

Standard Test Method for TRANSVERSE LOAD OF CORRUGATED REINFORCED PLASTIC PANELS¹

This standard is issued under the fixed designation D 1502; 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.

This method has been approved for use by agencies of the Department of Defense to replace method 1032 of Federal Test Method Standard 406 and for inclusion in the DoD Index of Specifications and Standards.

¹ NOTE—Section 10 was added editorially in June 1980.

1. Scope

1.1 This method covers the determination of the ultimate transverse load of corrugated reinforced plastic building panels when subjected to a concentrated load applied at the quarter points.

1.2 The values stated in SI units are to be regarded as the standard.

2. Applicable Document

2.1 *ASTM Standard:*

D 618 Conditioning Plastics and Electrical Insulating Materials for Testing²

3. Significance

3.1 Due to the geometry of the variously-shaped corrugations in panels of commercial production, it is most difficult on all, and impossible on most corrugations, to obtain satisfactory small-size test specimens normally required for the determination of such physical properties as tensile strength, compressive strength, flexural strength, etc. It is the purpose of this test to provide a method of determining a useful strength property without the involvement of the corrugation shape factor. The method lends itself for use as a quality control index and as a basis for purchase specifications. This method is not applicable for the determination of the actual load-carrying capacity of corrugated panels installed in buildings, since the mode of attachment would have its influence upon the results.

4. Apparatus

4.1 *Testing Machine*—Any standard mechanical or hydraulic testing machine or device capable of applying and measuring the required load within an accuracy of $\pm 2\%$, and having dimensions suitable for mounting the test specimen, may be used, such as:

4.1.1 Universal testing machine having a suitable size and load capacity.

4.1.2 Testing rig with a hydraulic jack loading device and pressure gage and preferably having a maximum indicating pointer.

4.2 *Bearing Edges*—In order to prevent injury to the specimen during testing, all load and support bearing edges shall be rods with a diameter of 12.7 to 19.1 mm ($\frac{1}{2}$ to $\frac{3}{4}$ in.) or plates with the bearing edge rounded to a radius of 6.4 to 9.5 mm ($\frac{1}{4}$ to $\frac{3}{8}$ in.).

4.3 *Span*—The span length shall be 610 mm (24 in.).

4.4 Quarter-point testing arrangement as shown schematically in Fig. 1.

5. Test Specimens

5.1 Each test specimen shall be cut 762 mm (30 in.) long, paralleling the corrugations, and the full width of the sample panel. The mini-

¹ This method is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.24 on Plastic Building Products.

Current edition effective Sept. 19, 1960. Originally issued 1957. Replaces D 1502 – 57 T.

² *Annual Book of ASTM Standards*, Part 35.