



Designation: D4673 – 23

Standard Classification System for and Basis for Specification for Acrylonitrile–Butadiene–Styrene (ABS) Plastics and Alloys Molding and Extrusion Materials¹

This standard is issued under the fixed designation D4673; 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 reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This classification system covers only ABS materials and ABS alloys suitable for injection molding and extrusion. Some of these compositions are also suitable for compression molding.

1.2 This classification system and subsequent line callout (specification) are intended to provide a means of calling out plastic materials used in the fabrication of end items or parts. It is not intended for the selection of materials. Materials are to be selected by personnel with expertise in the plastics field where the economics, the environment to be encountered, the inherent properties of the materials, the part design, the part performance required, and the manufacturing process to be employed all enter into the selection.

1.3 The properties included in this classification system are those required to identify the compositions covered. Other requirements necessary to identify particular characteristics important to specialized applications are addressed by using the suffixes given in Section 5.

1.4 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.5 The following precautionary caveat pertains only to the test methods portion, Section 12, of this classification system: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

NOTE 1—This standard and ISO 19062 address the same subject matter, but differ in technical content.

¹ This classification system is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials.

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1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- D256 Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
- D618 Practice for Conditioning Plastics for Testing
- D638 Test Method for Tensile Properties of Plastics
- D648 Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position
- D790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- D883 Terminology Relating to Plastics
- D1003 Test Method for Haze and Luminous Transmittance of Transparent Plastics
- D1525 Test Method for Vicat Softening Temperature of Plastics
- D1600 Terminology for Abbreviated Terms Relating to Plastics
- D3641 Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials
- D3892 Practice for Packaging/Packing of Plastics
- D4000 Classification System for Specifying Plastic Materials
- D5630 Test Method for Ash Content in Plastics
- E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

*A Summary of Changes section appears at the end of this standard

2.2 ISO Standards:³

- ISO 75-1 Plastics—Determination of Temperature of Deflection Under Load—Part 1: General Test Methods
- ISO 75-2 Plastics—Determination of Temperature of Deflection Under Load—Part 2: Plastics and Ebonite
- ISO 179 Plastics—Determination of Charpy Impact Properties
- ISO 291 Plastics—Standard Atmospheres for Conditioning and Testing
- ISO 294 Plastics—Injection Moulding Test Specimens of Thermoplastics Materials
- ISO 306 Plastics—Thermoplastic Materials—Determination of Vicat Softening Temperature (VST)
- ISO/DIS 527-1 Plastics—Determination of Tensile Properties—Part 1: General Principles
- ISO/DIS 527-2 Plastics—Determination of Tensile Properties—Part 2: Testing Conditions for Moulding and Extrusion Plastics
- ISO 3451-1 Plastics—Determination of Ash—Part 1: General Methods

- ISO 19062-1 Acrylonitrile-Butadiene-Styrene (ABS) Moulding and Extrusion Materials—Part 1: Designation System and Basis for Specifications ISO 19062-2
- ISO 19062-2 Acrylonitrile-Butadiene-Styrene (ABS) Moulding and Extrusion Materials—Part 2: Preparation of Test Specimens and Determination of Properties
- ISO 20753 Plastics—Test Specimens

3. Terminology

3.1 Definitions—Definitions of technical terms used in this classification system are in accordance with Terminology D883. For definitions of abbreviations used in this test method, refer to Terminology D1600, unless otherwise indicated.

4. Classification

4.1 ABS materials, based on three or more monomers, are grouped rather than rigidly classified. These groups are then subdivided by class and then grades. In cases in which a resin meets the requirements of more than one group, the supplier will determine the specific callout(s). Table ABS has both ASTM procedure method and ISO procedure versions for callout under the preferred test system.

