

# INSPECTION, CARE & STORAGE OF SLINGS



# LEGISLATION - INDUSTRIAL REGULATIONS

Lifting device means a device that is used to raise or lower any material or object and includes its rails and other supports but does not include a device to which the Elevating Devices Act applies

- Slings are lifting devices

# LEGISLATION - INDUSTRIAL REGULATIONS

## Material Handling

45. Material, articles or things,

- (a) required to be lifted, carried or moved, shall be lifted, carried or moved in such a way and with such precautions and safeguards, including protective clothing, guards or other precautions as will ensure that the lifting, carrying or moving of the material, articles or things does not endanger the safety of any worker;
- (b) shall be transported, placed or stored so that the material, articles or things,
  - (i) will not tip, collapse or fall, and
  - (ii) can be removed or withdrawn without endangering the safety of any worker; and
- (c) to be removed from a storage area, pile or rack, shall be removed in a manner that will not endanger the safety of any worker.

# LEGISLATION - INDUSTRIAL REGULATIONS

51. (1) A lifting device shall,

(a) be so constructed, of such strength and be equipped with suitable ropes, chains, slings and other fittings so as to adequately ensure the safety of all workers;

(b) be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated,

(i) prior to being used for the first time, and

(ii) thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year,

and a permanent record shall be kept, signed by the competent person doing the examination;

# LEGISLATION - INDUSTRIAL REGULATIONS

51 (con't)

- (c) be plainly marked with sufficient information so as to enable the operator of the device to determine the maximum rated load that the device is capable of lifting under any operating condition;
- (d) have a cab, screen, canopy guard or other adequate protection for the operator where the operator may be exposed to the hazard of falling material;
- (e) when it is a pneumatic or hydraulic hoist, have controls that automatically return to their neutral position when released.

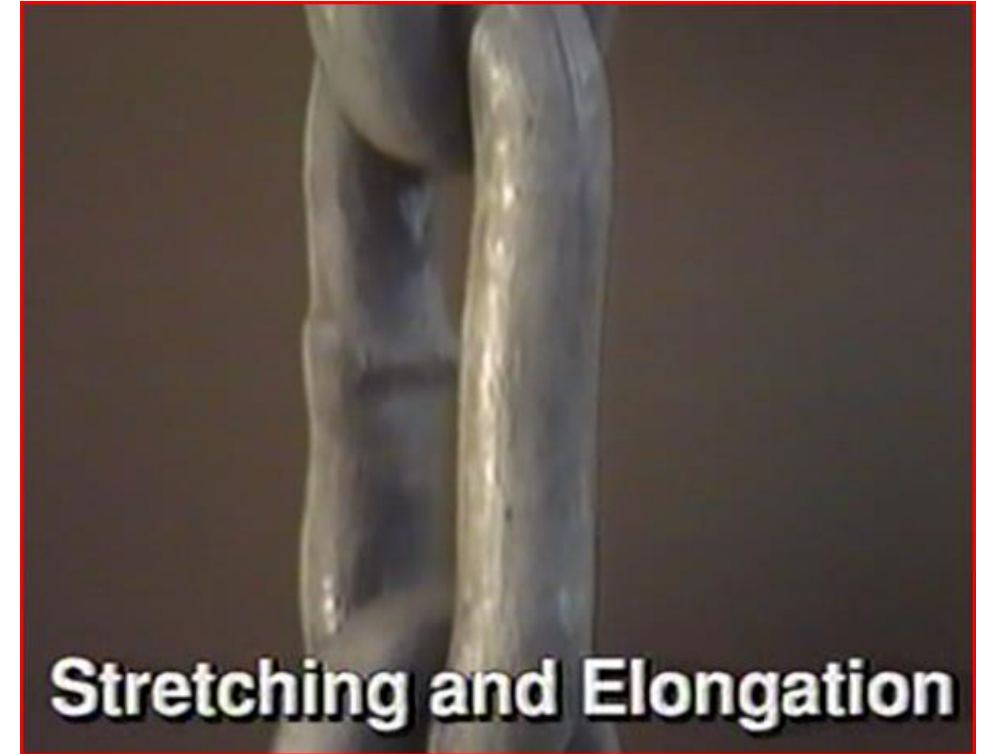
# LEGISLATION - INDUSTRIAL REGULATIONS

59. Except for the purpose of a test of the material handling equipment, no material handling equipment shall be loaded in excess of its maximum rated load.

