

South Carolina Department of Labor, Licensing and Regulation
Division of Labor
Office of Occupational Safety and Health
Columbia, South Carolina 29211

OSH Program Directive Number 81-1910.184-2

Subject: Subarticle 6, Section 1910.184 (e) (4), Alloy Steel Chain Slings, Proof Testing.

Standard: Subarticle 6, Section 1910.184 (e) (4), Rules and Regulations, Commissioner of Labor, State of South Carolina.

Cross Reference to Federal Standards: 29 CFR 1910.184 (e) (4).

Cancellation: This directive cancels program directive number 81-1910.184-1 (REVISED) dated February 11, 1981, and is replaced by this program directive.

Background: Federal OSHA has received letters from manufacturers of alloy steel chain and components requesting that a clarification of 29 CFR 1910.184 (e) (4) be issued to the field pertaining to proof testing. Manufacturers of forged components comply with the following criteria:

- a. The quality of forged components is confirmed by tensile and hardness tests that will verify material and heat treatment. A check analysis made from the drillings of the material will verify the chemical composition of the material.
- b. Production quantities of the forging component are subjected to a rigid visual inspection and additional quality control procedures include magnetic particle and hardness testing.
- c. Ultimate strength of material tests are made with the destructive testing performed on the basis of a statistical sampling procedure proven over the years.
- d. The nondestructive testing such as magnetic particle inspection and hardness tests may be performed on the basis of 100-percent of the lot, or again, may be performed on the basis of a sampling technique.

The forged components used in alloy steel chain slings are similar and in most instances identical to, if not the same as the forged components used on wire rope slings, which do not

require proof testing. The rated capacity for wire slings, like alloy steel chain slings, is limited to the rated capacity of its weakest component.

Guidelines for Compliance:

- a. When an alloy steel chain sling is assembled with components that require welding in assembly, the completed sling must be proof tested by the sling manufacturer or equivalent entity, before the sling is used.
- b. When an alloy steel chain sling is made up of welded components which were individually proof tested, and no further welding is required to assemble the sling, the assembled chain sling does not have to be proof tested. The sling manufacturer or equal entity assembling the sling shall attach a tag identification with appropriate information, and furnish an appropriate certificate to the purchaser or his representative which indicates the rated capacity.
- c. Proof testing is not required when the sling is made up of components not requiring welding to assemble. The capacity of the sling shall be no greater than the rated capacity of the weakest component.

Effective Date: This instruction is effective upon receipt and will remain in effect until cancelled or superseded by amendment to the Rules and Regulations.

William M. Lybrand, Director
December 1, 1981