

WITNESS TESTING REPORT

Hardline Laboratory

Report No. : TH10302C/2022

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Date : NOV. 15, 2023

Frontline Fall Protection Inc

6 Lee Blvd, Malvern, PA 19355, USA (888) 523-1795

The following merchandise was submitted and identified by the applicant as:

Product Description: Cable Self-Retracting lifeline with leading edge capability/Dual Cable
Self-Retracting lifeline with leading edge capability

Style/Item No.: RPG081SLE, RPG081RLE, RPG082SLE, RPG082RLE

Site of Witness: No. 88-8, Sec. 2, Zhongtong W. Rd., Wufeng Dist., Taichung City 41355, Taiwan

Additional Information: Test Witness: James Tsai.

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Requested: Clause 3.1.5 & 3.2.1 & 3.2.3 & 3.3.2 & 3.3.3 & 3.5.1 & 3.6.1 & 3.6.2 of ANSI/ASSP Z359.14-2021, Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems.

Test Method: ANSI/ASSP Z359.14-2021, Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems.

Test of Samples: Device Classes: Class 2

Test Result: --See following sheet(s)--

Testing Period: JAN. 07, 2022 ~ FEB. 18, 2022

Conclusion: The submitted sample **complies with** clause 3.1.5 & 3.2.1 & 3.2.3 & 3.3.2 & 3.3.3 & 3.5.1 & 3.6.1 & 3.6.2 of ANSI/ASSP Z359.14-2021, Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems.

Signed for and on behalf of
SGS Taiwan Ltd.



Luke Lee
Supervisor

Testing Site: No. 9, 14th Rd., Taichung Ind. Park, Taichung City 40755, Taiwan

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Test Method & Results:

Clauses	Test Item/Results	Compliance														
3.1.5	<p><u>Corrosion Protection</u> Corrosion protection shall be afforded to all elements (parts) of self-retracting devices. Protection shall, at a minimum, allow the device to operate as intended and show no signs of corrosion which, if left unchecked, could result in corrosion-related failure of the device after being salt spray (fog) tested for 96 hours in accordance with the method described in the reference in 7.4. After the salt spray test, the line shall pay out, retract and lock. Retraction tension shall be as specified in 3.5.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Test item</th> <th style="width: 50%;">Observation</th> </tr> </thead> <tbody> <tr> <td>Operate as intended:</td> <td>Yes</td> </tr> <tr> <td>Signs of corrosion (visual check):</td> <td>No</td> </tr> <tr> <td>Line pay out, retract and lock:</td> <td>Yes</td> </tr> <tr> <td>Retraction tension:</td> <td>1 foot: 2.41 lbf</td> </tr> <tr> <td>1.25~25 lbf</td> <td>50%: 4.49 lbf</td> </tr> <tr> <td></td> <td>100%: 7.75 lbf</td> </tr> </tbody> </table>	Test item	Observation	Operate as intended:	Yes	Signs of corrosion (visual check):	No	Line pay out, retract and lock:	Yes	Retraction tension:	1 foot: 2.41 lbf	1.25~25 lbf	50%: 4.49 lbf		100%: 7.75 lbf	Pass
Test item	Observation															
Operate as intended:	Yes															
Signs of corrosion (visual check):	No															
Line pay out, retract and lock:	Yes															
Retraction tension:	1 foot: 2.41 lbf															
1.25~25 lbf	50%: 4.49 lbf															
	100%: 7.75 lbf															
3.2.1	<p><u>Static Strength of Self-Retracting Devices (SRDs)</u> When tested in accordance with 4.2.1, SRDs shall withstand, without breaking, a load of 3,600 pounds (16kN) when statically applied.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Test item</th> <th style="width: 70%;">Observation</th> </tr> </thead> <tbody> <tr> <td>Static test:</td> <td>No breaking and withstand the load.</td> </tr> </tbody> </table>	Test item	Observation	Static test:	No breaking and withstand the load.	Pass										
Test item	Observation															
Static test:	No breaking and withstand the load.															
3.2.3	<p><u>Locking Strength</u> When tested in accordance with 4.2.3, devices not featuring a rotary brake energy management system, shall withstand, without breaking and releasing the load, a minimum static load of 1,800 pounds (8kN).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Test item</th> <th style="width: 70%;">Observation</th> </tr> </thead> <tbody> <tr> <td>Locking strength:</td> <td>No breaking and withstand the load.</td> </tr> </tbody> </table>	Test item	Observation	Locking strength:	No breaking and withstand the load.	Pass										
Test item	Observation															
Locking strength:	No breaking and withstand the load.															

