



Construction Training Centers of New York State

Accredited by the National Center for Construction Education & Research
6369 Collamer Drive, East Syracuse, New York 13057
Phone 315-463-7539 or 888-NY-NCCER (888-696-2237)

Tool Box Safety Talks #17 Weekending 4-26-08

CHAINS

For general construction rigging, never use a chain when it is possible to use wire rope. The failure of a single link of a chain can result in a serious accident but wire rope on the other hand is frequently composed of 114 wires all of which must fail before the rope breaks. Wire rope gives you reserve strength and a chance to notice a hazard, chains do not.

When a wire rope is fatigued from severe service, the wires break one after the other over a relatively long period of time and thus afford the inspector an opportunity to discover the condition. If severely overloaded, the wires and strands will break progressively over a period of perhaps several seconds and with considerable noise, before complete failure occurs. This may afford the man handling the load a brief time in which to either lower it or jump to safety before it falls.

Chains, on the other hand, will usually stretch a bit under excessive loading, the links elongating and narrowing down until they bind on each other, thus giving some visible warning. However, if the overloading is great enough, the chain will ultimately fail with less warning than wire rope. Should a weld be defective they break with no warning.

It is very difficult to determine the grade of a chain by examination. However, all chains suitable for construction use and in particular for hoisting are marked by an identifying letter stamped on the links. For the highest degree of safety ensure that only chains stamped with the letter "A" is used on hoisting operations. The letter "A" designates heat treated alloy steel which is the strongest chain commonly made.

These alloy steel chains must never be welded or exposed to excessive temperatures as the heat treatment will be affected and the chain will lose its strength.

Safety Recommendations: _____

Job Specific Topics: _____

M.S.D.S Reviewed: _____

Attended By: _____

affiliated with Associated Builders & Contractors, Empire State Chapter
Construction Training Trust, 6369 Collamer Dr., E. Syracuse, NY 13057-1115 Phone 888-696-2237, fax 315-463-7621
Construction Training Center of WNY, 2495 Main St., Buffalo NY 14214 Phone 716-832-0777, fax 716-832-0749
Construction Training Center of ENY, 158 Orange St., Albany NY 12210 Phone 518-449-1062, fax 518-449-9084
Construction Training Center of Rochester, 1914 E. Ridge Rd., Rochester NY 14622 Phone 716-266-3280

