

Bodycote Materials Testing Ltd Coatings Division  
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## Test Certificate

**IFC Techprocomplect LLC**  
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Moscow  
Russia  
117321

REF NoN707703/5-5 Issue 1  
Ord No Cash account

Date Tested 14/03/2008  
Date Reported 17/03/2008

Test Product: Free film sheet of TIAL-M Backing

### Specification - ASTM D1525 - 07

#### Description of product tested

TIAL-M backing used as part of TIAL-M/TIAL-MGP heat-shrinkable wrap-around sleeve operating at temperature up to 60°C with TIAL-P wet epoxy primer.

ASTM D1525 - 07			
Vicat Softening Temperature of Plastics			
TIAL-M Backing.			
Item number	Sample A Test Temperature (°C)	Sample B Test Temperature (°C)	Mean Test Temperature (°C)
1	114	114	114
2	114	115	115
3	113	112	113
4	112	111	112
5	113	112	113
6	113	111	112

#### Note:

- Due to the thickness of the material it was necessary to use 3 layers to make up each sample.
- Each piece of sample was approximately cut to a 10mm square.
- The set load applied was  $10 \pm 0.2N$ .
- The heating rate A was used ( $120 \pm 10^{\circ}C/hour$ )
- The start temperature was between  $22^{\circ}C$  and  $30^{\circ}C$
- The heating solution used was silicone oil.

#### Test equipment used:

Humidity cabinet 1 serial number 8781 Calibration due 01/09.  
Data logger 2 serial number 9998 Calibration due indication only  
Temperature transmitter serial number 9905. Calibration due 07/08  
Data logger 1 serial number 9999 Calibration due indication only  
Steel ruler 300mm serial number 8600 Calibration due 07/08  
Micrometer serial number 8909. Calibration due 12/08  
Vicat/HDT Prt's serial number 8011. Calibration due 03/08  
Vicat jigs serial number 8032. Calibration due 07/08  
Oil bath and temperature controller serial number 8034. Calibration due indication only  
Chiller serial number 8035. Calibration due indication only  
HDT jig masses serial number 8031. Calibration due 03/10  
Brass student masses serial number 8041. Calibration due 08/10

The test sample was conditioned before testing for 40 hours at  $23 \pm 2^{\circ}C$  and  $50 \pm 5\%$  relative humidity.

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The above testing has been carried out by a Bodycote approved sub-contractor in accordance with the requirements of the governing specification and or clients requirements, and controlled within the laboratories BS/EN/ISO/IEC 17025 UKAS accredited quality system. However, the testing is not covered under the laboratories UKAS testing schedule.

Authored by: Mr K Godward  
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Smithers Rapra  
Report number CTR4707

~~John Carter~~  
~~Operations Manager~~  
~~Bodycote Testing Ltd.~~  
~~North West Laboratory~~  
For and on behalf of  
Bodycote Materials Testing. Ltd

Witnessed by

  
Mr S. Davenport Inspection/Expediting Engineer  
Velosi Europe Limited