

Materials Handling

Materials Handling - Metal Mesh Slings

On this page

[What are the characteristics of metal mesh slings?](#)

[When should you use metal mesh slings?](#)

[When should you inspect the sling?](#)

[What should you look for when inspecting a metal-mesh sling?](#)

[What should you do when one or more of the above conditions are identified?](#)

[How should you use metal-mesh slings safely?](#)

[What should you avoid when using metal-mesh slings?](#)

What are the characteristics of 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 a narrower temperature work range (-18°C to 93°C).
 - The manufacturer should be consulted for any work outside of these temperature ranges.
 - Are flexible.
 - Strength can degrade in chemically active environments.
 - 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?

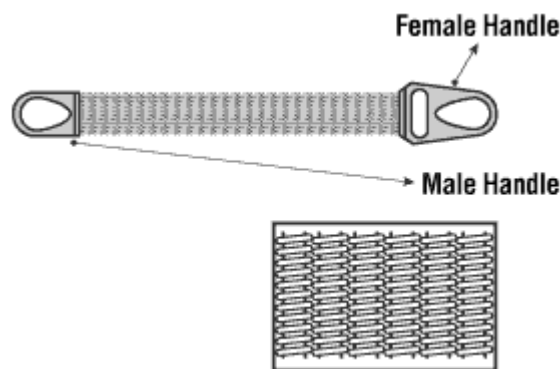
When the loads are:

- Hot.
- Abrasive.
- Have sharp edges that could damage the other slings.

When should you inspect the sling?

- Initial inspection of slings should be conducted, and they should be visually inspected every day before use.
- Periodically, as recommended by the manufacturer, or at least once a year.

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 the initial length).
- Distortion of end fittings that causes the width of the 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 at 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 slings 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 chocker 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 a 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.
- 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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