

Compression Set testing on V1289-75 compound using Type A Buttons at 260°C and 270°C

Report No: 22550B/C

Materials and Methods.

2 compression set tests were conducted in accordance with ISO 815: 2008 method A. The initial thickness of three compression set buttons was measured for each test. Spacers were selected to give the required 25% compression. The buttons were mounted in the test jig and placed in an ageing oven at the test temperature of 260°C or 270°C dependant on which test was carried out. The jig was removed following an exposure period of two hours. The test pieces were removed from the jig and allowed to cool to standard laboratory temperature (23 +/- 2°C). The thickness of the test pieces was measured 30 minutes following removal from the jig, in accordance with the standard.

All instruments used e.g. digital gauge, temperature sensors were calibrated before use. The digital thickness gauge used to measure the test pieces was calibrated internally. The Instron oven when set at 260 °C gave a reading of 261.3°C on the externally calibrated thermometer and a reading of 261.1 on a separate digital thermometer (internally calibrated).

The readings recorded on setting the oven to a temperature of 270°C were 271.8 and 271.4°C respectively for the externally calibrated and second digital thermometer. (internally calibrated).

The compression set jigs comprise two metal plates of approximate 12mm thickness. For standard tests, at least 24 hours duration, any time lag in heating of the plates would not be an issue and it would be very small in terms of the duration of the test. However the test required in this study was not standard in terms of duration or temperature.

The oven cooled down by no more than 10°C and the temperature recovered to the set-point within 5 minutes of placing the jig in the oven.

The test period of 2 hours was taken from time the oven recovered to the preset temperature.

Test Piece: Cylindrical Type A Button: 29mm +/- 0.5mm diameter and thickness 12.5mm +/- 0.5mm. Oven atmosphere was air



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Compression Set test results

The compression set results should be quoted to the nearest whole unit in accordance with the ISO 815:2008 standard.

The ISO standard indicates that no individual test result shall vary from the numerical value of the median compression set by more than 2% or by more than 1/10th of the mean, whichever is higher. If it does, three more test pieces shall be tested and the median value of all results shall be reported, together with the number of test pieces tested.

The compression set results calculated to one decimal place were as follows:

Test : Ref 22550B

Tested to ISO 815-1:2008: Method A

Lab Temp(°C): 23

Compression (%) = 25%

Test duration = 2 hrs

Rest duration = 30 min

Micrometer foot diameter = 4 mm

Sample Identification	Test Temp (°C)	Test Piece 1 (%)	Test Piece 2 (%)	Test Piece 3 (%)	MEDIAN (%)
V1289-75	260	9	8	9	9

Test : Ref 22550C

Tested to ISO 815-1:2008: Method A

Lab Temp(°C): 23

Compression (%) = 25%

Test duration = 2 hrs

Rest duration = 30 min

Micrometer foot diameter = 4 mm

Sample Identification	Test Temp (°C)	Test Piece 1 (%)	Test Piece 2 (%)	Test Piece 3 (%)	MEDIAN (%)
V1289-75	270	12	10	10	10



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Date: 30th November 09

Signed: Tarsem Sandhu – Application Engineer

Signed: Chris Challis – Quality Manager

A handwritten signature in blue ink, appearing to read "Chris Challis", is written over a horizontal line.

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