TABLE ABS ASTM/ISO Values, Requirements, Natural Color Only^A

NOTE 1—For property test parameters, see Section 12.

| Group | Description | Class | Description | Grade | Description | Tensile Strength, MPa, ^B Test Method D638/ISO 527 | Modulus, MPa, Test Method Flexural D790/Tensile ISO 527 | Impact | | Softening Temperature | | | |
|-------|--------------------------|-------|----------------------|-------|-------------|--|---|---|---|-------------------------------|--------------------|----|----|
| | | | | | | | | Izod J/m, ^C Test Method D256 | Charpy kJ/m ² , ^D ISO 179 | Test Method D1525, °C, 120°/h | ISO 306, °C, 50°/h | | |
| 01 | Molding | 1 | medium impact | 1 | | 45 | 2600 | 40 | - | 90 | 85 | | |
| | | | | 2 | | 40 | 2400 | 125 | 6 | 90 | 85 | | |
| | | | | 3 | | 40 | 2200 | 150 | 8 | 90 | 85 | | |
| | | | | 4 | | 35 | 2200 | 80 | 5 | 90 | 85 | | |
| | | | | 5 | | 32 | 1600 | 70 | 3 | 90 | 85 | | |
| | | | | 0 | other | | | | | | | | |
| | | | | 2 | high impact | 1 | | 35 | 2100 | 200 | 13 | 90 | 85 |
| | | | | | | 2 | | 35 | 2000 | 250 | 16 | 90 | 85 |
| | | | | | | 3 | | 30 | 1700 | 275 | 19 | 90 | 85 |
| | | | | | | 4 | | 30 | 1700 | 325 | 25 | 90 | 85 |
| | | | | | | 5 | | 25 | 1500 | 400 | 30 | 90 | 85 |
| | | | | | | 6 | | 30 | 1600 | 184 | 12 | 90 | 85 |
| | | 3 | high heat | 0 | other | | | | | | | | |
| | | | | 1 | | 45 | 2300 | 100 | 5 | 115 | 110 | | |
| | | | | 2 | | 40 | 2000 | 125 | 6 | 110 | 105 | | |
| | | | | 3 | | 40 | 2400 | 125 | 6 | 105 | 100 | | |
| | | | | 4 | | 35 | 2000 | 150 | 10 | 105 | 100 | | |
| | | | | 5 | | 35 | 2100 | 80 | 3 | 105 | 100 | | |
| | | 4 | plating ^E | 6 | | 34 | 1700 | 65 | 2 | 98 | 93 | | |
| | | | | 7 | | 32 | 1800 | 50 | - | 105 | 100 | | |
| | | | | 0 | other | | | | | | | | |
| | | | | 1 | | 45 | 2500 | 150 | 8 | 105 | 100 | | |
| | | | | 2 | | 40 | 2600 | 80 | 3 | 105 | 100 | | |
| | | | | 3 | | 40 | 2200 | 200 | 13 | 100 | 95 | | |
| 5 | clear ^F | 4 | | 35 | 2000 | 200 | 13 | 95 | 90 | | | | |
| | | 5 | | 34 | 2200 | 80 | 3 | 93 | 88 | | | | |
| | | 0 | other | | | | | | | | | | |
| | | 1 | | 40 | 2300 | 80 | 3 | 85 | 80 | | | | |
| | | 0 | other | | | | | | | | | | |
| | | 6 | | 40 | 2200 | 200 | 13 | 85 | 80 | | | | |
| 6 | additive FR ^G | 2 | | 40 | 2000 | 150 | 8 | 85 | 80 | | | | |
| | | 3 | | 35 | 2400 | 80 | 3 | 90 | 85 | | | | |
| | | 4 | | 30 | 2000 | 150 | 8 | 90 | 85 | | | | |
| | | 5 | | 25 | 1800 | 80 | 3 | 85 | 80 | | | | |
| | | 0 | other | | | | | | | | | | |