# PRE-USE CHECKS

## Chain Slings

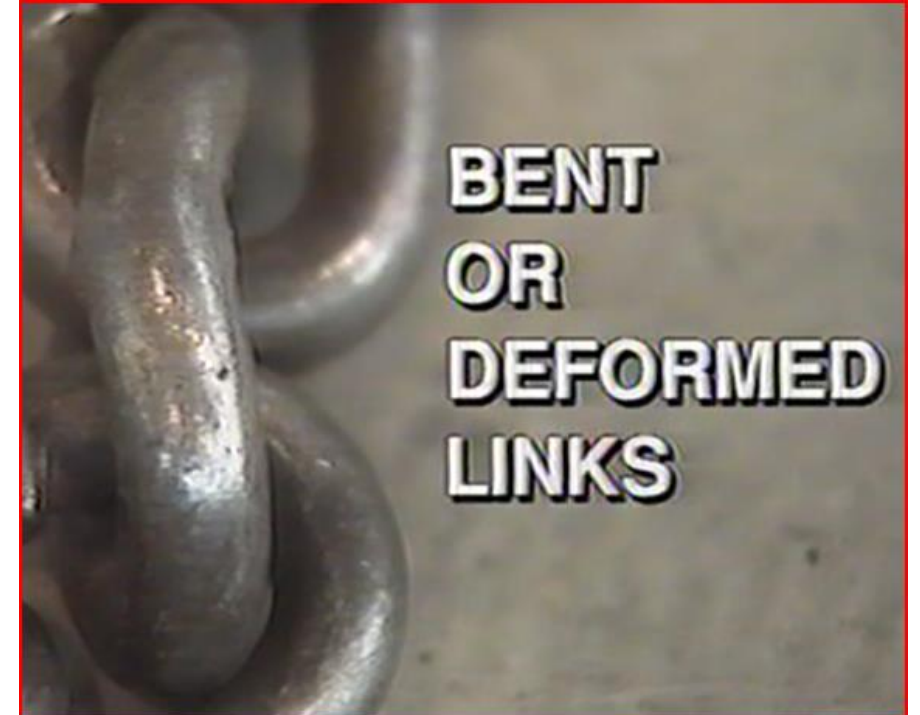
- Stretching & Elongation
  - Check to ensure smooth and easy movement along full length of chain
- Problems with stretched chain
  - Breakage
  - Twisting
  - Jerking
  - Lop-sided lifting on multi-leg slings



# PRE-USE CHECKS

## Chain Slings

- Bent or Deformed Links
  - Usually occur from improper use
  - Major causes
    - Incorrect slinging (around sharp corners)
    - Improper lowering of loads (dropping load on chain)
    - Exposure to heat
    - Knots
    - Twists and kinks

