

Wire Rope Frequently Asked Questions

Q: Can I use any other wire rope in my hoist:

A: No, Wire rope construction and dimensions are chosen carefully by the hoist manufacturer.

Q: How do you make a bullet?

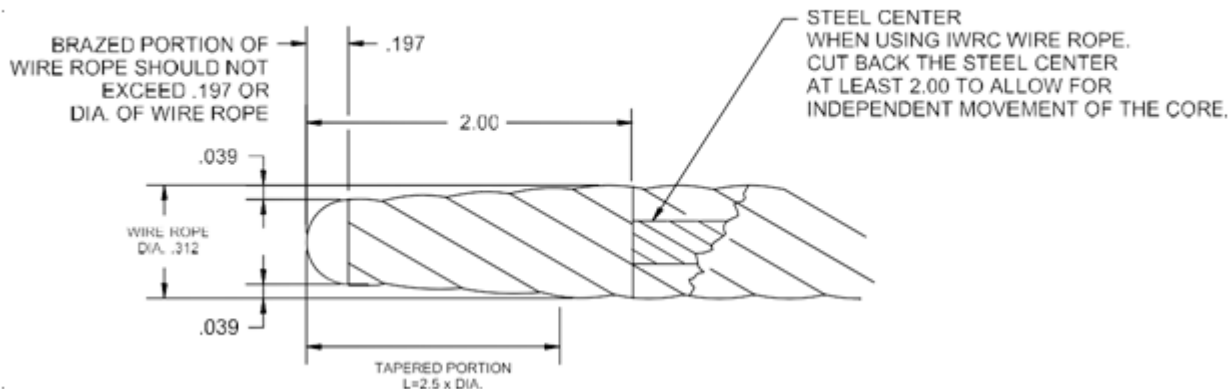
A: Wire ropes used with traction hoists need to have the end of the wire rope, the “bullet” prepared so that it can be inserted into the hoist. Proper bullet preparation ensures proper operation of the hoist with the wire rope.

Specifications for the bullet are typically provided in the hoist operator’s manual.

This process is generally performed with an Oxy-acetylene torch and a brazing rod.

The first step in this process is to make sure that the center core of an IWRC steel core (If used and recommended by the hoist manufacturer) wire rope is cut back about two inches to prevent the core from milking to the end and destroying the bullet. It is not necessary to cut the core back when the wire rope has a fiber core. Check with the manufacturer.

Typical example:



Drawing of typical bullet for illustrative purposes

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SSFI is a committee comprising manufacturers of shoring, scaffolding, forming, and suspended scaffolding. The committee focuses on engineering and safety aspects of scope products.

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Q: If the operator runs the hoist into the wire rope termination, what actions should be taken next?

A: Running a hoist into the wire rope terminations is very dangerous and can damage the wire rope, its termination or fittings and the hoist. If operators are still on the platform and the wire rope termination is made using wire rope clips, the operators should safely exit the platform as quickly as possible to allow for inspection of the termination and re-torquing of the clips to the manufacturer's specification. For other termination types, visual inspection for possible distortion in the thimble or swaged fittings, damage to the hoist or its safety devices such as noticeable cracks, sheered components or damage to a stirrup or other structure that contacts the termination point or the rigging device. Thoroughly inspect all components, retest safety devices, and return equipment to service only after the competent person has determined the equipment can perform safely.

Q: How can I be sure the wire rope has the tensile strength I need to meet the codes?

A: If the wire rope is sourced from an equipment supplier, that company can provide a Certificate of Conformance on wire rope, typically this is for the spool or batch of wire rope the assembly was produced from. Most rope suppliers can provide destruction testing for their customers for rope assembly configurations for a nominal fee of about \$30-50 or more per assembly, and some may provide this as a free service. If you perform hand swaging, it's appropriate to check your shop tools regularly and use gauges that are in good condition supplied by the manufacturer to insure proper crimping.

Q: What inspection criteria should I follow for wire rope termination devices?

A: Verify with the manufacturer what the product specifications and inspection criteria for the product you need to work with first. Some manufacturers offer classes on inspection, as well. Also look for a class that covers the products you must work with.

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