 315—Fiberboard Test Procedure

2.1.2 ASTM PUBLICATIONS

Available from ASTM, 25 West 43rd Street, New York, NY 10036-8003.

ASTM D 747—Standard Test Method for Apparent Bending Modulus of Plastics by Means of a Cantilever Beam

ASTM D 790—D790-03 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

ASTM D 827—Method of Test for Edge Tearing Strength of Paper (Withdrawn 1980)

ASTM D 1037—Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials

3. General Product Information

TABLE 1

	Hardboard	Moldable Mat	Paperboard	Direct Molded
Description	Board panel which is used flat or compression molded into shallow forms	Mat sheet which is compression molded into three-dimensional shapes	A sheet which is die cut, and/or converted into shapes by scoring, bending or shallow forming	A three- dimensional panel which is made by deposition of fibers onto a contoured form.
Composition	96 – 99% wood fiber 1 - 4% resin and wax	79 - 94% wood fiber 6 - 21% resin, wax or other fibers	75 -95% recycled fiber 5 -25% polyethylenes, resins or other fibers	77 - 80% wood fiber 17-20% recycled fiber 3% other chemical additives
Product Thicknesses Offered	1.5 - 5.6 mm	1.5 - 6.3 mm	.25 - 6.3 mm	2.3 - 4 mm
Product Densities Offered	0.96 gm/cm ³	0.6 - 1.0 gm/cm ³	0.75 gm/cm ³	0.60 gm/cm ³ 0.80 gm/cm ³
Typical Automotive Applications	Spare tire covers Rear shelf panels Seat backs Door panels Headliners Door panel inserts Map pockets Load floor panels Sun-visors Quarter trim panels Trunk trim supports Seat cushion supports Head rest inserts Wire harness covers Van floor panels	Rear shelf panels Door panels Console panels Quarter trim panels Seat backs Spare tire covers Map pockets Door panel inserts Load floor panels Door panel inserts Wire harness covers Headliners	Door panel inserts Door panels Glove box Map pockets Floor console, side & rear Rear shelf panel Quarter trim panel Sun -visors Seat backs Trunk lining Headliners Load floors Van floor panels	Door panels Console panels Rear shelf panels Quarter trim panels Seat backs Instrument panels