

## ILMA Member Benefit Program

IOM has developed a package of products and services for ILMA members designed to meet varying needs and budgets.

### 10% Discount on IOM Data

ILMA members will receive a 10% discount off IOM list prices. The 10% member discount applies to all purchases of IOM data from annual database subscriptions to custom-selected datasets. This could result in substantial savings to ILMA members. New data packages make it convenient for ILMA members to purchase datasets of individual oil samples from the IOM databases online. (See IOM Data Product & Pricing sheet.)

IOM data may be purchased by an annual subscription to one or more of the three regional databases or by spot purchasing available data online through the IOM Data Store at [www.IOMdata.com](http://www.IOMdata.com).

Annual Subscribers receive the full set of test, demographic, and purchasing data on all the oils in the database, sent directly to them automatically as the data is released for publication. Alternatively, custom-selected data for one or more samples in any of the regional databases can be instantly purchased and downloaded online by browsing the IOM Data Store.

### Make Suggestions for IOM Engine Oil Collection

ILMA members also have the option to suggest a brand and grade of engine oil to be collected by IOM. Suggestions can be submitted through the IOM website at [www.IOMdata.com](http://www.IOMdata.com). If IOM is able to obtain the engine oil sample requested, all data will be available for purchase once the entire test matrix is complete. The full cycle from collection through testing, approval and publication can take up to three months. However, the advantage to the ILMA member is that the data can then be purchased from the IOM website at a fraction of the cost of private sample submission and testing.

### Submit Samples for Private Analysis & Reports

Additionally, IOM will provide a new service exclusively to ILMA members that will allow an ILMA member to submit engine oil samples to IOM for private analysis. Three test packages are available, allowing you to choose the testing option that best meets your budget and information needs. Test results from privately submitted samples will not become part of the IOM database. Results will be reported

confidentially to the ILMA member purchasing the test package.

While these test packages are offered at reduced rates, it is important to realize that professional oil analysis is not inexpensive. Testing offered through IOM is conducted to ASTM methods by skilled laboratory technicians with highly technical instruments. There is no inexpensive way to obtain meaningful information. Information explaining the significance of the test methods and the data obtained will be included with reported results.

### How to Submit a Sample to IOM

A test authorization form with complete billing information must accompany samples submitted to IOM. (See ILMA Member Engine Oil Sample Analysis Test Package Options and Test Authorization Form.)

Send an email to [CustomerService@EngineOilInfo.com](mailto:CustomerService@EngineOilInfo.com) to notifying us that a sample is on the way. You may also request additional test authorization forms by email. Soon you will be able to download the forms from our website. Samples should be sent to:

Institute of Materials, Inc.  
4800 James Savage Rd.  
Midland, MI 48642

At present, IOM only accepts new engine oil samples for analysis. If the sample is in an unlabelled container, such as a sample drawn from a bulk storage tank, viscosity grade should be identified on the sample bottle for testing purposes. Service category information is helpful. Brand name of the sample is optional.

Additional discounts are available for six or more samples submitted at the same time for the same test package.

Standard turn-around time for private test results is 12 to 15 business days from the time the sample is received. A report will be emailed to the test requestor once testing is complete.

An optional sample kit is available for \$10 which includes return shipping and handling.



