

EDS

Engineering,
GM DAEWOO Auto & Technology
Standards

EXPANDING TEST FOR TUBES

EDS-T-7122

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1. PURPOSE

The purpose of expanding test for tubes is to measure softness of tube by inspecting expanding amount of tube when expanding tube until cracks occur.

2. SCOPE

This expanding test applies to the seamless tube and seam tube(welded tube) of metallic materials with circular section and its scope shall as shown in Table 1.

Table 1. Expanding test Scope Due to the Tube Materials (Unit: mm)

Tube material	Nominal outside diameter (d _o)	Nominal wall thickness
STEEL	150 max.	9 max.
A1 & A1 ALLOYS	150 max.	10 max.
Cu & Cu ALLOYS	150 max.	No limit

3. SAMPLING OF TEST PIECE

3.1. Test piece shall be taken from end part of the tube.

3.2. Make the length of the test piece long so that unexpanded part of tube may exist after test. The length shall be at least 1.5 times the outside diameter of the tube and shall not be shorter than 50mm.

3.3. Cut end part of the test piece shall be at a right angle to the longitudinal direction of the tube.

3.4. The edge of the test piece shall not be made round and sharp portions, if any, shall be filed off

4. TESTING DEVICE

4.1. Test shall be performed with UTM (Universal Testing Machine) and JIG for expanding test.

4.2. JIG for expanding test shall be the one which is constructed with steel materials having proper hardness.

4.3. The JIG surface which is in contact with the test piece shall be smooth.