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Goodyear Engineered Products. A name you can trust.

Veyance Technologies, Inc., the exclusive manufacturer of items carrying the Goodyear Engineered Products name, is dedicated to pioneering innovative new rubber compounding technology and products. Our commitment to advancing all aspects of our industry has helped us become the world’s largest industrial hose manufacturer.

We are also dedicated to maintaining dynamic and ethical relationships with all our suppliers, distributors and customers. This professional attitude has allowed us to cultivate some of the strongest and longest-lasting customer relationships in the industry.

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We didn’t achieve the position of world’s largest industrial hose manufacturer by chance. Our cutting-edge research & development centers across the globe are constantly pushing the boundaries of rubber compounding technology; developing new compounds, construction techniques and products. Our innovative oil transportation products are used throughout the petroleum industry, from dock hose (Dock Hose RFID) to oil delivery hose (Infinity™ Fuel Transfer Hose) to consumer pump hose (Flexsteel® Futura™). And now, the Lightwing™ Lightering STS hose helps you move more crude oil and petroleum based products more quickly and safely than ever.

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Every product that we produce is fully backed by our reputation for quality and service. For quality you can count on from a name you can trust – choose Goodyear Engineered Products.

**Application:** Designed for the transfer of crude oil and petroleum based products for ship to ship lightering service, under all types of service conditions. All sizes rated for vacuum. Maximum flow rate 75 ft/sec (21m/s).

**Temperature Range**
-22°F to 176°F (-30°C to 80°C)

**Construction**
- Code 541-432 Black nitrile for up to 50% aromatic content
- Code 541-718 Black nitrile with static dissipating properties for up to 60% aromatic content

**Reinforcement**
- Helix free, synthetic fabric, heavy duty wall

**Cover**
- Black Wingprene (spiral cloth wrap finish)

**Hose Dimensions**

<table>
<thead>
<tr>
<th>Nominal Inside Diameter</th>
<th>Inside Diameter</th>
<th>Outside Diameter</th>
<th>Weight (kg/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 mm (12&quot;)</td>
<td>305 mm</td>
<td>362 mm</td>
<td>49.9</td>
</tr>
<tr>
<td>250 mm (10&quot;)</td>
<td>254 mm</td>
<td>331 mm</td>
<td>42.8</td>
</tr>
<tr>
<td>200 mm (8&quot;)</td>
<td>204 mm</td>
<td>268 mm</td>
<td>28.9</td>
</tr>
<tr>
<td>150 mm (6&quot;)</td>
<td>153 mm</td>
<td>203 mm</td>
<td>17.0</td>
</tr>
<tr>
<td>100 mm (4&quot;)</td>
<td>102 mm</td>
<td>143 mm</td>
<td>9.7</td>
</tr>
</tbody>
</table>

**Pressure Rating**
- Minus 0.3 Bars (vacuum) to 17 Bars (250 psi)
- Minimum burst pressure of 86 Bars (1,250 psi)

**Electrical Continuity**
- Code 541-432 Available in electrically continuous or discontinuous
- Code 541-718 Available in electrically continuous or semi-continuous

- Electrically continuous hose has an electrical resistance less than 0.75 ohms/meter
- Electrically discontinuous assembly has an electrical resistance more than 25,000 ohms per assembly at 500 VDC
- Electrically semi-continuous assembly has an electrical resistance at 500 VDC between 1,000 to 20,000 ohms per assembly

**Minimum Bend Radius**
The hose will retain its shape under a bend radius of four times the hose diameter when empty or full. In the event the hose gets kinked, it will recover its shape without permanent damage to the hose.

**Length and Weights**

<table>
<thead>
<tr>
<th>Length (meters)</th>
<th>1.5</th>
<th>2.0</th>
<th>2.5</th>
<th>3.0</th>
<th>3.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (lbs)</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Weight (lbs)</td>
<td>0.9</td>
<td>1.3</td>
<td>1.8</td>
<td>2.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
<td>1.2</td>
</tr>
</tbody>
</table>

**Flow Rates**

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Max Flow Rate based on 21m/sec max</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>600 M³/hr</td>
</tr>
<tr>
<td>6</td>
<td>1,350 M³/hr</td>
</tr>
<tr>
<td>8</td>
<td>2,400 M³/hr</td>
</tr>
<tr>
<td>10</td>
<td>3,800 M³/hr</td>
</tr>
<tr>
<td>12</td>
<td>5,500 M³/hr</td>
</tr>
</tbody>
</table>

**Recommended Fittings**
- Coupled with carbon steel bushing nipples with hot dip galvanized (HDG) finish. Standard Range supposed to bulk hose to ANSI-B16.5 class 150. Full Face Slip-On (FFSO) or Lap Joint (H敕urel), other specifications are available on demand. Available in Raised Face and Weld Neck type.

