

Oil Seal Compatibility Test (OSCT) Surveillance Panel Meeting Minutes

May 3, 2017

Don Bell

Participants:

Please see attached attendance list in Appendix.

An OSCT Surveillance Panel meeting was called to order by D. Bell at 1:00 pm on 5/3/2017 via Webex at Automation Alley in Trou, MI.

The OSCT voting member list of eleven was reviewed with the Panel and deemed acceptable with a good industry representation. The attached attendance list was initialed by all attendees, and those who attended via Webex are highlighted on the attendance sheet.

A motion made by D. Bell and 2nd by B. Grinfield was unanimously approved with a vote of 9 to approve the OSCT Surveillance Panel meeting minutes from 2/8/2017 that are posted on the TMC website.

There are multiple baths available at Lubrizol, SWRI, and one at Intertek (not NI) with no known issues for conducting ASTM D5662 testing.

The polyacrylate (PA) slab inventory at Test Engineering Institute (TEI) was reviewed as follows:

- PA358: TEI sent out for 3rd requalification testing 2/27, TEI has 176 slabs
 - TMC only awaiting 160-1 re-run from lab G with an SOT of ~4/21
- PA359: TEI sent out for qualification testing 3/21, TEI has 257 slabs
 - TMC awaiting 169 & 160-1 data from lab C
- PA360: TEI ordered 2/9/2017

The fluoroelastomer (FL) slab inventory at TEI was reviewed as follows:

- FL401: Approved 2/3/2017, and TEI has 51 slabs
- FL402: Approved 2/2/0/2017, TEI has 34 slabs
- FL403: Approved 3/22/2017, TEI has 185 slabs
- FL404: TEI sent out for qualification testing 4/5, TEI has 192 slabs
 - TMC only awaiting data from lab B with a ~4/26 SOT
- FL405: TEI is in the process of sending out for qualification

The nitrile (NI) slab inventory at TEI was reviewed as follows:

- NI347: TEI has 45 approved slabs
- NI348: TEI has 278 approved slabs

TEI has received two requests for elastomer slabs from Scania and Savants Labs that do not participate in the OSCT Surveillance Panel. They were informed by TEI and Chairman that they cannot obtain elastomers since they have not paid the fees to be members of the ASTM D5662 Committee, but could pay to have D5662 conducted at SWRI or Intertek. In the future, TEI and Chairman will inform the requesters of elastomers that they need to consult with TMC and pay the fees to become an active member if they want to become a test house for D5662.

TMC highlighted revisions to the OSCT forms that was agreed upon earlier by the Panel that changes the data recording and reporting of test results. A motion made by D. Bell and 2nd by B. Grinfield was unanimously approved with 9 votes to approve the revised OSCT forms. TMC will submit our approved revisions to the DCC to change the report forms.

TMC noted that TMC 160-1 PA and FL reference oil inventory is running low since they have <18 gallons (94 samples). One drum of TMC 160-1 is expected to be re-blended by the August ASTM meetings with an alternate base oil since the current one is no longer available. TMC will assign a new reference oil number, TMC 1xx, and alert all three labs when they ship it to them for each lab to conduct 1 run each per elastomer with the new reference oil and report results to TMC.

As per a motion at the 5/11/2016 Panel meeting, all three labs are in the process of conducting D5662 testing on PA and FL with TMC 155-1 category reference as is required every September to ensure D5662 stays well in-control. TMC has obtained data from all 3 labs so will compile it and send to the Chairman for circulation to the Panel.

TMC information letter 17-1 was issued that documents all of the approved following revisions to be implemented to ASTM D5662 to reduce test and reporting variability amongst all three labs.

Initial Elongation:

Replace section 8.2.4 with: Finally, cut twelve more NI, PA, and FL dumbbells for the purpose of determining initial elongation properties. Since initial elongation is not measured until after the test completes, cutting of the initial elongation specimens after the test completes is also permissible.

Size of Hanger Hole:

Insert following after section 8.2.4: In order to suspend the elastomer specimens as described in sections 8.2.6 and 8.4, punch a hole in each not exceeding 3.25 mm in diameter.

Marking Specimens:

Insert the following after section 8.2.5: The elastomer specimens are used in groups of three. To differentiate each individual specimen within its group, cut one corner from one of them and two corners from another of them using a razor blade or razor knife. The hypotenuse of the removed corner shall measure 5 mm +/- 2 mm. Do not write on the specimens using a paint stick, marker, or anything else as this may alter the elastomer surface area exposed to the test fluid.

Location of Hardness Measurement:

Replace section 8.2.7 with: Measure initial elastomer properties of hardness and volume prior to the start of testing. Initial elongation properties are determined just prior to running the end of test dumbbells because of instrument calibration. Take care to measure hardness at least 10 mm from any specimen edge.

Washer Size for specimen separation

Replace section 8.4 with: Use four test tubes for each elastomer/oil combination. In each tube, suspend from a stainless steel wire hanger bent at a 90° angle three rectangular specimens and three dumbbells in each of the four tubes. Use 316 stainless steel M6 washers meeting DIN 125 specification as spacers in between the specimens to aid in the separation (an example of a washer meeting this requirement is McMaster-Carr item number 90965A1760). The intent is that the spacer material not chemically interact with the test fluid or elastomer.

Timing of Post-Test Measurement:

Replace section 8.5 with: At the end of the test period, remove the specimens from the hot oil using the wire hanger and place them on a clean absorbent towel. Allow the specimens to cool for no longer than 30 min. before beginning measurements.

