

and versatile type of sling. Because of the nature of its construction, the braided sling is flexible and resistant to kinking. These characteristics make it easy to handle, especially in the larger sizes.

The construction of the braided sling permits easy and thorough inspection of its parts so that its condition can be readily known, with greater assurance of safety. Another feature of these slings is that they have little tendency to twist when free-end loads are being handled.

Methods of attachment

The hook and ring method of attaching wire rope fitting develops from 70 to 100 per cent of the breaking strength of the rope. Socketing with zinc and the use of compression fittings are compact methods which develop 100 per cent of the strength of the rope when properly used. Swaged sleeve attachments develop about 90 to 95 per cent of the efficiency of the rope. Compression and swaged sleeve fittings are usually made only by the manufacturer.

Hand-tucked splices develop about 90 per cent of the strength of rope less than $\frac{1}{2}$ in in diameter. This efficiency decreases to 80 per cent for ropes $\frac{3}{8}$ in and larger in diameter. Fittings should be specified according to rope sizes. The recommended load for a sling assembly is not more than one-fifth the strength of the assembly, taking into account the efficiency of the rope connections.

Safe load limits

The effects of unforeseen jerks, of acceleration or deceleration that multiplies load weights, of aging of the wire rope, and of abrasion, nicking, and other damaging contacts are among the matters that must be taken into account when determining safety factors for slings.

Because slings can be used at various angles and because strain builds up rapidly on angles greater than 60 degrees, it is essential that all slings be ordered with a minimum safety factor of 5, after calculating the load and strains at the anticipated lift angle to be used, to prevent injury to personnel and to prevent damage to loads and hoisting equipment.

For special applications where danger to personnel or loads is high, a safety factor of

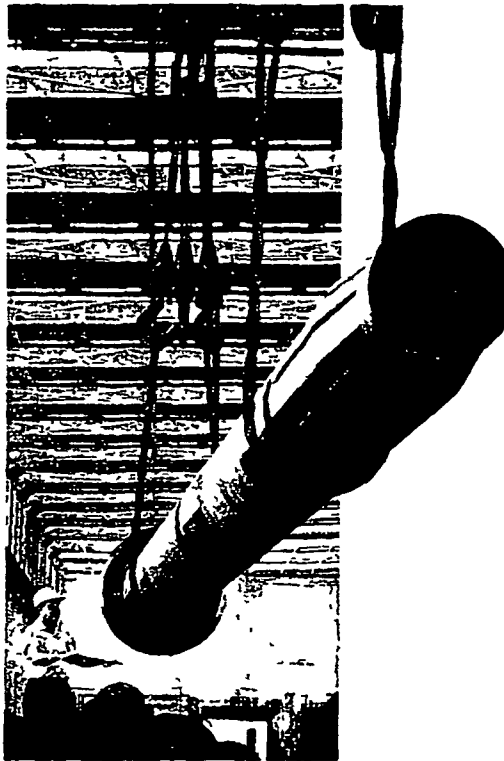


FIG 23-7 — Braided slings are resistant to kinking. Be sure loads are hoisted uniformly and that all slings have minimum safety factor of five.

at least 8 should be specified. For use in circumstances involving heat, wire rope slings should always be made of rope having a wire rope core.

The human element is the most important reason for maintaining substantial safety factors in slings. Too many workmen assume that if a sling is long enough to go around a load, the sling, regardless of its actual strength, can lift the load. Such thinking frequently results in accidents and loss of life.

A suitable load for a two-leg sling vertical is twice the load for a single-leg sling vertical, the three-leg sling vertical will have a capacity equal to $1\frac{1}{2}$ the capacity of a two-leg sling vertical, and the capacity of a four-leg sling vertical is twice the capacity of a two-leg sling vertical.

When the rope is made into a sling and placed in position on a load, the angle formed by the ropes and the horizontal should always