

# Technical Report

Science Road, Norwalk, CT 06852 - (203) 866-5551

Fax: (203) 866-0425 - Email: lad@kingindustries.com

## NA-LUBE<sup>®</sup> BL-1200 Performance Data

**NA-LUBE BL-1200** can be used to formulate industrial fluids where excellent rust, oxidation, and antiwear properties are necessary. It is specifically designed for synthetic compressor systems but can also be used in ashless hydraulic fluids requiring antiwear properties.

Tests	NA-LUBE BL-1200			
	Base Oil	ExxonMobil Group I	Chevron Group II	PetroCanada Group III
<b>Base Fluid Viscosity</b>	<b>ISO VG 46</b>			
<b>Treat Level</b>	<b>0.75%</b>	<b>0.75%</b>	<b>0.75%</b>	<b>0.75%</b>
<b>Demulsibility (ASTM D 1401)</b>				
Oil-Water-Emulsion (ml)	<b>43-37-0</b>	<b>43-37-0</b>	<b>43-37-0</b>	<b>42-38-0</b>
Time (minutes)	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>
<b>AFNOR (wet)</b>				
Filterability Index	<b>1.10</b>	<b>1.35</b>	<b>1.93</b>	<b>1.08</b>
<b>Rust Test (ASTM D 665B)</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>
<b>Copper Corrosion (ASTM D 130)</b>				
3 hours, 100°C	<b>1b</b>	<b>1b</b>	<b>1b</b>	<b>1b</b>
3 hours, 135°C	<b>1b</b>	<b>2a</b>	<b>1b</b>	<b>1b</b>
24 hours, 100°C	<b>1b</b>	<b>1b</b>	<b>2a</b>	<b>1b</b>
24 hours, 135°C	<b>3a</b>	<b>3b</b>	<b>3a</b>	<b>2c</b>
<b>Hydrolytic Stability (ASTM D 2619)</b>				
Copper Loss (mg/cm <sup>2</sup> )	<b>0.00</b>	<b>-0.01</b>	<b>0.01</b>	<b>0.02</b>
TAN of Water Layer (mg KOH)	<b>3.7</b>	<b>3.6</b>	<b>3.6</b>	<b>4.5</b>
Copper Appearance (ASTM D 130)	<b>3b</b>	<b>2a</b>	<b>3a</b>	<b>1b</b>
<b>Foam Test (ASTM D 892)</b>				
Sequence I - 25°C	<b>10-0 (10)*</b>	<b>10-0 (10)*</b>	<b>10-0 (10)*</b>	<b>10-0 (10)</b>
Sequence II - 93°C	<b>0-0 (10)</b>	<b>0-0 (10)</b>	<b>0-0 (10)</b>	<b>0-0 (10)</b>
Sequence III - 25°C	<b>10-0 (10)</b>	<b>10-0 (10)</b>	<b>10-0 (10)</b>	<b>10-0 (10)</b>
<b>Air Release (ASTM D 3427) 50°C (min)</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>RPVOT (ASTM D 2272)</b>				
Lifetime (minutes)	<b>650</b>	<b>1400</b>	<b>1500</b>	<b>1500</b>
<b>CM Thermal Stability (ASTM D 2070)</b>				
Precipitate or Sludge	<b>15.8</b>	<b>10.1</b>	<b>5.6</b>	<b>12.7</b>
Viscosity Change (%)	<b>3.29</b>	<b>2.1</b>	<b>1.44</b>	<b>3.62</b>
Acid Number Change (mg KOH/g)	<b>0.12</b>	<b>0.04</b>	<b>0.06</b>	<b>0.13</b>
Steel Rod Color	<b>2.5</b>	<b>2</b>	<b>2</b>	<b>2.5</b>
Copper Rod Color	<b>3.5</b>	<b>3</b>	<b>3</b>	<b>3.5</b>

\*500 ppm of BASF's Synative AC AMH2 (Si-free defoamer) added

(see reverse side)

