

EDS

Engineering,
GM DAEWOO Auto & Technology
Standards

THE TEST METHOD FOR INDENTATION HARDNESS OF PLASTICS

EDS-T-7515

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1. SCOPE

This test method applies to determining the indentation hardness of plastics and also to testing hard rubbers.

2. DEFINITION

2.1. Indentation hardness: The index between the test load and penetration area when applying the test load to the plastic test piece for a given time by using a spherical penetrator of a specified size.

3. TEST PIECES AND NUMBER OF TEST PIECES

3.1. Test pieces shall have plane surfaces with the upper and lower machined parallel, and the each side shall be at least 20 mm and the thickness shall be (4 ± 0.5) mm.

3.2. For initial sample approval and arbitration, at least 5 test pieces shall be tested. And for routine quality control, at least 3 test pieces shall be used. In both cases, the test shall be conducted three times per one test piece.

4. CONDITIONING

Perform conditioning according to the requirements specified in the drawing or material standard. Unless otherwise specified, conduct the test under the condition of $\pm 23^\circ\text{C} \pm 2\text{K}$ in temperature and $(50 \pm 5)\%$ in relative humidity for at least 16 hrs.

5. APPARATUS

5.1. Hardness tester (see Fig. 1)

The one which can measure linear deformation by penetration up to 0.01 mm and incase of penetration deformation up to 0.4 mm, and apply an initial load of 9.81 N and other test loads of 49.0, 132, 358 and 961 N within a tolerance of $\pm 1\%$.

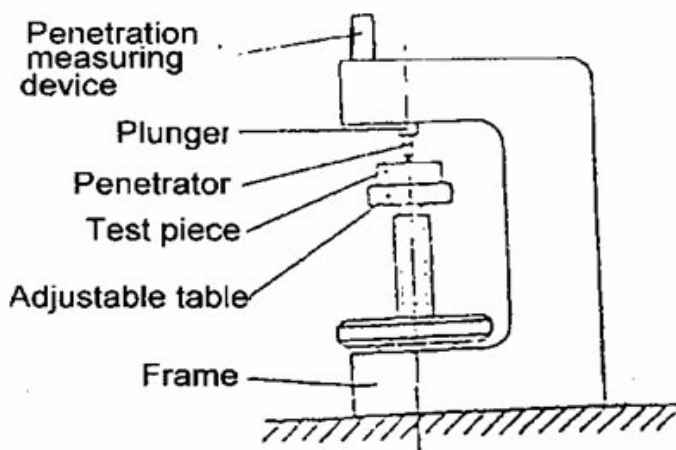


Fig.1. Penetration hardness tester