

3M Vertical Lifeline Systems - Compatibility

Description

The information contained in this technical bulletin is intended to provide users guidance regarding 3M™ Vertical Lifeline (VLL) Systems and use of subcomponents from manufacturers other than 3M Fall Protection to comprise a Complete Fall Arrest System (CFAS). Our intention is to help educate employers, safety personnel, system designers and equipment users with the most current product performance requirements applicable to their personal fall arrest systems and equipment. VLL CFAS are typically comprised of five specific subcomponents: 1) A Full Body Harness (FBH) with sternal d-ring attachment, 2) A wire rope or metal rail extending the length of structure, 3) A means to restrain the wire rope at the top and bottom of the structure or connect the metal rail to ladder rungs, 4) A traveler to connect from the user's sternal d-ring to the wire rope or rail, 5) A mid-ladder guide attachment for wire rope or connections to rails. Each one of these elements plays a vital role in protecting users while at height. It is important to understand that these elements must be designed and tested to work together prior to implementing the VLL CFAS. End user competent persons need to approve mixed-manufacturer components used in any VLL.

- **Declaration of Conformance (DoC)** – A DoC provides documentation that a manufacturer's VLL has been tested and evaluated per the respective standard or regulation. It provides a complete list and description of the products that fall under the standard or regulation.
- **Compatibility of Subcomponents – There are two primary types of systems.** The first is a certified system meaning that all components listed on a DoC have been fully tested, evaluated, and satisfy the respective regulation requirements by the manufacturer. The second is a compatible system. Compatible systems can be evaluated by a competent person to ensure certain subcomponents do not negatively impact the performance of a CFAS. This means that a competent person (as defined by OSHA) would review all documentation associated with the subcomponents that comprise a VLL CFAS and assess whether these items can operate properly with all other subcomponents. Compatible systems are designed to keep workers safe plus maintain all safety procedures within accepted fall protection standards and practices. All responsibilities for the safe use of mixed-manufacturer subcomponent VLLs solely relies on the end user's competent person assessment and authorization.
- **Maximum weight** – The maximum weight of the CFAS will be determined by the lowest maximum weight permitted by individual subcomponents. For example, if the harness is rated for up to 420lb workers and the connecting element is rated for up to 310lb workers, then the maximum allowed user weight including clothes and tools is 310lbs.
- **100% Tie-off** – Workers must be connected to an anchor point with a shock absorbing connector while on or transitioning off ladders and must be protected by CFAS until safely through closed and secured safety gates or until any fall can no longer occur i.e., at the bottom of ladders. This includes VLL traveler removal or partial disconnection needed to by-pass mid ladder cable guides or obstructions. Workers may need multiple connectors for a complete CFAS.
- **Energy Absorption** – Clear understanding of what components absorb fall forces on VLLs is important. Some energy absorbers are designed as part of the traveler. Some energy absorbers are located on the VLL top bracket or require an additional web shock pack. Each VLL system should have at least one (1) energy absorbing element.
- **Wire rope size, type, construction** – It is critical that connecting element is verified for use on the specific wire rope being used in the VLL CFAS. Specific sized VLL rails also require specific sized connecting elements. Typically, this detail is located within the connecting element manufacturer's user instructions.
- **Wire rope tension** – Each wire rope VLL manufacturer requires a predetermined amount of wire rope tension. These systems are tested and validated with the specific tension stated by the manufacturer. This is an important aspect of a properly installed system and is typically found within the manufacturer user instructions.

- **Manufacturer User Instructions** – Each person using, installing, and inspecting VLL systems must fully understand the manufacturer’s user instructions. All necessary and vital information around use, installation and maintenance are in the instruction manual and should be accessible to all users and inspectors at any time. If the system includes components from different manufacturers, the instructions of each manufacturer must be followed for that manufacturer’s components.

3M™ DBI-SALA® Lad-Saf™ VLLs including 3M™ DBI-SALA® Lad-Saf™ Detachable Cable Travelers are certified under ANSI/ASSP Z359.16, EN353-1:2014+A1:2017 and conform to the requirements of 29 CFR OSHA 1926.1053 & 1910.29 and are marked accordingly. Recent regulation revisions have driven performance of a complete system, whereas historically these have focused solely on the performance of the connecting traveler. Determining compatibility of varying manufacturers subcomponents to create a CFAS should be based on the above highlighted items and is the responsibility of the end user. Reference the following link to learn more about the OSHA requirements relating to compatibility. <https://multimedia.3m.com/mws/media/13015660/compatibility-of-fall-protection-equipment-technical-bulletin.pdf>

If you have any additional questions or concerns regarding the information presented in this technical bulletin, please contact 3M Fall Protection Technical Services at 1.800.323.6146 or 3mfallprotection@mmm.com.

Additional technical information, including product specifications, can be located at <https://www.3m.com>.



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