| Group | Description | Class | Description | Grade | Description | Tensile Strength, MPa, ^B Test Method D638/ ISO 527 | Modulus, MPa, Test Method Flexural D790/ Tensile ISO 527 | Impact | | Softening Temperature | | | | | |
|-------|----------------|-------|-------------|-------|---------------|--|---|---|--|-------------------------------------|-----------------------|-----|-----|-----|-----|
| | | | | | | | | Izod J/m, ^C Test Method D256 | Charpy kJ/m ² , ^D ISO 179 | Test Method D1525, °C, 120°/h | ISO 306, °C, 50°/h | | | | |
| 02 | Extrusion | 0 | other | 0 | other | | | | | | | | | | |
| | | | | 1 | medium impact | 1 | 50 | 2600 | 80 | 3 | 95 | 90 | | | |
| | | | | 2 | | 2 | 45 | 2400 | 80 | 3 | 90 | 85 | | | |
| | | | | 3 | | 3 | 40 | 2200 | 150 | 8 | 90 | 85 | | | |
| | | | | 4 | | 4 | 40 | 2000 | 80 | 3 | 90 | 85 | | | |
| | | 2 | high impact | 0 | other | 0 | | 35 | 2200 | 125 | 6 | 90 | 85 | | |
| | | | | | | 1 | 35 | 2400 | 200 | 13 | 90 | 85 | | | |
| | | | | | | 2 | 35 | 2200 | 325 | 25 | 90 | 85 | | | |
| | | | | | | 3 | 30 | 2000 | 275 | 19 | 90 | 85 | | | |
| | | | | | | 4 | 30 | 2000 | 360 | 28 | 90 | 85 | | | |
| | | | | 3 | FR | 0 | other | 0 | | 25 | 1800 | 400 | 30 | 90 | 85 |
| | | | | | | | | 1 | 25 | 1800 | 440 | 34 | 90 | 85 | |
| | | | | | | | | 2 | 40 | 2300 | 280 | 19 | 90 | 85 | |
| | | | | | | | | 3 | 35 | 2000 | 275 | 19 | 90 | 85 | |
| | | | | | | | | 3 | 35 | 2000 | 210 | 17 | 85 | 80 | |
| 03 | Alloys ABS/PVC | 0 | other | 0 | other | | | | | | | | | | |
| | | | | 1 | 1 | 50 | 2700 | 80 | 5 | 100 | 95 | | | | |
| | | | | 2 | 40 | 1800 | 200 | 13 | 90 | 85 | | | | | |
| | | | | 3 | 40 | 1800 | 275 | 19 | 80 | 75 | | | | | |
| | | | | 4 | 35 | 2000 | 400 | 30 | 70 | 65 | | | | | |
| | | 2 | high impact | 0 | other | 0 | | 50 | 2100 | 440 | 34 | 110 | 105 | | |
| | | | | | | 1 | 35 | 2000 | 475 | 38 | 70 | 65 | | | |
| | | | | | | 2 | 45 | 2400 | 200 | 13 | 80 | 75 | | | |
| | | | | | | 3 | 40 | 2000 | 275 | 19 | 80 | 75 | | | |
| | | | | | | 4 | 35 | 2000 | 400 | 30 | 70 | 65 | | | |
| | | | | 3 | FR | 0 | other | 0 | | 50 | 2100 | 440 | 34 | 110 | 105 |
| | | | | | | | | 1 | 35 | 2000 | 475 | 38 | 70 | 65 | |
| | | | | | | | | 2 | 45 | 2400 | 200 | 13 | 80 | 75 | |
| | | | | | | | | 3 | 40 | 2000 | 275 | 19 | 80 | 75 | |
| | | | | | | | | 4 | 35 | 2000 | 400 | 30 | 70 | 65 | |
| 04 | Alloys ABS/PC | 0 | other | 0 | other | | | | | | | | | | |
| | | | | 1 | 1 | 55 | 2200 | 360 | 28 | 115 | 110 | | | | |
| | | | | 2 | 55 | 2400 | 325 | 25 | 110 | 105 | | | | | |
| | | | | 3 | 50 | 2200 | 275 | 21 | 120 | 115 | | | | | |
| | | | | 4 | 45 | 2100 | 275 | 21 | 110 | 105 | | | | | |
| | | 2 | high impact | 0 | other | 0 | | 40 | 1900 | 70 | 3 | 105 | 100 | | |
| | | | | | | 1 | 55 | 2400 | 400 | 30 | 125 | 120 | | | |
| | | | | | | 2 | 50 | 2300 | 400 | 30 | 115 | 110 | | | |
| | | | | | | 3 | 50 | 2200 | 475 | 39 | 125 | 120 | | | |
| | | | | | | 4 | 48 | 2100 | 275 | 21 | 110 | 105 | | | |
| | | | | 3 | high heat | 0 | other | 0 | | 45 | 2000 | 255 | 19 | 119 | 114 |
| | | | | | | | | 1 | 60 | 2400 | 275 | 21 | 140 | 135 | |
| | | | | | | | | 2 | 55 | 2400 | 400 | 30 | 130 | 125 | |
| | | | | | | | | 3 | 55 | 2000 | 500 | 41 | 125 | 120 | |
| | | | | | | | | 4 | 50 | 2300 | 360 | 28 | 135 | 130 | |
| 4 | plating | 0 | other | 0 | | 45 | 2100 | 600 | 50 | 130 | 125 | | | | |
| | | | | 1 | 50 | 2300 | 440 | 36 | 130 | 125 | | | | | |
| | | | | 2 | 45 | 2200 | 400 | 30 | 120 | 115 | | | | | |
| | | | | 3 | 45 | 2100 | 360 | 28 | 110 | 105 | | | | | |
| | | | | 0 | | | | | | | | | | | |
| 5 | additive FR | 0 | other | 0 | | 60 | 2400 | 125 | 6 | 110 | 105 | | | | |
| | | | | 1 | 55 | 2400 | 200 | 13 | 110 | 105 | | | | | |
| | | | | 2 | 55 | 2400 | 400 | 30 | 90 | 85 | | | | | |
| | | | | 3 | 50 | 2000 | 440 | 36 | 110 | 105 | | | | | |
| | | | | 4 | 45 | 2100 | 275 | 21 | 110 | 105 | | | | | |
| | | | | 6 | 40 | 2000 | 440 | 36 | 110 | 105 | | | | | |
| 0 | other | 0 | other | 0 | other | | | | | | | | | | |
| | | | | 0 | other | | | | | | | | | | |