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Clauses	Test Item/Results	Compliance								
3.3.2	<p><u>SRL-Ps when tested in accordance with 4.3.2:</u> 3.3.2.1 Locking function shall operate in accordance with 3.1.2. 3.3.2.2 The visual indicator shall activate when dynamic performance is tested, providing clear evidence that the device has been impact loaded. 3.3.2.3 The maximum arrest force shall not exceed 1,800 pounds (8kN), under ambient conditions.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Test item</th> <th style="text-align: left;">Observation</th> </tr> </thead> <tbody> <tr> <td>Locking function:</td> <td>Yes</td> </tr> <tr> <td>Visual indicator:</td> <td>Yes</td> </tr> <tr> <td>Maximum arrest force: ≤ 1800 lbf</td> <td>1051.90 lbf</td> </tr> </tbody> </table>	Test item	Observation	Locking function:	Yes	Visual indicator:	Yes	Maximum arrest force: ≤ 1800 lbf	1051.90 lbf	Pass
Test item	Observation									
Locking function:	Yes									
Visual indicator:	Yes									
Maximum arrest force: ≤ 1800 lbf	1051.90 lbf									
3.3.3	<p><u>Dynamic Performance for SRDs - Class 2</u> Class 2 SRDs shall be tested in accordance with 4.3.1 and 4.3.3: 3.3.3.1 The visual indicator shall activate when dynamic performance is tested, providing clear evidence that the device has been impact loaded. 3.3.3.2 The maximum arrest force shall not exceed 1,800 pounds (8kN), the average arrest force shall not exceed 1,350 pounds (6kN) and the arrest distance shall be measured and included in labelling and in the manufacturer's instructions. See Section 5. 3.3.3.3 Dynamic performance testing shall be repeated for each conditioning procedure (hot, cold and wet). The maximum arrest force shall not exceed 1,800 pounds (8kN) and the average arrest force shall not exceed 1,575 pounds (7kN). 3.3.3.4 The constituent line shall be subjected to static testing following dynamic performance testing. Synthetic materials shall have a residual static strength of not less than 1,000 pounds (4.4kN) and wire rope shall withstand, without breaking, a load of no less than 675 pounds (3kN).</p>	Pass								

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Clauses	Test Item/Results	Compliance				
3.3.3	SRL Line Orientation: Perpendicular				Pass	
	Test item	Observation				
		Ambient	Hot	Cold		Wet
	Visual indicator:	Yes	Yes	Yes		Yes
	Maximum arrest force: ≤ 1800 lbf	908.27	969.10	1077.93		1020.85
	Average arrest force: Ambient ≤ 1350 lbf Hot/Cold/Wet ≤ 1575 lbf	735.16	698.34	772.10		780.76
	Arrest distance:	110.63	125.98	96.85		105.51
	Constituent line static test:	No breaking	No breaking	No breaking		No breaking
	SRL Line Orientation: 5 ft offset					
	Test item	Observation				
		Ambient	Hot	Cold		Wet
	Visual indicator:	Yes	Yes	Yes		Yes
	Maximum arrest force: ≤ 1800 lbf	890.06	997.0	1029.82		1070.82
	Average arrest force: Ambient ≤ 1350 lbf Hot/Cold/Wet ≤ 1575 lbf	729.99	687.25	789.19		773.56
Arrest distance:	115.35	120.47	101.18	105.11		
Constituent line static test:	No breaking	No breaking	No breaking	No breaking		

