

Title: Resistance to W-Flex

A INDEX

- A Index
 - B Scope
 - C Object
 - D Risk Assessment
 - E Review
 - F Related Documents
 - G Equipment
 - H Procedure
 - I Data Generated and Reporting
 - Z Change History
- Appendix A - Illustration of Mounted Sample.

B SCOPE

This test procedure applies to all polymeric foils and Leather used in seating and gaiter applications in Jaguar Land Rover vehicles.

C OBJECT

This test procedure is used for the determination of the resistance to lacquer cracking after W-flex testing.

D RISK ASSESSMENT

A valid risk assessment must be in place before this test is conducted.

E REVIEW

This document must be reviewed at least every three years from the date of the last review or update.

E RELATED DOCUMENTS

None

G EQUIPMENT

- 1 All equipment used must be in date for calibration and be certified as such.
- 2 Flexing Machine - A "W" Flex Tester, or equivalent device, which will flex the cylindrical shaped sample 12 mm ± 1 mm along its vertical axis at a rate of 450 cycles per minute.
 - 2.1 Source: Schap Specialty Machine, 17309 Taft Road, Spring Lake, MI 49456.

This document is approved for use by both Jaguar Cars and Land Rover.	
Prepared by: Kelly Beck CDSID kbeck6	Authorised by: Andrew Haggie CDSID ahaggie

Title: Resistance to W-Flex

- 3 Plugs - Metal plugs 25 mm \pm 1 mm outside diameter and 38 mm \pm 1 mm long are inserted in each end of the cylindrical test sample. The projecting ends of the plugs have holes for attachment to the flex testing machine.
- 4 Clamps - Hose clamps/jubilee clips with a minimum inside diameter of 26 mm \pm 1 mm are required for clamping the sample to the plugs.
- 5 Holding Jig - A small jig for accurately spacing the metal plugs while mounting the samples may be of some assistance. The spacing may also be accomplished with the assembly in position on the flex tester.
- 6 Magnification eyepiece - An eyepiece of 6 x magnification may be required for examination of the test sample upon completion of the prescribed number of flexing cycles.
- 7 Scissors/knife.
- 8 Rule.
- 9 Pen/marker.

H PROCEDURE

- 1 Cut two samples 50 mm \pm 1 mm \times 75 mm \pm 1 mm, one from the transverse direction and one from the longitudinal direction (for leather, one from the direction of the backbone and one across the backbone).
- 2 Roll the test sample into a cylindrical shape, with the 'A' surface of the material facing outwards and the short dimension along the length of the cylinder (see Appendix A).
- 3 Slip the loosened hose clamp/jubilee clip over one end of the sample and insert a plug. Do the same for the other end of the sample using the holding jig to achieve the correct spacing if necessary.
- 4 Tighten the hose clamps/jubilee clips around the sample and plugs. The plugs shall be positioned so that a 20 mm \pm 1 mm length of sample is left between the plugs free for flexing.
- 5 Place the mounted sample in its position on the flex tester between the fixed and moveable plates. The plugs shall be seated evenly together on threaded studs, which shall be fastened and secured using an appropriate size washer and nut.
- 6 Start the machine and flex the test sample for the relevant number of cycles (see specific Materials Engineering Standard).
- 7 Inspect the sample after the relevant number of cycles using a 6 x magnification eyepiece and look for any signs of lacquer cracking.

Title: Resistance to W-Flex

I DATA GENERATED AND REPORTING

- 1 Report any cracking found after examination of the tested samples.
- 2 A test report must be created to include:
 - Day, date and time of test
 - Test location
 - Name(s) of people conducting the test
 - Test data
 - Any other factors that may influence the test
- 3 The test report must be submitted to all interested parties and archived in accordance with current corporate records retention policy.

Z CHANGE HISTORY

Issue	Date	Description of Change
1	28 Oct 2009	First issue. Replaces FLTMs BN 102-02.

Title: Resistance to W-Flex

APPENDIX A - Illustration of mounted sample.