^AAll cell values are minimums.

^BMPa × 145 = psi.

^CJ/m × 18.73 × 10⁻³ = ft-lbf/in.

^DkJ/m² × 0.476 = ft-lbf/in.². Test configuration 1aE.

^EPlating grades are those specifically recommended for plating or sputtering applications.

^FClear ABS has a light transmission of 70 % minimum. Test Method D1003 is allowed to be used.

^GSpecific flammability requirements shall be specified by the user.

NOTE 2—An example of this classification system is as follows:

The designation ABS0111 would indicate:

- ABS = acrylonitrile–butadiene–styrene,
- 01 (group) = injection-molding resin,
- 1 (class) = medium impact, and
- 1 (grade) = requirements given in Table ABS.

4.1.1 To facilitate the incorporation of future or special materials, the “other/unspecified” category (0) for group, class, and grade is shown in Table ABS. The basic properties can be obtained from Cell Table A, B, and C as they apply.

4.2 Reinforced and lubricated versions of the ABS materials are classified in accordance with Table ABS and Cell Table A or where Cell Table A does not reflect the required properties of the ABS material, Cell Table B. Table ABS specifies the unreinforced material and Cell Table A specifies the properties by either ASTM or ISO procedures after the addition of reinforcements or lubricants at the nominal level indicated.

4.2.1 A single letter shall be used for the major reinforcement or combination, or both, along with two digits that indicate the percentage of addition by mass, with the tolerance as seen in Table 1.

NOTE 3—This part of the system uses percent of reinforcements or additives, or both, in the callout of the modified basic material. The types and percentages of reinforcements and additives are shown on the supplier’s technical data sheet unless this information is proprietary in nature. If necessary, additional callout of these reinforcements and additives can be accomplished by the use of the suffix part of the system as described in Section 5.

