Science. Applied to Life.™

Technical Bulletin

August, 2020

Self-retracting Devices in Leading Edge Applications

Description

In August of 2019, CSA Z259.2.2-17 for Self Retracting Devices (SRDs) became effective. The Z259.2.2 Standard includes significant changes to the design and testing of "Leading Edge" SRDs (classified as SRL-LEs) and requires manufacturers to provide new information in the user instructions and on product markings. The list below highlights these important changes introduced in CSA Z259.2.2.

a) The product classifications changed to correspond with their use in the field.
   i) Class SRL – for general use in the overhead position.
   ii) Class SRL-R – an SRL with integral rescue capability for assisted rescue (raining and lowering).
   iii) Class SRL-LE – an SRL capable of anchorage below the harness D-ring and/or equipped with a lifeline that can bear against an edge during an arrest.
   iv) SRL-LE-R – an SRL capable of functioning as both a Class SRL-LE and Class SRL-R.

b) The test edge material is very sharp metal with an edge radius of .010 inches (.25mm) or less.

c) An energy absorber is required and must be integral to the SRD device or lifeline.

d) Testing includes a test over an edge from 1.4m and includes an "offset" test that duplicates the sliding of the life-line along the test edge.

e) Additional marking on the device:
   i) Device classification according to the new classes mentioned above.
   ii) For Class LE devices markings include average deployment force, overhead SRD deployment distance, deployment factor (Dm), maximum free fall distance and the minimum horizontal distance that the SRD can be offset from a fall hazard.

f) Instructions for SRL-LE devices have been expanded to provide advice to equipment users about leading edge work. This includes specific reference to setback and offset limitations during use and the additional clearance requirements in leading edge applications,

g) A statement indicating: "Deployment is equal to [deployment factor, *Dm*] times [free-fall distance, *h*] for a maximum worker mass, kg or deployment based on the results of the dynamic performance testing specified in Clause 7.2, whichever is greater."

Because of these new requirements 3M recommends that SRD users working around sharp leading edges use SRL-LE models that are qualified to the CSA Z259.2.2 Standard for such use, and that all future leading edge applications are addressed using the SRL-LE device.

3M has evaluated its SRD product options against the new requirements. SRD models that 3M previously designated as "Leading Edge" models remain acceptable for all edge applications. Other SRDs that include separate "add on" energy absorbers attached to the harness or to the end of the SRD lifeline must be limited to applications where they are anchored overhead only and not exposed to sharp metal edges. Use of these products with "add on" energy absorbers is acceptable around wood, finished concrete with rounded edges, non-metal roofing materials, or aerial lift applications (where the regulator allows) where the railings or other exposed metal edges have a radius is 1/8 inch (3mm) or more.

Notes: Lifeline contact with an edge can present a hazard to users of SRDs. Provide edge protection (example: padding on the edge) for the lifeline whenever possible. For all attachment below the harness D-ring when the user is in a standing position, an SRL-LE is required.

Current leading edge rated models (SRL-LE) include: DBI-SALA Nano-Lok Edge models, Smart Lok 3503802 (20', 6m) and 3503822 (30', 9m), Ultra-Lok 3504422C (15', 4.5m), 3504500C (30', 9m), 3504600C* (55', 16.7m) and Protecta 3590541 (20', 6m), 3590544 (30', 9m), 3590547 (50', 15m) and 3590549 (66', 20m).

IMPORTANT: Refer to the 3M User Instructions provided with your product for additional information.

3M Personal Safety Division
3M Canada
3M Fall Protection Business
260 Export Blvd.
Mississauga, ON L5S 1Y9
Technical Service: 800-387-7484
3M.ca/FallProtection

3M PSD products are
for occupational use only.

3M and 3M Science. Applied to Life. are trademarks of 3M. Used under license in Canada. All other trademarks are the property of their respective owners. Please recycle. Printed in Canada. © 2020, 3M. All rights reserved.
2011-18857-E