Calculation of Post-Test Averages and Std. Dev.:

Add a new section 8.7.4: Compute the average and sample standard deviation for the twelve elongation change, hardness change, and volume change pairs and record as the test results in the space provided in the test report.

It was noted that the engine oil seal Committee (LDEOC) are working through some seal result variability issues, so the OSCT Panel members and TMC that are members of both groups were asked to communicate improvements between the groups so all can potentially benefit from best practices.

A motion made by D. Bell and 2nd by B. Grinfield to adjourn the meeting at 11:42 am on 5/3/2017 was unanimously approved.

Respectfully Submitted,

A handwritten signature in black ink that reads "Don Bell". The signature is written in a cursive, flowing style.

Don Bell

Appendix

OIL SEAL COMPATIBILITY SURVEILLANCE PANEL

Date: May 3, 2017

Initials	V = Voting NV = Non-voting	Name	Company & Address	Phone / FAX / e-Mail
NA	NV	Nancy Aguirre	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238	Phone: 210-647-9428 e-Mail: Nancy.AGUIRRE@intertek.com
RB	V	Rob Banas	ExxonMobil Lubricants and Specialties 114 Arcadia Park Drive Canton, GA 30114	Phone: 678-493-3930 e-Mail: Rob.a.banas@exxonmobil.com
RB	V	Don Bell Chairperson D	Afton Chemical Corp. 500 Spring Street Richmond, VA 23219	Phone: 804-788-6332 FAX: 804-788-6243 e-Mail: don.bell@aftonchemical.com
BB	NV	Brad BuBonic	The Lubrizol Corporation 29400 Lakeland Blvd. Wickliffe, OH 44092	Phone: 440-347-5325 e-Mail: Brad.bubonic@lubrizol.com
	NV	Harold Chambers	Linamar Driveline Systems Travelers Tower 1 26555 Evergreen Rd. Ste. 900 Southfield, MI 48076	Phone: 248-358-6038 e-Mail: hchambers@Linamar.com
	V	Allen Comfort	US Army TACOM RDTA-DP/MS110 6501 E. 11 Mile Road Warren, MI 48307-5000	Phone: 586-282-4225 FAX: 586-282-4244 e-Mail: Allen.s.comfort@us.army.mil
JR	V	John Dharte	American Axle 1 Dauch Drive Detroit, MI 48211	Phone: 313-758-4687 FAX: 313-758-4237 e-Mail: dhartej@aam.com
prave	V	Vince Donndelinger	The Lubrizol Corporation 29400 Lakeland Blvd. Wickliffe, OH 44092	Phone: 440-347-6589 e-Mail: Vince.donndelinger@lubrizol.com
ERJ	NV	Eric Donovan	Afton Chemical Corp. 500 Spring Street Richmond, VA 23219	Phone: 804-788-5097 e-Mail: Eric.donovan@aftonchemical.com
	NV	Bridget Dwornick	US Army RDECOM/TARDEC RDTA-DP/210 MS 110 6501 E 11 Mile Road Warren, MI 48397-5000	Phone: 586-282-4221 FAX: 586-282-4244 e-Mail: Bridget.l.dwornick.civ@mail.mil

OIL SEAL COMPATIBILITY SURVEILLANCE PANEL

Date: May 3, 2007

Initials	V = Voting NV = Non-voting	Name	Company & Address	Phone / FAX / e-Mail
	NV	Brian Foecking	The Lubrizol Corporation 29400 Lakeland Blvd. Wickliffe, OH 44092	Phone: 440-347-2130 e-Mail: bjf@lubrizol.com
<i>AG</i>	NV	Arjun Goyal	BASF 500 White Plains Road Tarrytown, NJ 10951	Phone: 914-785-2083 e-Mail: Arjun.goyal@basf.com
<i>BB</i>	V	Rebecca Grinfield	Southwest Research Institute P.O. Drawer 28510 San Antonio, TX 78228-0510	Phone: 210-522-3652 FAX: 210-522-5907 e-Mail: bgrinfield@swri.org
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	NV	Marc Keisler	Afton Chemical Corp. 500 Spring Street Richmond, VA 23219	Phone: 804-788-5617 e-Mail: Marc.keisler@aftonchemical.com
<i>CK</i>	V	Clayton Knight	Test Engineering Institute 12718 Cimarron Path San Antonio, TX 78249	Phone: 210-690-1958 FAX: 210-877-0228 e-Mail: cknight@tei-net.com
	NV	Dan Lanctot	Test Engineering Institute 12718 Cimarron Path San Antonio, TX 78249	Phone: dlanctot@tei-net.com e-Mail: dlanctot@tei-net.com
<i>ML</i>	V	Mike Lopez	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238	e-Mail: mike.lopez@intertek.com
<i>VM</i>	NV	Vera Marsic	Lubrizol 29400 Lakeland Blvd. Wickliffe, OH 44092	Phone: Vera.marsic@lubrizol.com e-Mail: Vera.marsic@lubrizol.com
	NV	Jeff Milner	Tianhe Chemical	Phone: 804-252-6928 e-Mail: jmilner@Tianhe.us.com

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Date:

May 3, 2007

Initials	V = Voting NV = Non-voting	Name	Company & Address	Phone / FAX / e-Mail
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SP	V	Scott Parke	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, PA 15206	Phone: 412-365-1033 FAX: 412-365-1047 e-Mail: sdp@astmtmc.cmu.edu
	V	Jule Rucker	Meritor 2135 West Maple Rd. Troy, MI 48084	Phone: 248-435-1430 e-Mail: Jule.Rucker@meritor.com
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