**Material**
- Fittings: ASTM A-105 (max carbon content 0.23%)
- Nipples: ASTM A-105 or B, or API 5L, or ASTM A285C, or equivalent (max carbon content 0.23%). Other materials available on demand.

**Branding**
- LIGHTWING LIGHTERING STS HELIX-FREE 15 BAR

**Dock Hose RFID**
- All of our lightwing hose safety factors embedded RFID InfoChips to improve hose management and make it easier than ever to comply with marine regulatory specifications. We have partnered with InfoChip® Systems, Inc. so that all of our lightering products deliver an innovative solution that streamlines hose identification, inspection, inventory and the certification process.

**Packaging**
- Chloroprene sheet wrap. Also available in corrugated plastic culvert packaging.

**Cut Lengths**
- Built to length.
- Max length for closed container shipment 39’
- Max length for North America land transport 51’

**Design Specification**
- Lightweight hose is designed in accordance with EN1765 L-15 and manufactured in an ISO 9001 certified facility.

**Testing**
- All hoses are tested to Coast Guard requirements specified in the code of Federal Regulations, title 33, Chapter 1, Subpart C clause 135A-10 and to OCIFM latest edition.

**Certification**
- Hose equipped with hydraulic test certification.
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### Application

**Lightwing™ Lightering STS Helix-Free Hose**

**Temperature Range**

-22°F to 176°F (-30°C to 80°C)

**Construction**

- Code 541-432 Black nitrile for up to 50% aromatic content
- Code 541-718 Black nitrile with static dissipating properties for up to 60% aromatic content

**Reinforcement**

- Helix free, synthetic fabric, heavy duty wall

**Cover**

- Black Wingprene (spiral cloth wrap finish)

**Hose Dimensions**

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<th>Diameter (inches)</th>
<th>Max flow rate based on 21m/sec max</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>600 M³/hr 3,800 bbl/hr</td>
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</tr>
<tr>
<td>8</td>
<td>2,400 M³/hr 15,200 bbl/hr</td>
</tr>
<tr>
<td>10</td>
<td>3,800 M³/hr 23,800 bbl/hr</td>
</tr>
<tr>
<td>12</td>
<td>5,500 M³/hr 34,400 bbl/hr</td>
</tr>
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</table>

**Pressure Rating**

- Minus 0.3 Bars (vacuum) to 17 Bars (250 psi)
- Minimum burst pressure of 86 Bars (1,250 psi)

**Electrical Continuity**

- Code 541-432 Available in electrically continuous or discontinuous
- Code 541-718 Available in electrically continuous or semi-continuous

- Electrically continuous hose has an electrical resistance less than 0.75 ohms/meter
- Electrically discontinuous assembly has an electrical resistance more than 25,000 ohms per assembly at 500 VDC
- Electrically semi-continuous assembly has an electrical resistance between 1,000 to 20,000 ohms per assembly

**Minimum Bend Radius**

The hose will retain its shape under a bend radius of four times the hose diameter when empty or full. In the event the hose gets kinked, it will recover its shape without permanent damage to the hose.

**Length and Weights**

<table>
<thead>
<tr>
<th>Length (meters)</th>
<th>7.6</th>
<th>8.5</th>
<th>9.1</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter (mm)</td>
<td>102</td>
<td>106</td>
<td>112</td>
<td>120</td>
</tr>
<tr>
<td>lbs/M</td>
<td>325</td>
<td>351</td>
<td>369</td>
<td>391</td>
</tr>
<tr>
<td>kg/M</td>
<td>1,488</td>
<td>1,636</td>
<td>1,777</td>
<td>1,917</td>
</tr>
</tbody>
</table>

**Recommended Fittings**

Coupled with carbon steel bulkhead nipples with hot dip galvanized (HDG) flange. Standard flanges supplied to bulk hose to ANSI-B16.5 class 150. Full Face Slip-On (FFSO) or Lap Joint (Hose), other specifications are available on demand. Available in Raised Face and Weld Neck type.

**Material**

- ASTM A-105 (max carbon content 0.25%)
- ASTM A106 A or B, or API -5L, or ASTM A285C, or equivalent (max carbon content 0.23%). Other materials available on demand.

**Packaging**

- Chloroprene sheet wrap. Also available in corrugated plastic culvert packaging.

**Design Specification**

Lightwing hose is designed in accordance with EN1765 L-15 and manufactured in an ISO 9001 certified facility.

**Testing**

All hoses are tested to Coast Guard requirements specified in the code of Federal Regulations, title 33, Chapter 1, Subpart C clause 154.500 and to OCIMF latest edition.

**Certification**

Hoses supplied with hydrostatic test certification.