

**Job Number: 420726**



**TESTING SERVICE**

7500 Mendelssohn Ave. N  
 Minneapolis, MN 55428  
 Phone: 763-493-6370 Fax: 763-493-6358

Raven Industries Inc.  
 Attn: Derek Coover  
 821 Algonquin Street  
 Sioux Falls, SD 57104  
 USA

**Oxygen Transmission Rate Results**  
 We are pleased to submit the results of our transmission rate measurements of your material submitted under:

**PO #:** 152752  
**Dated:** 11/12/15

**Test Conditions:**

<b>Test Gas</b>	<b>Oxygen</b>	<b>Test Temperature</b>	23.0 (°C) 73.4 (°F)
Test Gas Concentration	21% O <sub>2</sub>	Carrier Gas	98% N <sub>2</sub> , 2% H <sub>2</sub>
Test Gas Humidity	0 % RH	Carrier Gas Humidity	0 % RH
Test Gas Pressure	760 mmHg		

**Test Results:**

Sample Identification	Mocon ID#	Oxygen Transmission Rate cc/(100in <sup>2</sup> ·day)	
		Replicate #1	Replicate #2
AB2C2	7843-001	.102	.103
LB200W	7843-002	.064	.063

Note: Above samples were analyzed on a MOCON Oxtran 2/21 Oxygen Permeability Instrument. The standard that applies to this instrument is D-3985.

Remarks: Multiply results by 4.76 to normalize to 100% oxygen values.

Test Operator: Dan Hammack Date: 12/18/15

Test Operator: Dan Hammack Date: 12/18/15 Reviewed By: [Signature] Date: 12/21/15  
 Dan Hammack  
 Laboratory QA Officer  
 Joel Fischer  
 Laboratory Manager

This information represents our best judgement based on work done, but the company (MOCON) assumes no liability whatsoever in connection with the use of information or findings contained herein.

**Job Number: 420726**



**TESTING SERVICE**

7500 Mendelssohn Ave. N  
 Minneapolis, MN 55428  
 Phone: 763-493-6370 Fax: 763-493-6358

Raven Industries Inc.  
 Attn: Derek Coover  
 821 Algonquin Street  
 Sioux Falls, SD 57104  
 USA

**Oxygen Transmission Rate Results**  
 We are pleased to submit the results of our transmission rate measurements of your material submitted under:

**PO #:** 152752  
**Dated:** 11/12/15

**Test Conditions:**

<b>Test Gas</b>	<b>Oxygen</b>	Test Temperature	23.0 (°C) 73.4 (°F)
Test Gas Concentration	100% O <sub>2</sub>	Carrier Gas	98% N <sub>2</sub> , 2% H <sub>2</sub>
Test Gas Humidity	0 % RH	Carrier Gas Humidity	0 % RH
Test Gas Pressure	760 mmHg		

**Test Results:**

Sample Identification	Mocon ID#	Oxygen Transmission Rate cc/(100in <sup>2</sup> ·day)	
		Replicate #1	Replicate #2
AB2C2	7843-001	.520	.522
LB200W	7843-002	.297	.292

Note: Above samples were analyzed on a MOCON Oxtran 2/21 Oxygen Permeability Instrument. The standard that applies to this instrument is D-3985.

Remarks: None.

Test Operator: Dan Hammack

Date: 12/18/15

Test Operator: Dan Hammack Date: 12/18/15 Reviewed By: Joel Fischer Date: 12/21/15  
 Dan Hammack  
 Laboratory QA Officer  
 Joel Fischer  
 Laboratory Manager

This information represents our best judgement based on work done, but the company (MOCON) assumes no liability whatsoever in connection with the use of information or findings contained herein.