## ILMA Member Engine Oil Sample Analysis Test Package Descriptions

| ILMA-01 | ILMA-02 | ILMA-03 | Test  | Description   | Method                 |
|---------|---------|---------|---|---|------------------------|
| X       | X       | X       | <b>Elemental Analysis by ICP</b>                    | Analysis of 19 elements (Al, Sb, Ba, B, Ca, Cr, Cu, Fe, Pb, Mg, Mo, Ni, P, Si, Ti, Ag, Na, Sn, Zn) using Inductively Coupled Plasma Emission Spectrometer (ICP). The test shows concentration of the foregoing metal and non-metal-containing components present in the engine oil formulation. Also provides information on some forms of contamination from additive processing and formulation. Reported in parts per million. | ASTM D4951             |
|         |         | X       | <b>Foaming Characteristics</b>                      | Determines the foaming characteristics of an oil at specified temperatures and conditions. Both the foaming tendency and stability of the foam are rated using Sequences I-IV and reported in mL and minutes, respectively.   | ASTM D892 & ASTM D6082 |
|         | X       | X       | <b>Gelation Index and Temperature</b>               | Using the Scanning Brookfield Technique, determines the tendency of an oil to form gellated structures at low temperatures. Reported with a Gelation Index value and temperature in °C.   | ASTM D5133             |
| X       |         |         | <b>Kinematic Viscosity</b>                          | Kinematic Viscosity at 100 °C. Reported in cSt.   | ASTM D445              |
|         |         | X       | <b>Kinematic Viscosity &amp; Viscosity Index</b>    | An empirical measure of the viscosity-temperature relationship. Used to determine the characteristics of base oils and the effects of VI Improvers. The value is determined from Kinematic Viscosity measurements at 40° and 100°C and a Viscosity Index Reference Book from the ASTM.  | ASTM D2270             |
| X       |         |         | <b>Low Temperature Pumping Viscosity by MRV-TP1</b> | Low temperature, low shear viscosity using the Mini-Rotary Viscometer (MRV-TP1). Predicts the ability of oil to permit satisfactory flow to the engine oil pump at the SAE specified temperature. Reported in cP.   | ASTM D4684             |
|         | X       | X       | <b>Low Temperature Pumping Viscosity by SBT</b>     | The Scanning Brookfield Technique (SBT) provides continuous measurement of the viscosity of engine lubricants at very low shear rates, with decreasing temperature. Predicts the ability of oil to permit satisfactory flow to the engine oil pump screen and to the pump over a range of cold temperatures. Reported in °C and cP with accompanying SBT graph.   | ASTM D5133             |
|         | X       | X       | <b>Operating Viscosity - HTHS 150°C</b>             | High temperature, high shear rate viscosity using the Tapered Bearing Simulator (TBS) Viscometer. Determines the dynamic viscosity of engine oil at 150°C. Simulates the ability of an oil to meet the hydrodynamic needs of the engine in high shear areas. Reported in cP.  | ASTM D4683             |
|         |         | X       | <b>Phosphorus Emission Index (PEI)</b>              | Analysis of the volatilized oil to determine the amount of catalyst-contaminating phosphorus compounds volatilized with the oil. Reported as milligrams of phosphorus volatilized per liter of the engine oil tested. (Provided with Volatility by Noack in ILMA-03 package.)   | SAVLAB PEI             |
|         |         | X       | <b>Starting Viscosity by CCS</b>                    | Low temperature, high shear stress viscosity using the Cold Cranking Simulator Viscometer. Test predicts the comparative ability of an oil to give satisfactory low-temperature engine cranking speed. Reported in cP.  | ASTM D5293             |
| X       | X       | X       | <b>Sulfur</b>                                       | Sulfur content by pyro-fluorescence. Measures the total amount of sulfur in the formulated engine oil. Reported in percent.   | ASTM D5453             |
|         |         | X       | <b>Piston Ring Protection - TEOST MHT</b>           | Thermo-Oxidation Engine Oil Simulation Test (TEOST). Measures the deposit-forming tendencies of an oil at piston ring operating temperatures. Reported in milligrams of deposit on rod and on filter.   | ASTM D7097             |
|         | X*      | X*      | <b>Volatility by GC*</b>                            | Simulated Distillation by gas chromatography. Presents the chromatographic 'fingerprint' of the oil. Also reports the percent oil volatilized at 371 °C (700°F).  | ASTM D6417             |
| X       | X*      | X*      | <b>Volatility by Noack*</b>                         | Volatility of the engine oil at 250°C using the non-Woods Metal version of the Noack. Measures percent oil volatilized during the test.   | ASTM D5800             |

\* ILMA-02 and ILMA-03 packages offer the option to select one of the two volatility tests.



## ILMA Member Engine Oil Sample Analysis Test Package Options

*(New oil samples only)*

|                |   |                      |
|----------------|---|----------------------|
| <b>ILMA-01</b> | <b><i>Determines additive content, SAE Grade, minimal low-temperature requirements, and volatility.</i></b> | <b>Sample Needed</b> |
|----------------|---|----------------------|

**0.5 Liters**

*List Price*

|  |                  |   |
|--|------------------|---|
|  | 50.00            | Elemental Analysis by ICP (ASTM D5185) plus Sulfur (by ASTM D5453)              |
|  | 30.00            | Kinematic Viscosity at 100°C  |
|  | 105.00           | Low Temperature Pumping Viscosity by MRV/TP1 (ASTM D4684), Point & Yield Stress |
|  | 180.00           | Volatility by Noack (ASTM D5800)  |
|  | \$ 365.00        | Total List Price  |
|  | (125.00)         | Discount  |
|  | <b>\$ 240.00</b> | <b>ILMA Member Price - ILMA-01 Package</b>                                      |

|                |   |                      |
|----------------|---|----------------------|
| <b>ILMA-02</b> | <b><i>Determines minimum service category compliance.</i></b> | <b>Sample Needed</b> |
|----------------|---|----------------------|