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Clauses	Test Item/Results	Compliance													
3.5.1	<p>Retraction tension of the self-retracting device line, in addition to that required to retract the weight of the line constituent, shall not be less than 1.25 pounds (5.55N) or more than 25 pounds (111.1N) at any point in the range of motion provided by the line constituent when tested in accordance with 4.5.1. Additionally, Class 2 devices shall retract without stopping when tested in a horizontal orientation in accordance with 4.5.2.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Test item</th> <th style="width: 20%;"></th> <th style="width: 50%;">Observation</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Retraction tension: 1.25~25 lbf</td> <td>1 foot:</td> <td>2.87 lbf</td> </tr> <tr> <td>50%:</td> <td>5.02 lbf</td> </tr> <tr> <td>100%:</td> <td>8.24 lbf</td> </tr> <tr> <td colspan="2">Retract without stopping in horizontal (Class 2):</td> <td>Yes</td> </tr> </tbody> </table>	Test item		Observation	Retraction tension: 1.25~25 lbf	1 foot:	2.87 lbf	50%:	5.02 lbf	100%:	8.24 lbf	Retract without stopping in horizontal (Class 2):		Yes	Pass
Test item		Observation													
Retraction tension: 1.25~25 lbf	1 foot:	2.87 lbf													
	50%:	5.02 lbf													
	100%:	8.24 lbf													
Retract without stopping in horizontal (Class 2):		Yes													
3.6.1	<p><u>Static Test, for Dual SRL-Ps</u> Self-retracting lanyards, personal (SRL-Ps) featuring a dual configuration shall be tested in accordance with 4.6.1. Class 1 and 2 devices shall withstand, without breaking, a static load of 3,600 pounds (16kN). NOTE: Some self-retracting lanyard personal connectors contain sacrificial elements which facilitate energy absorber deployment. Breaking or cracking of the sacrificial element will not constitute a failure, provided that the energy absorber assembly can withstand the static load applied.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Test item</th> <th style="width: 70%;">Observation</th> </tr> </thead> <tbody> <tr> <td>Static test:</td> <td>Withstand the load and no breaking.</td> </tr> </tbody> </table>	Test item	Observation	Static test:	Withstand the load and no breaking.	Pass									
Test item	Observation														
Static test:	Withstand the load and no breaking.														
3.6.2	<p><u>SRL-P Dual Connection</u> SRL-Ps in dual configurations shall be tested according to 4.6.2. If the maximum arrest force exceeds 1,800 pounds (8kN), the markings and instructions must include warnings in accordance with 5.1.9. and 5.2.10.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Test item</th> <th style="width: 70%;">Observation</th> </tr> </thead> <tbody> <tr> <td>Maximum arrest force: ≤ 1800 lbf</td> <td>1129.65 lbf</td> </tr> </tbody> </table>	Test item	Observation	Maximum arrest force: ≤ 1800 lbf	1129.65 lbf	Pass									
Test item	Observation														
Maximum arrest force: ≤ 1800 lbf	1129.65 lbf														

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Test equipment:

Description	Manufacturer	Model No.	Serial No.	Cal. Date
Laser distance meter	BOSCH	GLM40	122213512	2021/11/22
Environmental testing equipment	TERCHY	HEMB-120L	1080911	2021/3/24
Environmental testing equipment	TERCHY	HEMB-120L	1060910	2021/8/9
Universal Machine	NTS	LCX-100kN	18038	2021/3/24
Force guage	AIKOH	RX-10	D02639	2021/4/21
Load cell	JIHSENSE	LM-3T	90508	2021/7/14
Salt spray tester	-	DR-90	B-03-01	2021/8/9
PH meter	Lutron	PH-211	AJ.92507(B-03-02)	2020/9/25

Note :

1. The content of this report is invalid if it is not presented as the entire report.
2. The statement of conformity is based on the test results, but does not include the measurement uncertainty.
3. N/A = Not applicable; "--" = blank.

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– Picture(s) –



Photo “A” Appearance of sample



Photo “B” Appearance of sample

--- End of Report ---

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