



Brussels, 19 February 2013

## TM 1008:2013

# Determination of the Brittleness of an OCF<sup>1</sup> Canister Foam

## 1. Scope

This test method describes how to determine the degree of brittleness of cured foam at a given temperature.

## 2. Short description of the procedure

The brittleness is measured on a cylindrically shaped string of hardened foam after a certain time by pressing the foam by finger at preferably low ambient temperatures. The degree of brittleness is given in marks from creaking, breaking of the surface up to pulverizing the foam.

## 3. Background and purpose

Polyurethane based OCF have the tendency to become brittle during the curing phase, mainly at cold temperatures. This property usually disappears irretrievably at warming. Though the foam becomes flexible at higher temperatures, the brittleness may remain permanent in cold conditions and affect the applicability of the foam. The lower the brittle point, the better the foam quality.

## 4. Equipment

- Controlled climate chamber
- Piece of carton or paper
- Watch

## 5. Procedure

### 5.1 Preparation

- a) Bring the test canister to the test temperature for at least 24 h
- b) Bring the climate chamber to the desired test temperature and humidity

### 5.2 Experimental procedure

- a) Shake the canister vigorously 20 times
- b) Discard the first 50 g of foam
- c) Extrude a string of foam (ca. 3 cm diameter) horizontally on the piece of paper or carton in the climate chamber.
- d) Measurement of the brittleness should be started after a specified time when the foam is cured. Preferably this time should be 2 h after extrusion.

<sup>1</sup> OCF: Generic for moisture curing One Component Foams dispensed from pressurised containers ("aerosol cans") as well as self-curing two component foams dispensed from pressurised containers ("1,5 component foams")

- e) The brittleness is assessed by pressing gently the surface of the foam (compressing it 5 to 10 mm) with a finger or a wooden spatula.

### 5.3 Evaluation

The result is expressed by a numeric value:

- Mark 1: The foam is flexible and makes no noise at all
- Mark 2: The foam creaks but does not break
- Mark 3: The foam breaks
- Mark 4: The foam pulverizes

The test report should at least contain:

- i. Canister temperature
- ii. Ambient test temperature and rel. humidity
- iii. Time of measurement
- iv. Brittleness numeric value

## 6. Revision

Version	Date	Remarks
2	19.02.2013	Released at the OCF TTF meeting on 19 February 2013.

## 7. Contact

FEICA – Association of the European Adhesive & Sealant Industry  
Avenue Edmond van Nieuwenhuysse, 6  
B- 1160 Brussels, Belgium  
Tel: +32 (0)2 676 73 20 | Fax: +32 (0)2 676 73 99  
[info@feica.eu](mailto:info@feica.eu) | [www.feica.eu](http://www.feica.eu)

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