

# Materials Handling

## Materials Handling - Metal Mesh Slings

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## What are the characteristics of the metal mesh slings?

Metal mesh slings:

- Are made from carbon steel, stainless steel or alloy steel.
- Can be coated or impregnated with elastomers (e.g., PVC, neoprene).
  - Those not impregnated with elastomers are temperature resistant (from - 29°C to 288° C).
  - Those impregnated with elastomer have narrower temperature work range (-18°C to 93°C).
- Are flexible.
- Are resistant to corrosion (carbon steel and stainless steel slings).
- Do not stretch extensively.

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## When should you use metal mesh slings?

When the loads are:

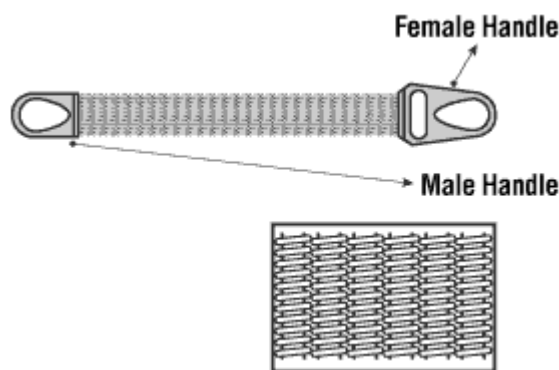
- Hot.

- Abrasive.
  - Have sharp edges that could damage the other slings.
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## When should you inspect the sling?

- Visually check it every day before use.
  - Periodically, as recommended by the manufacturer, or at least once a year.
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## What should you look for when inspecting a metal-mesh sling?



- Missing or unreadable identification plate.
  - Broken wires in any part of the mesh.
  - Broken weld or joints along the sling edge.
  - Distortion and reduced flexibility.
  - Distortion of choker fittings (slot longer by more than 10% of initial length).
  - Distortion of end fittings that causes the width of eye opening to decrease by more than 10%.
  - Reduction in wire diameter of 25% due to abrasion or 15% due to corrosion.
  - Reduction of 15% or more of the initial cross-sectional area in any point around the hook opening of the end fitting.
  - Cracked, corroded, pitted, bent, twisted or broken end fittings.
  - Locked spirals without free articulation (movement).
  - Slings with missing or illegible identification marks.
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## What should you do when one or more of the above conditions are identified?

- Remove sling from use and discard or repair them.
  - Do not try to repair the sling yourself by hammering it. Send the sling to be repaired by the sling manufacturer.
  - Use only repaired slings that were proof tested by the sling manufacturer.
  - Keep the certificates of the proof test.
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## How should you use metal-mesh slings safely?

- Use only slings that have the identification plate on them.
  - Know the admissible safe load for the slinging configuration you want to use.
  - Make sure that the load is balanced.
  - In a choker hitch, ensure that the female handle chokes on the metal mesh and not on the handle.
  - Keep body parts away from the area between the load and the sling.
  - Make a trial lift and a trial lower to ensure everything is working in a safe manner.
  - Reduce sling stress with slow starts and stops.
  - Wipe the dirt after use and store on racks as recommended by the manufacturer.
  - Only use slings that are exposed to extreme temperatures as recommended by the manufacturer or qualified person.
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## What should you avoid when using metal-mesh slings?

- Do not use metal-mesh slings for loads heavier than the safe load.
  - Do not use horizontal angles less than 30 degrees except as recommended by the sling manufacturer or a qualified person.
  - Do not use damaged slings.
  - Do not drag slings out from underneath a load.
  - Do not use a fitting unless it is the correct shape and size to fit properly in the hook or lifting device.
  - Do not use metal-mesh slings as bridles on suspended personnel platforms.
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- Do not shorten metal-mesh slings with knots or bolts.
  - Do not apply coatings that may lessen the sling's rated capacity.
  - Do not store the slings in areas where they might be exposed to corrosive agents or subjected to mechanical stress.
  - Do not use metal-mesh slings outside the temperature range recommended by the manufacturer.
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