

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS DT-14
		<i>Former Designation: CEMS DT-14</i>
TITLE: Surface Waviness Definition via ALSA® Analyzer		CURRENT REV No.: 1610
		DATE: Oct. 2016
WRITTEN/EDITED BY: L. Xu	APPROVED BY: R. Goluch	SUPERSEDES: Rev. April 2009
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1.0 APPLICATION

This specification covers a method for determining surface quality of SMC panels using an Advanced Laser Surface Analyzer (ALSA)®. *

2.0 SCOPE

This test method describes the procedure used to quantitatively determine the surface waviness of SMC substrates used for Class A exterior applications. The surface quality is evaluated in terms of an ALSA® Index Value.

3.0 APPARATUS

Required equipment is an Advanced Laser Surface Analyzer (ALSA)®, which is available from the Composite Polymer Division of Ashland Chemical Co. This apparatus must be properly calibrated and standardized.

4.0 PROCEDURE

In order to assure repeatability of the surface quality measurement or Index Value, it is essential that the test procedure be carefully controlled. The apparatus must be properly calibrated; the test specimen must be properly aligned between the laser and the reflective screen, and the laser incident angle carefully controlled.

4.1 Test Specimen

The test specimen should be of sufficient size to allow a measured area of 250 x 250 mm (minimum) to be analyzed. The specimen surface must be sufficiently reflective to reflect the laser beam onto a screen, where it is recorded by a camera. A flat surface is preferred, but a curved surface may be used if it is free of styling lines, ribs, bosses or inflected spots in the area to be measured.

4.2 Test Specimen Location

The specimen or part to be analyzed should be placed approximately halfway between the laser and the screen, so that the first laser measurement line on the test specimen is 1550 mm in front of the reference mark on the laser apparatus. The reference line on the front side of the laser should be 1070 mm above the measurement area on the test specimen. The reflective screen is mounted 3 meters in front of the reference mark on the laser apparatus.

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4.3 Test Procedure

Allow the laser beam to move fully across the entire surface area of analysis and to be fully reflected on the screen and recorded by the camera. Make sure the laser beam can travel the length of the panel without moving off the panel surface.

4.3.1 ALSA® Index Value

Take readings on three specimens and average the result. The value of the individual readings shall not vary by more than 10 % from the average value. The average value of the three readings is the ALSA® Index Value for that material and process.

5.0 REPORT

Report the ALSA® Index Value of the scanned samples. The Index Value should be submitted along with the material qualification data to Materials Engineering at Navistar International.

6.0 TECHNICAL INFORMATION

For further information related to the technical content of this specification, contact:	Suppliers may purchase controlled copies of this specification by contacting:
Materials Engineering and Technology Dept. 10400 W. North Avenue Melrose Park, IL 60160 E-mail: MaterialsEngineering@Navistar.com	IHS Markit. 15 Inverness Way East Englewood CO 80112-5776 Phone: 1-800-854-7179 E-mail: Automotive@IHS.com Website: http://global.ihs.com

REVISION HISTORY

Revision Level	Change	Approved by	Date Approved
1610	Converted To MPAPS	R. Goluch	10/20/2016

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