4.2.2 Specific requirements for reinforced, filled, or lubricated materials shall be shown by a six-character designation. The designation shall consist of the letter A and the five digits comprising the cell numbers for the property requirements in the order in which they appear in Cell Table A.

TABLE 1 Reinforcement-Filler^A Symbols^B and Tolerances

| Symbol | Material | Tolerance |
|--------|---|---|
| C | Carbon- and graphite-fiber reinforced | ±2 % |
| G | Glass-reinforced | ±2 % |
| L | Lubricants (for example, PTFE), graphite, silicone and molybdenum disulfide | depends on material and process—to be specified |
| M | Mineral-reinforced | ±2 % |
| R | Combinations of reinforcements or fillers, or both | ±3 % for the total reinforcement |

^AAsh content of filled, or reinforced material, or both, is determined using either Test Method D5630 or ISO 3451-1 where applicable.

^BAdditional symbols will be added to this table as required.

CELL TABLE A Reinforced ABS/Alloys
(For property test parameters, see Section 12.)

| Designation Grade | Property | Cell Limits | | | | | | | | | |
|-------------------|--|-------------|------|------|------|------|------|------|--------|--------|--------------|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Tensile strength, MPa ^A , min | unspecified | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | ^B |
| | Test Method D638 | unspecified | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | ^B |
| 2 | Modulus, MPa, min | unspecified | 3000 | 4000 | 5000 | 6000 | 7500 | 9000 | 11 000 | 15 000 | ^B |
| | Test Methods D790, Flexural | unspecified | 3000 | 4000 | 5000 | 6000 | 7500 | 9000 | 11 000 | 15 000 | ^B |
| 3 | Impact, min | unspecified | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 140 | ^B |
| | Test Method D256, Izod, J/m ^C | unspecified | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | ^B |
| 4 | Heat deflection temperature, °C, min | unspecified | 65 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | ^B |
| | Test Method D648 | unspecified | 65 | 85 | 89 | 94 | 98 | 103 | 108 | 112 | ^B |
| 5 | To be determined | unspecified | ... | ... | ... | ... | ... | ... | ... | ... | |

^AMPa × 145 = psi.

^BTo be specified.

^CJ/m × 18.73 × 10⁻³ = ft.lbf/in.

^DkJ/m² × 0.476 = ft lbf/in². Test configuration 1aE.

CELL TABLE B Unreinforced ABS
(For property test parameters, see Section 12.)

| Designation Grade | Property | Cell Limits | | | | | | | | | |
|-------------------|--|-------------|------|------|------|------|------|------|------|------|--------------|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Tensile strength, MPa ^A , min | unspecified | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | ^B |
| | Test Method D638 | unspecified | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | ^B |
| 2 | Modulus, MPa, min | unspecified | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | ^B |
| | Test Methods D790, Flexural | unspecified | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | ^B |
| 3 | Impact, min | unspecified | 30 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | ^B |
| | Test Method D256, Izod, J/m ^C | unspecified | 30 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | ^B |

CELL TABLE B Unreinforced ABS
(For property test parameters, see Section 12.)

| Designation Grade | Property | Cell Limits | | | | | | | | | |
|-------------------|---|-------------|-----|-----|-----|-----|-----|-----|-----|-----|--------------|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4 | ISO 179, Charpy, kJ/m ^{2D} | unspecified | 1 | 5 | 9 | 13 | 19 | 22 | 25 | 30 | ^B |
| | Softening temperature, °C, min Test Method D1525 ISO 306 | unspecified | 75 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | ^B |
| 5 | To be determined | unspecified | 70 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | ^B |
| | | unspecified | ... | ... | ... | ... | ... | ... | ... | ... | ... |

^AMPa × 145 = psi.

^BTo be specified.

^CJ/m × 18.73 × 10⁻³ = ft·lbf/in.

