

EDS

Engineering,
GM DAEWOO Auto & Technology
Standards

STANDARD TEST METHOD FOR LINEAR THERMAL EXPANSION OF PLASTICS BY THERMOMECHANICAL ANALYSIS

EDS-T-7541

ISSUED DATE: 1999. 08. 30

REVISED DATE: 2006. 06. 19

VERSION: 2

1. PURPOSE

This standard aims at specifying the method of evaluating linear thermal expansion of the plastic standard test piece using TMA (ThermoMechanical Analysis).

2. SCOPE

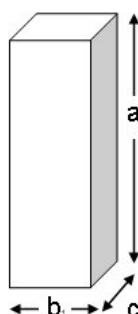
This standard applies to the method of getting the coefficient of linear thermal expansion of plastic materials used for vehicle interior and exterior parts by measuring change of length of the plastic test piece according to temperature rise using TMA.

3. TEST PIECE

3.1. The dimensions of the test piece shall be 2~10mm for a side (a) and not larger than 10mm for other sides (b, c). The dimensions shall be recorded on the test report.

3.2. Each plane of the test piece shall be flat with a deviation not exceeding 25 μm to enhance accuracy of the test result.

3.3. Unless specified otherwise, at least 5 test pieces shall be provided.



4. PRE-TREATMENT

4.1. Pretreatment conditions specified in the drawing or material spec shall be followed. Unless specified otherwise, the test piece shall be exposed to a temperature of $23 \pm 2^\circ\text{C}$ and relative humidity of $50 \pm 5\%$ for a minimum of 40 hours prior to test.

4.2. Moisture-absorbing materials, such as nylon, shall be kept isolated from moisture as long as possible until arrangement for the test is completed.

5. TEST EQUIPMENT

5.1. Thermomechanical Analyzer