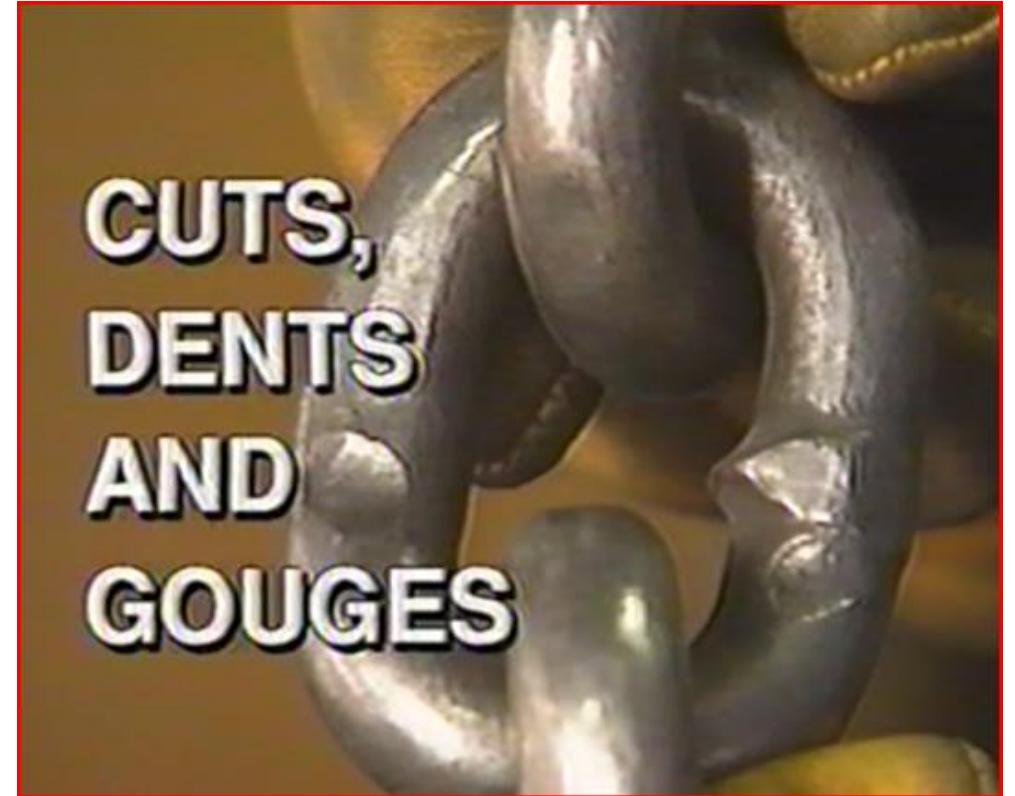




# PRE-USE CHECKS

## Chain Slings

- Cuts, Dents and Gouges
  - Occurs from;
    - Lowering and dropping loads
    - Hitting chain against objects
  - Where damage is slight marks can be filed to restore smooth movement of links
  - Severe damage needs to be sent out for testing



# PRE-USE CHECKS

## Chain Slings

- Cracks
  - Must be taken out of service and sent to proper facilities for repair or discarded and replaced.

# PRE-USE CHECKS

## Chain Slings

- **Excessive Wear**
  - Checked using a caliper or micrometer
  - Generally 10% wear is considered safe but always consult manufacturer's specifications
- **Corrosion**
  - Remove from service and have tested or destroyed



# PRE-USE CHECKS

## Chain Slings

- Master Links, Coupling Links and Attachments
  - Must be inspected for all forms of damage as well.

# PRE-USE CHECKS

## Wire Rope Slings

Remove from service if you encounter any of the following;

- Broken Wires
  - If one is found, other may be close to parting



# PRE-USE CHECKS

## Wire Ropes

- Birdcaging



# PRE-USE CHECKS

## Wire Ropes

- Excessive Wear or Abrasion



# PRE-USE CHECKS

## Wire Ropes

- Excessive Corrosion or Rust





# PRE-USE CHECKS

## Wire Ropes

- Damaged Sling Eyes and Accessories



# PRE-USE CHECKS

## Fibre Sheaths

- Damage to outer sheath
  - Could indicate damage to load bearing internal fibres



# PRE-USE CHECKS

## Fibre Sheaths

- Stains
  - Many chemicals can weaken strength
  - May hide physical damage
  - May hide SWL info



# PRE-USE CHECKS



# PRE-USE CHECKS



# PRE-USE CHECKS



# PRE-USE CHECKS



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