^DkJ/m² × 0.476 = ft·lbf/in². Test configuration 1aE.

4.2.2.1 Although the values listed are necessary to include the range of properties available in existing materials, users should not infer that every possible combination of the properties exists or can be obtained.

4.2.3 When the grade of the basic material is not known, or is not important, the use of “0” grade classification shall be used for reinforced materials in this system.

NOTE 4—An example of this classification for a reinforced ABS is as follows: THE DESIGNATION ABS 120G30A55130 INDICATES:

- ABS 120 = Acrylonitrile-butadiene-styrene, molding resin, high impact
- G30 = Glass reinforced at 30 % nominal level,
- A = Cell Table A, property requirements,
- 5 = 80 MPa tensile strength, min,
- 5 = 7500 MPa flexural modulus, **D790**, or tensile modulus, chord, ISO 527, min,
- 1 = 30 J/m Izod or 2 kJ/m² Charpy impact strength, min,
- 3 = 90°C heat deflection temperature, **D648**, 89°C, ISO 75 min, and
- 0 = unspecified.

If no properties are specified, the designation would be ABS 120G30A00000.

4.3 Cell Table B has been incorporated into this classification system to facilitate the classification of special materials

where Table ABS or Cell Table A does not reflect the required properties of ABS material. Cell Table B shall be used in the same manner as Cell Table A.

NOTE 5—An example of a special material using this classification system is as follows: THE DESIGNATION ABS 210B54220 WOULD INDICATE THE FOLLOWING, WITH THE MATERIAL REQUIREMENTS FROM CELL TABLE B:

- ABS 210 = Acrylonitrile-butadiene-styrene, extrusion resin, medium impact,
- B = Cell Table B property requirements,
- 5 = 40 MPa tensile strength, min,
- 4 = 2000 MPa Flexural modulus, **D790**, or tensile modulus, chord, ISO 527, min,
- 2 = 100 J/m Izod impact or 5 kJ/m² Charpy impact strength, min,
- 2 = 90°C vicat softening point, **D1525** or 85°C, ISO 306, min, and
- 0 = unspecified.

NOTE 6—Mechanical properties of pigmented or colored ABS or alloy materials can differ from the mechanical properties of natural ABS or alloy material, depending on the choice and concentration of colorants. The main property affected is ductility, as illustrated by a reduction in Izod impact strength and tensile-elongation values. If specific properties of pigmented ABS or alloy materials are necessary, prior testing between the materials supplier and end user should be initiated.

CELL TABLE C Unreinforced ABS Alloy
(For property test parameters, see Section 12.)

| Designation Grade | Property | Cell Limits | | | | | | | | | |
|-------------------|---|-------------|------|------|------|------|------|------|------|------|--------------|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Tensile strength, MPa ^A , min | unspecified | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | ^B |
| | Test Method D638 ISO 527, 1, 2 | unspecified | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | ^B |
| 2 | Modulus, MPa, min | unspecified | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 | ^B |
| | Test Methods D790 , Flexural ISO 527, Tensile, chord | unspecified | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 | ^B |
| 3 | Impact, min | unspecified | 100 | 200 | 300 | 350 | 450 | 500 | 550 | 600 | ^B |
| | Test Method D256 , Izod, J/m ^C ISO 179, Charpy, kJ/m ^{2D} | unspecified | 5 | 13 | 22 | 28 | 36 | 41 | 46 | 50 | ^B |
| 4 | Softening temperature, °C, min | unspecified | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | ^B |
| | Test Method D1525 ISO 306 | unspecified | 65 | 75 | 85 | 95 | 105 | 115 | 125 | 135 | ^B |
| 5 | To be determined | unspecified | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | | unspecified | ... | ... | ... | ... | ... | ... | ... | ... | ... |

^AMPa × 145 = psi.

^BTo be specified.

^CJ/m × 18.73 × 10⁻³ = ft·lbf/in.

^DkJ/m² × 0.476 = ft·lbf/in². Test configuration 1aE.