



Oregon

Kate Brown, Governor

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Subject: Testing of rope descent system anchorages on buildings

Mike Williams
White Glove Building Maintenance
P.O. Box 3108
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Dear Mr. Williams:

In October 2017, you brought your concerns about the rule language for testing anchorages on buildings used to support rope descent systems to Oregon OSHA's attention. The rule you inquired about is 1910.27(b)(1)(i). As you explained, the process of static load testing to 5,000 pounds has, in numerous instances, caused rope descent anchorages on buildings to deform. While the anchorages have successfully passed the 5,000 pound static load test, the deformation has rendered the anchorage unusable and they must be replaced. Once replaced, they need to be re-tested to 5,000 pounds. Furthermore, you explained that most rope descent anchorages have been designed for a specific direction of loading for which they are to be used. Requiring anchorages to be load tested in all directions causes many anchorages to deform or fail because they were never designed to be loaded in all directions.

The following is the 1910.27(b)(1)(i) rule language with your points of concern emphasized:

“Before any rope descent system is used, the building owner must inform the employer in writing that the building owner has identified, **tested**, certified, and maintained each anchorage so it is **capable of supporting** at least 5,000 pounds (268 kg) **in any direction** for each employee attached. The information must be based on an annual inspection by a qualified person and certification of each anchorage by a qualified person, as necessary, and at least every 10 years.”

You have requested that Oregon OSHA interpret the intent of the word, “tested,” the phrase, “in any direction,” and the phrase, “...so it is capable of supporting...” within the context of 1910.27(b)(1)(i). Oregon OSHA did not adopt 1910.27(b). In Oregon, **OAR 437-002-2027 Rope Descent & Rope Access Systems** applies instead. Oregon's OSHA's OAR 437-002-2027 was promulgated to address both rope descent systems and rope access systems whereas federal OSHA's 1910.27(b) only applies to rope descent systems. The portion of the federal rule that you are inquiring about also appears within Oregon's rule OAR 437-002-2027(4)(a)(A).

Oregon OSHA's language is nearly identical to federal OSHA's 1910.27(b) with two exceptions:

- Oregon’s rule applies to both rope descent and rope access system anchorages on buildings.
- Oregon OSHA corrected the federal rule’s error in the metric conversion.

Oregon OSHA’s OAR 437-002-2027(4)(a)(A) that applies to permanent anchorages on buildings, reads as follows:

“Before any rope descent or rope access system is used, the building owner must inform the employer, in writing that the building owner has identified, tested, certified, and maintained each anchorage so it is capable of supporting at least 5,000 pounds (22.24 kN) in any direction for each employee attached. The information must be based on an annual inspection by a qualified person and certification of each anchorage by a qualified person, as necessary, and at least every 10 years.”

Oregon OSHA reviewed federal OSHA’s rulemaking record and contacted them in an attempt to answer your questions, but we have not received a response at this point. Therefore, until federal OSHA issues a formal answer stating otherwise, Oregon OSHA believes that it is the intent of 1910.27(b)(1)(i) and subsequently Oregon’s OAR 437-002-2027(4)(a)(A), to require rope descent anchorages on buildings to be tested to 5,000 pounds in all directions.

To prevent further damage to anchorages on buildings in Oregon during field load testing to 5,000 pounds, Oregon OSHA will consider it a de minimis violation of OAR 437-002-2027(4)(a)(A) when a building owner uses the following alternative method to determine that permanent anchorages on buildings used for rope descent and rope access are capable of supporting at least 5,000 pounds for each employee attached:

Step 1: A registered professional engineer must evaluate each anchorage and its means of attachment to the building to determine if the anchorage is capable of supporting at least 5,000 pounds for each attached employee and in each direction that it could be used during rope descent or rope access work. A written report of the engineer’s evaluation must identify all of the following:

- Identity and contact information of the registered professional engineer.
- Specific anchorage evaluated, including a description of the anchorage and its location.
- Range of direction the engineer concludes that the anchorage is capable of supporting at least 5,000 pounds per attached employee.
- Range of direction that the engineer concludes the anchorage is NOT capable of supporting at least 5,000 pounds per attached employee.
- Date the anchorage was evaluated.

Step 2: After receiving a copy of the registered professional engineer’s anchorage report, a testing organization must static load test the anchorage to a minimum of 2,500 pounds in each direction that the anchorage could be loaded during rope descent or rope access and in the range of direction identified in the registered professional engineer’s report.

If we can be of further assistance, call Oregon OSHA's Technical Section at 503-378-3272. You can also visit Oregon OSHA's website at www.osha.oregon.gov.

Sincerely,

Trena VanDeHey
Technical Manager
Oregon Occupational Safety & Health Division

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