U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the attention of:

MAR 26 2010

Letter # 20081105-8742

Re: Whether an employer is permitted to double wrap #9 gage steel wire in order to guy, tie, or brace a scaffold.

Question: *Do OSHA's standards permit an employer to double wrap #9 gage steel wire in order to guy, tie or brace a scaffold?*

Answer

Yes. Under the following circumstances, 29 CFR 1926.451(c) requires employers to tie, guy or brace scaffolds:

> Supported scaffolds with a height to base width (including outrigger supports, if used) ratio of more than four to one (4:1) shall be restrained from tipping by guying, tying, bracing, or equivalent means . . . ."

Although section 1926.451(c) requires employers to guy, tie, or brace certain scaffolds, it does not specify whether #9 gage steel wire is a permissible method of compliance. However, 29 CFR 1926.451 (a)(1), which provides:

> (1) Except as provided in paragraphs (a)(2), (a)(3), (a)(4), (a)(5) and (g) of this section, each scaffold and scaffold component shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load applied or transmitted to it.

OSHA does permit an employer to guy, tie or brace certain scaffolds using #9 gage steel wire, provided the following five conditions are met in order to comply with 29 CFR 1926.451 (a) (1):

1. The #9 wire shall have a minimum tensile strength of 40,000 psi.[1]
2. The #9 wire shall be in a U-loop form (i.e. double-wrapped) around the pole and both wires shall be tied to an eye bolt, which is attached to a masonry wall. At the

[1] OSHA acknowledges that the Fa calculation made in its OSHA's letter to Mr. Joseph D. Barbeau, issued August 4, 2000, incorrectly uses 21,000 psi as the maximum loading for #9 wire, rather than the correct figure of 40,000 psi.

eye bolts, both wires shall be twisted to a minimum of 5 wraps to get the ultimate strength.[2]

3. Scaffolds shall not be covered with a tarp or any plastic material.
4. A 2 x 4 timber, putlog or scaffold member shall be placed securely between the masonry wall and the scaffold to protect the scaffold from tipping due to compressive loads.

Sincerely,

Richard Fairfax

Richard Fairfax, Acting Director
Directorate of Construction

NOTE: OSHA requirements are set by statute, standards and regulations. Our interpretation letters explain these requirements and how they apply to particular circumstances, but they cannot create additional employer obligations. This letter constitutes OSHA's interpretation of the requirements discussed. Note that our enforcement guidance may be affected by changes to OSHA rules. Also, from time to time we update our guidance in response to new information. To keep apprised of such developments, you can consult OSHA's website at http://www.osha.gov.

[2] This letter is not inconsistent with OSHA's letter to Barbeau because that letter stated that an employer may not use *a single strand* of #9 wire to guy, tie or brace a scaffold. Here, OSHA permits the use of #9 wire for this purpose only when it is twisted *to a minimum of five wraps*.