Fit for Purpose
ManSafe® Sealed SRL
Product Testing & Performance
Introduction

With over 35 years of fall protection experience, Latchways has developed the ManSafe® Sealed Self Retracting Lifeline (SRL) range; the world’s first completely field serviceable sealed SRL.

The ManSafe Sealed SRL range offers a dependable means of fall protection and has been specifically designed for use in harsh environments such as on oil rigs, wind turbines and other offshore applications; enabling an unhindered hands-free fall protection solution. Utilising modern engineering and innovative design, it is the most advanced, reliable and cost-effective SRL available on the market today.

The ManSafe Sealed SRL has undergone extensive, independently verified testing to ensure consistent, reliable performance.

The ManSafe Sealed SRL has been developed with a number of unique features to provide a Smarter, Safer, Stronger and Better alternative to traditional SRLs. This document is designed to highlight the benefits and assist the decision making process.

Checklist

- Ingress Protection (IP69K)
- Meets and exceeds global industry standards
- 100% Full Contact™ locking mechanism
- ATEX rated
- Accelerated corrosion testing
- Completely field serviceable
- Constant Force® frictionless braking mechanism
- Suitable for use in high vibration environments
- Full training and recertification programme

ManSafe Sealed SRL Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Line Type</th>
<th>Length (m/ft)</th>
<th>Size H x W x D (mm/in)</th>
<th>Weight (kg/lbs)</th>
<th>Anchorage</th>
</tr>
</thead>
<tbody>
<tr>
<td>62810-00</td>
<td>Ø 5 mm (3/16&quot;) S/S Cable (7 x 19)</td>
<td>9 m (30 ft)</td>
<td>270 mm x 240 mm x 180 mm (10&quot; 5/8&quot; x 9&quot; 4/8&quot; x 7&quot;)</td>
<td>9.5 kg (20.9 lbs)</td>
<td>Forged/Stainless Steel Snaphook</td>
</tr>
<tr>
<td>62816-00</td>
<td>Ø 5 mm (3/16&quot;) S/S Cable (7 x 19)</td>
<td>15 m (50 ft)</td>
<td>330 mm x 280 mm x 190 mm (13&quot; x 11&quot; x 7&quot; 4/8&quot;)</td>
<td>12 kg (26.5 lbs)</td>
<td>Forged/Stainless Steel Snaphook</td>
</tr>
<tr>
<td>62826-00</td>
<td>Ø 5 mm (3/16&quot;) S/S Cable (7 x 19)</td>
<td>25 m (85 ft)</td>
<td>330 mm x 330 mm x 200 mm (13&quot; x 13&quot; x 7&quot; 7/8&quot;)</td>
<td>20 kg (44.1 lbs)</td>
<td>Forged/Stainless Steel Snaphook</td>
</tr>
<tr>
<td>62841-00</td>
<td>Ø 5 mm (3/16&quot;) S/S Cable (7 x 19)</td>
<td>40 m (130 ft)</td>
<td>380 mm x 380 mm x 215 mm (15&quot; x 15&quot; x 8&quot; 1/8&quot;)</td>
<td>26 kg (57.3 lbs)</td>
<td>Forged/Stainless Steel Snaphook</td>
</tr>
</tbody>
</table>

ManSafe Sealed SRLs are also available with galvanised cable and hook assemblies. Please contact Latchways for further information.

**Smarter.**
Introducing revolutionary Constant Force® technology
ManSafe Sealed SRLs employ patented, frictionless braking technology known as Constant Force. This braking mechanism has no moving parts and will not go out of adjustment or require recalibration for the lifespan of the product.

**Stronger.**
Engineered specifically for offshore applications
Manufactured from high quality components—following consultation with the Institute of Materials in the UK to ensure material compatibility and durability.
Individual components undergo strict quality control procedures prior to assembly, including critical component batch "x-ray" to ensure material integrity—giving the end user added peace of mind regarding the Sealed SRL reliability.

**Safer.**
Introducing the Full Contact™ pawl locking mechanism
The Full Contact pawl locking mechanism provides a 100% reliable locking mechanism that won’t freeze, hang-up or corrode.
The advanced pawl technology allows a user to both hear and feel the mechanism working and therefore reassure them the system is in good working order.
A built-in reserve line ensures that a fall is arrested safely even when the cable is fully extended. The unique carry handle has been tested for use as a secondary retention point, as an additional back up connection.

**Better.**
The ManSafe Sealed SRL has a number of other unique features
The internal components are protected by rubber gaskets, ensuring the spring, locking mechanism and absorber are completely impenetrable to dust and water.
The modular design allows for quick and easy recertification with just a few simple tools.
Training is available to enable on-site inspection and recertification, minimising downtime and significantly reducing lifetime ownership costs.
Should a fall occur, the modular design allows for individual components to be removed and replaced in the field within minutes—allowing quick and easy replacement of not only the cable but also the energy absorber.

