

WIRE ROPE SLINGS

AT A GLANCE

WHAT IS A WIRE ROPE SLING?

The unique design of a wire rope sling consists of multiple steel wires that form individual strands laid in a helical pattern around a fiber or steel core.

APPLICATIONS

Wire rope slings are popular in construction, automotive, oil and gas, and general manufacturing industries where a variety of heavy loads and rugged conditions exist. They're also very popular in steel mills and forging facilities where the durability of the rope is really put to the test.

CONFIGURATIONS

Different configurations of the material, wire, and strand structure will provide different benefits for the specific lifting application—including abrasion resistance, strength, flexibility, and fatigue resistance. Wire rope slings have a lower initial cost than alloy chain, while remaining fairly lightweight in design. Wire rope slings are available in single-leg or multi-leg assemblies and can be used in a variety of hitches including vertical, choker, and basket hitches.



*Flemish Eye
Wire Rope Sling*



*Mazzella
7-Part™ Sling*

ADVANTAGES

- Lower initial cost and lighter in weight than alloy chain slings
- High strength and flexibility in a smaller diameter design
- Braided or multi-part slings:
 - Are more resistant to kinking than single-part slings
 - Have high flexibility
 - Snug up tightly around the load in choker hitch
 - Quickly regain their original shape after a lift
- If the wire rope on sling bridles is damaged, the hardware (master links and hooks) can be re-used

DISADVANTAGES

- Low strength to weight ratio
- Construction can make it difficult to inspect, especially in and around the core
- Misuse or abuse can cause kinking, crushing, or abrasion
- Not repairable—if it is removed from service, best practice is followed to destroy and dispose of the sling
- Can be susceptible to internal and external corrosion
- Trade-offs exist between the design and construction: a rope that is more abrasion resistant will offer less fatigue resistance—and vice versa
- Should never be used at temperatures above 400°F or below -40°F

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