# NA-LUBE<sup>®</sup> BL-1200 Performance Data

(continued)

Tests	NA-LUBE BL-1200			
	Base Oil	ExxonMobil Group I	Chevron Group II	PetroCanada Group III
<b>Base Fluid Viscosity</b>	<b>ISO VG 46</b>			
<b>Treat Level</b>	<b>0.75%</b>	<b>0.75%</b>	<b>0.75%</b>	<b>0.75%</b>
<b>1000-HR Sludge Test</b> (ASTM D 4310)				
Weight of Insolubles (mg)	<b>47</b>	<b>43</b>	<b>36</b>	<b>34</b>
Total Copper (mg)	<b>26</b>	<b>19</b>	<b>11</b>	<b>9</b>
<b>TOST Test</b> (ASTM D 943)				
95°, O <sub>2</sub> , Fe, and Cu Catalyst				
Hours to TAN 2 mg KOH/g	<b>3227</b>	<b>Stopped-7600</b>	<b>Stopped-7600</b>	<b>Stopped-7600</b>
<b>4-Ball Wear Test</b> (ASTM D 4172)				
40 kgf, 1200 rpm, 75°C, 1hr	<b>0.42</b>	<b>0.45</b>	<b>0.46</b>	<b>0.48</b>
15 kgf, 1200 rpm, 75°C, 1hr	<b>0.26</b>	<b>0.28</b>	<b>0.25</b>	<b>0.24</b>
15 kgf, 1500 rpm, 75°C, 1hr	<b>0.25</b>	<b>0.22</b>	<b>0.27</b>	<b>0.29</b>
<b>FZG A/8.3/90</b> (DIN 51354 p.2)	<b>&gt;12</b>	<b>&gt;12</b>	<b>not determined</b>	<b>Not determined</b>
<b>FE-8 Bearing Wear test</b>				
(DIN 51389 p.2)				
Weight Loss Rollers (mg)	<b>5</b>	<b>Not determined</b>	<b>Not determined</b>	<b>Not determined</b>
Weight Loss Cage (mg)	<b>170</b>			
<b>Vickers 104C Vane Pump Test</b>				
(ASTM D 7043, DIN EN ISO 20763)				
Weight Loss Vanes (mg)	<b>6</b>	<b>Not determined</b>	<b>Not determined</b>	<b>Not determined</b>
Weight Loss Rings (mg)	<b>13</b>			

The results shown reflect data generated by King Industries' Technical Service Laboratory. Actual results may vary depending on the additive package, base oil, and test equipment design.

For Samples or Technical Service, contact King Industries or your King representative.

King Industries, Inc.  
Science Road  
Norwalk, CT 06852-0588  
Tel: 203-866-5551  
Fax: 203-866-0425  
E-mail: LAD@kingindustries.com

King Industries International  
Noordkade 64, 2741 EZ Waddinxveen  
The Netherlands  
Tel: 31-182-631360  
Fax: 31-182-621002  
E-mail: info@kingintl.nl

NA-LUBE<sup>®</sup> is a registered trademark of King Industries, Inc.

v:\lad\TechnicalLiterature\TechRpt\NA-LUBE BL-1200PerformanceData\_01  
Revision date: 19 FEB 2016

The conditions of your use and application of our products, technical assistance and information (whether verbal, written or by way of product evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. Such testing has not necessarily been done by King Industries, Inc. ("King"). The facts, recommendations and suggestions herein stated are believed to be reliable; however, no guaranty or warranty of their accuracy is made. EXCEPT AS STATED, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE. KING SHALL NOT BE HELD LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES. Any statement inconsistent herewith is not authorized and shall not bind King. Nothing herein shall be construed as a recommendation to use any product(s) in conflict with patents covering any material or its use. No license is implied or granted under the claims of any patent. Sales or use of all products are pursuant to Standard Terms and Conditions stated in King sales documents.