

KES

**Test Standard for Rubber
Property Compression Set
at Low Temperature**

KES T – L424

(EST.) 1991 – 02 – 22

Contents

- 1. Scope of Application**
- 2. Property Compression Set**
- 3. Apparatus**
- 4. Standard of Test Sample**
- 5. Order**
- 6. Calculation**
- 7. Report**



1. Scope of Application

This method shall include evaluation of vulcanized elastic body recovered from deformations due to compressions at the room temperature or low temperature (Air or carbon dioxide air).

Characteristics of the vulcanized material are used valuably in oil pressure chamber of an airplane, a floodgate gasket of a submarine and application on oil pressure break cup.

2. Property Compression Set

For the purpose of the test, the property compression set is a thickness loss of the sample expressed in ratio of original deviation. Unlike the normal property compression set in high temperature, this compression set is temporary since the sample obtains the original value when it comes back to the room temperature or the temperature above it.

3. Apparatus

- (1) From methods B of section 10 in ASTM Methods D 395, the property compression set jig made of a proper steel spacer rod, for the rubber the property compression set.
- (2) Dial gauge, shown in 4.4 of method D395.
- (3) For the cooling box, which is cooled by the solid carbon dioxide (Dry ice), liquid carbon dioxide, or mechanically, use the one, specified in ASTM and recommended in execution D 832 for the rubber condition at low temperature, that is possible to adjust the test temperature within $\pm 1^{\circ}\text{C}$ (1.8°F).
- (4) This test box is equipped with vice "C" clamp and other devices to fix the property compression set jig.

4. Standard of Test Sample

The standard of the test sample is a cylindrical disk, which thickness is 12.7mm($\frac{1}{2}$ in) and