**1 Liter**

*List Price*

|  |                  |  |
|--|------------------|--|
|  | 50.00            | Elemental Analysis by ICP by ICP (ASTM D5185) plus Sulfur (by ASTM D5453)  |
|  | 115.00           | Operating Viscosity - High Temp. High Sheer at 150°C (ASTM D4683)  |
|  | 180.00           | Volatility, GC by Sim. Dis. with chromatogram (ASTM D6417)<br><b>or</b> Volatility by Noack (D5800) with wear protection/catalyst contamination tendency (PEI) |
|  | 185.00           | Low Temp. Viscosity by Scanning Brookfield Test & Gelation Index (ASTM D5133)  |
|  | \$ 530.00        | Total List Price   |
|  | (53.00)          | Discount   |
|  | <b>\$ 477.00</b> | <b>ILMA Member Price - ILMA-02 Test Package</b>  |

|                |  |                      |
|----------------|--|----------------------|
| <b>ILMA-03</b> | <b><i>Determines minimum ILSAC compliance.</i></b> | <b>Sample Needed</b> |
|----------------|--|----------------------|

**2 Liters**

*List Price*

|  |                    |  |
|--|--------------------|--|
|  | 50.00              | Elemental Analysis by ICP (ASTM D5185) plus Sulfur (by ASTM D5453)   |
|  | 60.00              | Kinematic Viscosity at 100°C, KV at 40°, and Viscosity Index (ASTM D445)   |
|  | 115.00             | Operating Viscosity - High Temp. High Sheer at 150°C (ASTM D4683)  |
|  | 180.00             | Volatility, GC by Sim. Dis. with chromatogram (ASTM D6417)<br><b>or</b> Volatility by Noack (D5800) with wear protection/catalyst contamination tendency (PEI) |
|  | 185.00             | Low Temp. Viscosity by Scanning Brookfield Test & Gelation Index (ASTM D5133)  |
|  | 80.00              | Low Temp. Starting Viscosity by Cold Cranking Simulator (ASTM D5293)   |
|  | 220.00             | Foaming Characteristics I-IV (ASTM D892 & D6082)   |
|  | 400.00             | Piston Ring Protection, TEOST MHT (ASTM D7097)   |
|  | \$ 1,290.00        | Total List Price   |
|  | (193.50)           | Discount   |
|  | <b>\$ 1,096.50</b> | <b>ILMA Member Price - ILMA-03 Package</b>   |

|                 |  |  |
|-----------------|--|--|
| <b>ILMA-KIT</b> | <b><i>Optional Sample Collection Kit</i></b> |  |
|-----------------|--|--|

\$10.00 Includes 1 qt. sample container, zip-lock bag, shipping box, shipping



# Test Authorization Form

Telephone: 989-496-2307  
CustomerService@EngineOilInfo.com

Company: \_\_\_\_\_  
 Address: \_\_\_\_\_ **Bill** \_\_\_\_\_  
 \_\_\_\_\_ **To:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

For the most efficient service, please enclose a completed copy of this form with your samples.

ILMA Membership ID: \_\_\_\_\_

### Test Requestor Information

Name: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 Email: \_\_\_\_\_

### Special Instructions:

Signature & Date: \_\_\_\_\_

Credit Card or P.O. Number (very important): \_\_\_\_\_

### Type of Service (select one):

Standard turn-around time for results is 15 business days from receipt of sample.

**ILMA-01 Pkg**  
\$240.00 ea. sample

**ILMA-02 Pkg**  
\$477.00 ea. sample

**ILMA-03 Pkg**  
\$1,096.50 ea.

Please select one  
Volatility test option:

Volatility by GC with chromatogram

Volatility by Noack with PEI

| IOM ID | Customer Sample ID | Brand or Sample Name | SAE Viscosity Grade | Service Category | Quantity |
|--------|--------------------|----------------------|---------------------|------------------|----------|
|        |                    |                      |                     |                  |          |
|        |                    |                      |                     |                  |          |
|        |                    |                      |                     |                  |          |
|        |                    |                      |                     |                  |          |
|        |                    |                      |                     |                  |          |
|        |                    |                      |                     |                  |          |
|        |                    |                      |                     |                  |          |

Please secure lids and enclose each sample container in a sealed plastic bag to prevent contamination from other samples or packing materials.

**Lab Code:** \_\_\_\_\_  
**Date samples received at IOM:** \_\_\_\_\_  
**Date results due to Client:** \_\_\_\_\_

**Institute of Materials, Inc.**  
4800 James Savage Rd.  
Midland, MI 48642 USA

Facsimile: 989-496-3438  
www.EngineOilInfo.com

Please do not fill in shaded areas.

