

EDS

Engineering,
GM DAEWOO Auto & Technology
Standards

TEST METHOD DETERMINING THE FLEXURAL STRENGTH OF PLASTICS

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1. SCOPE

This standard is used to determine the strength and deformation characteristics of plastic test specimens when flexural loads are applied on plastic test specimens.

2. DEFINITION

2.1. Flexural stress: The quotient of the bending moment in the test specimen at its center at any moment of the test divided by the moment of resistance before the test.

2.2. Flexural strength: Flexural stress at the maximum load.

2.3. Three-point loading flexural test: The bar rests on two supports and is loaded by means of a loading nose midway between the supports (see Fig 1).

3. APPARATUS

3.1. Flexural Testing Machine

It shall be capable of steadily maintaining the test speed up to (500 ± 10) mm/min and furnished with force-extension meter. Jigs for bending tests shall be easily mounted to and separated from it.

3.2. Loading Noses and Supports

The radius of the nose or noses and supports shall be at least 3.2mm for all specimens as shown in Fig 1 and Fig 2. For specimens 3.2mm or greater in depth, the radius of the supports may be up to 1.5 times the specimen depth and the radius of the loading noses may be up to 4 times the specimen depth.

3.2.1. Test data have shown that the loading nose and support dimensions can influence the flexural properties values.

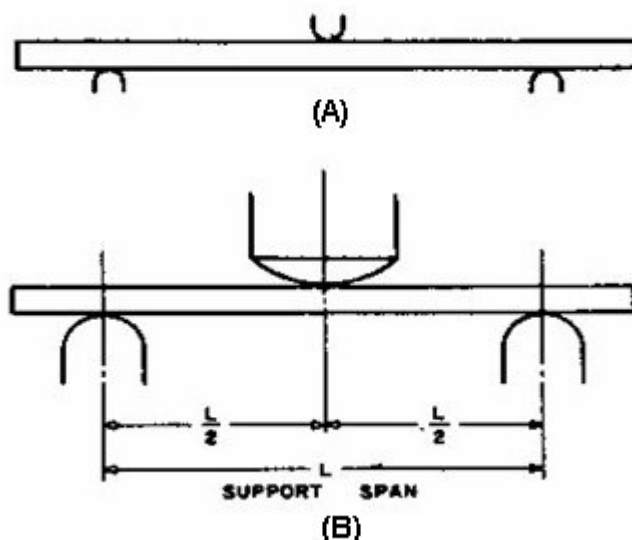


Fig 1. Loading Noses and Supports Diagram Three-point Loading