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Standard Specification for GLASS-REINFORCED AND GLASS-FILLED ACETAL RESIN MOLDING AND EXTRUSION MATERIALS¹

This standard is issued under the fixed designation D 2948; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

⁴¹ NOTE—Section 11.1.3 was editorially revised in August 1982.

1. Scope

1.1 This specification covers glass-reinforced and glass-filled acetal resins suitable for molding and extrusion. Requirements for nonreinforced acetal resin are described in Specification D 2133.

1.2 Materials conforming to this specification are available in various pellet lengths containing various lengths and orientations of glass reinforcement, certain of which may be preferable for certain applications. Information concerning these variations may be obtained from the suppliers. (See 4.1.3 and 4.1.4.)

NOTE 1—The properties included in this specification are those required to identify the grades of materials covered. There may be other requirements necessary to identify particular characteristics. These will be added to the specification as their inclusion becomes generally desirable and the necessary test data and methods become available. Since no direct evidence exists that an energy-absorbing test under dynamic conditions distinguishes between performance of products of this generic class, such tests have been omitted intentionally from this specification.

2. Applicable Documents

2.1 ASTM Standards:

D 618 Conditioning Plastics and Electrical Insulating Materials for Testing²

D 638 Test for Tensile Properties of Plastics³

D 648 Test for Deflection Temperature of Plastics Under Flexural Load³

D 792 Tests for Specific Gravity and Density of Plastics by Displacement³

D 1898 Recommended Practice for Sampling of Plastics³

D 2133 Specification for Acetal Resin Injection Molding and Extrusion Materials⁴

D 3892 Practice for Packaging/Packing of Plastics³

3. Classification

3.1 Glass-reinforced and glass-filled acetal resins are classified according to Table 1. This classification system comprises tabulation by cells of certain physical characteristics which may be found in this family of plastics. By use of various combinations of these cell numbers for each property in the order in which they are listed in Table 1, a wide variety of materials may be specified. For example, a material would be classified as ASTM D 2948 - 32247 for the following property values:

Specific gravity, min	1.52	(Cell 3)
Tensile strength, min	55 MPa (8×10^3 psi)	(Cell 2)
Elongation at break, min	2.0 %	(Cell 2)
Modulus of elasticity (tension), min	5500 MPa (0.8×10^6 psi)	(Cell 4)
Deflection temperature under load at 1.82 MPa (264 psi) outer fiber stress, min	149°F (300°C)	(Cell 7)

3.2 Where there is no interest or need to specify a property, a zero (0) is entered at the cell number. In the foregoing example, a ma-

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² Annual Book of ASTM Standards, Parts 22, 35, and 39.

³ Annual Book of ASTM Standards, Part 35.

⁴ Annual Book of ASTM Standards, Part 36.