Additional fixtures
The additional fixtures that are available with the ManSafe Sealed SRL include the following:

- Stainless steel swivel snap hook
- Stainless steel eyelet (European wind energy only)
Spare parts

Testing

The ManSafe Sealed SRL was subjected to 2000 hours of salt spray exposure which far exceeds any test requirement by current EN standards. The test demonstrates the durability of the ManSafe Sealed SRL.

A sample of the ManSafe Sealed SRL was independently tested for 2000 hours corrosion resistance by SATRA Technology.

Test conditions

- Corrosion test in accordance with ISO 9227:1990—Neutral Salt Spray
- Temperature: 35ºC (95ºF)
- Fallout rate: approximately 1.2 ml/hr (0.07 cubic in/hr) (average over total exposure time)
- pH of test solution: approximately 6.7 (average over total exposure time)
- Sample was removed and examined for damage periodically throughout exposure and after complete exposure time

Total exposure time: 2000 hours

Test results

<table>
<thead>
<tr>
<th>EN 360:2002 Clause/Test</th>
<th>EN 360:2002 Requirement</th>
<th>Result/Comment</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.7 Corrosion resistance</td>
<td>No corrosion to be evident that could affect the function of the device (white scaling or tarnishing is acceptable).</td>
<td>Evidence of light white scaling present on external surfaces. Evidence of slight red discolouration around attachment bolts only. No visual evidence of rust present.</td>
<td>PASS (see note)</td>
</tr>
</tbody>
</table>

Note: EN 360:2002 Clause 4.7 requires that the device be subject to 24 hours neutral salt spray exposure. However, to demonstrate the robustness of the Latchways product, the exposure time was increased to 2000 hours, after which the device was found to fulfil the requirements of Clause 4.7.

Tested operational temperature range:
-30°C to +54°C (-22°F to +129°F).

Further testing conducted at Latchways:
Cyclic testing – SRL cable fully extended and retracted 20,000 times (with component inspection of pawls & tooth disc for wear) ensuring consistent performance from first to last test.
Ingress Protection (IP)
Verified ‘Sealed status’—achieved Ingress Protection (IP)/68, ensuring individual internal components are dust tight and IP69K—which allows high pressure, high temperature wash down operations. Testing involves submersion to a 5 m (16.4 ft) depth, testing for ingress and additional testing in a dust ‘suspension’ for 8 hours to ensure no material ingress into critical components.

Meets and exceeds global industry standards
Standards:
- BS EN 360:2002
- ANSI Z359.14-2012
- OSHA 1910.66
- OSHA 1926.502
- CSA Z259.2.2-98

100% Full Contact™ locking mechanism
The Full Contact pawl locking mechanism provides a 100% reliable locking mechanism that won’t freeze, hang-up or corrode.

ATEX rated
Tested to BS EN 13463-1:2001 equipment group II, category 2 (II 2 G c IIC T6) for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists or by air/dusts mixtures are likely to occur.

Accelerated corrosion testing
Accelerated corrosion testing that simulates real life corrosion in a controlled environment for 2000 hours. This is a recognised representative period of 10 years ‘real life’ use of the ManSafe Sealed SRL.

Completely field serviceable
Should a fall occur, the modular design allows for individual components to be removed and replaced in the field within minutes. A minimum number of replacement component parts further emphasises the simplified serviceability, these include:
- Cable assembly
- Anchor point
- Energy absorber
- Labels

Constant Force® frictionless braking mechanism
The ManSafe Sealed SRL’s employ patented, frictionless braking technology known as Constant Force. This braking mechanism has no moving parts and will not go out of adjustment or require recalibration for the lifespan of the product.
Traditionally, SRL’s (or fall arrestors) rely on ‘friction braking’ to absorb energy generated following a fall from height. Friction braking mechanisms are typically two materials pressed together at a pre-set torque, and resisted movement of these surfaces against each other absorbs the energy. However, the compressive force between the two surfaces can deplete over time, requiring regular offsite recalibration, which often proves expensive and time consuming.

Suitable for use in high vibration environments
Testing to simulate an extreme high vibration mechanical environment, to expected levels considerably higher than the unit will be subjected to in use. Samples were tested through a frequency range of 5 Hz to 1000 Hz for prolonged periods, to check integrity and stability of critical fasteners.

Full training and recertification programme
The modular design allows for quick and easy recertification with just a few simple tools. Latchways can offer training enabling personnel to inspect and maintain the product, significantly reducing cost of ownership by minimising unit downtime’ throughout the ManSafe Sealed SRL’s life.
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Images shown are for visual purposes only, hook configuration may vary by industry.

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