TEST FOR INDENTATION AND RECOVERY

Application

This method is used to determine the recovery after indentation of soft interior composite systems.

Apparatus Required

Tensile Tester
Universal Testing Machine, Instron or equivalent capable of compression loading.

Indentor and Fixture
Refer to Figure 1

Indentor Head
Steel indentor of no less than 38 mm in length with a 7.5 mm spherical radius. Shown in Figure 1.

Conditioning and Test Conditions

All test values are based on material conditioned for not less than 24 h prior to testing in a controlled environment of 23 +/- 2 °C and 50 +/- 5% relative humidity. Testing of the material should occur in the conditioning environment or soon after removal to minimize the fluctuation of the specimen conditions.

Procedure

1. Cut specimen 200 mm by 200 mm in size.

2. Place the sample so the area to be tested is perpendicular to the indentor head, See Figure 1. The area tested should be as flat as possible.

3. The testing machine should apply and reach the specified load (as defined in the specification) within 3 seconds. The testing machine should automatically remove the load as soon as the defined load has been achieved.

4. Remove the sample from the testing machine and place on a flat surface.

5. Reference applicable performance specification for allowed recovery time.

6. Evaluate to determine if a full recovery has been achieved. Full recovery (a pass) is defined as no indentation observed to the unaided eye at any angle.

Date	Action	Revisions	Rev 03
2015 09 14	Editorial	See Summary of Revisions	L. Sinclair, NA
2015 06 29	Revised	See Summary of Revisions	L. Sinclair, NA
1991 02 14			

Copyright © 2015, Ford Global Technologies, Inc.

Documents
Document Sharing Hub

Copyright Ford Motor Company
Provided by IHS Markit under license with FORD
No reproduction or networking permitted without license from IHS
Licensee=/, User=,
Not for Resale,
Full document details: FORD FLTM BO 111-02 2015

Reporting

The following items should be recorded in the final report.

1. Rate of speed
2. Force applied
3. Required recovery time as specification
4. Recovery – Fully recovered or not fully recovered
5. Report any deviations to this method

Summary of Revisions

2015 09 14

- Corrected page numbers.

2015 06 29

- Changed application to include soft interior composite systems
- Updated apparatuses used – updated universal testing machine, removed compression apparatus, updated photos of indentor and fixtures
- updated conditioning statement
- Removed procedure A for crash pads
- Removed the load (information to be housed in the material specifications)
- Updated procedure to use a universal tester instead of the compression technique by hand.
- Added evaluation information
- Added reporting section

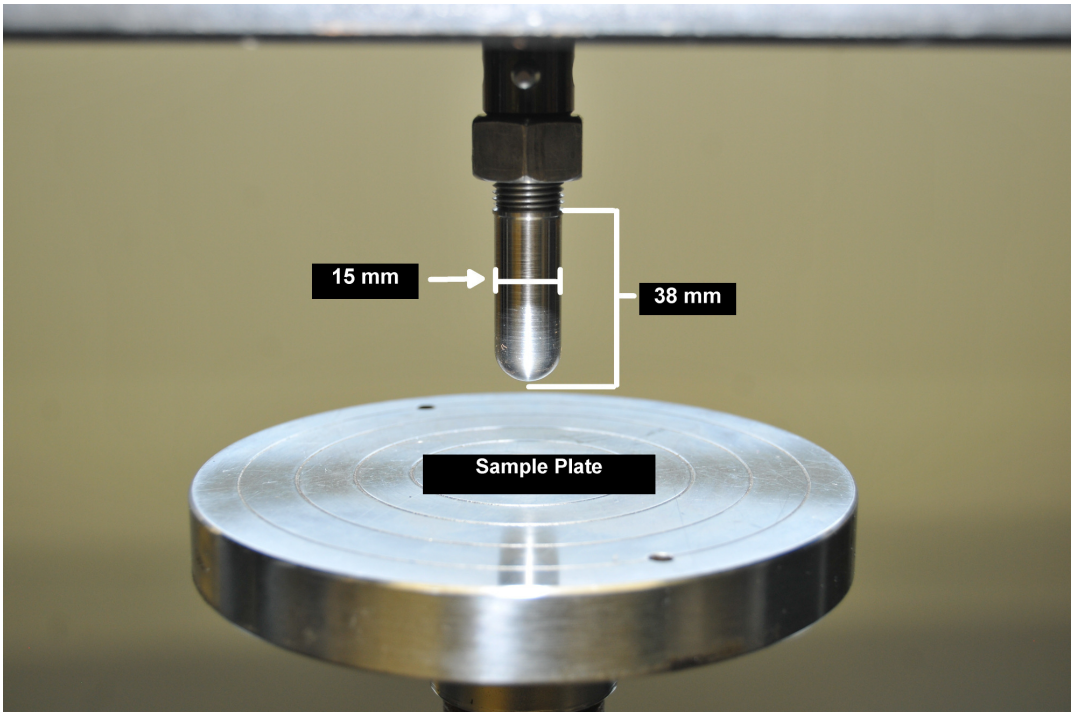

Figure 1: Test Setup.

Copyright © 2015, Ford Global Technologies, Inc.

Documents
Document Sharing Hub

Copyright Ford Motor Company
Provided by IHS Markit under license with FORD
No reproduction or networking permitted without license from IHS
Licensee=/, User=,
Not for Resale,
Full document details: FORD FLTM BO 111-02 2015