

OVERVIEW

TITLE: Standards (for slings)

Part 15, Rigging
Section 15.30, Standards

1. WHAT IS THE NATURE OF THE PROBLEM TO BE SOLVED?

Section 15.30 of the Occupational Health and Safety Regulation (“OHSR”) references an outdated version of a standard, *ASME B30.9 1990 Slings*. Outdated standards are difficult to obtain. Manufacturers make slings and sling components to meet the latest published standard so their products will be accepted in the broader North American market. To expect manufacturers to continue making or supplying rigging to meet older versions of standards is not practicable. In addition, the new version of the standard covers some newer sling types now used in BC, such as continuous filament slings (synthetic roundslings), that are not covered by the old version of the standard.

Updating the provision in section 15.30 will require some adjustment in Table 15-1 of the OHSR to ensure it is consistent with the requirements of section 15.30. The referencing of the older version of the standard has resulted in one large employer (BC Hydro) approaching WorkSafeBC for a variance on two occasions so they could manufacture specialized slings to meet the provisions in the new version of the safety standard.

2. WHAT IS THE PURPOSE OF THE PROPOSED AMENDMENTS?

To update the OHSR to reference the latest edition of the safety standard for slings. This will expand the OHSR to cover a broader range of sling types, some of which have come into common use in BC. This will assist industry (both manufacturers/suppliers and users) in complying with the OHSR and help to ensure safe rigging and safe workplaces.

Section 228 of the *Workers Compensation Act* states that WorkSafeBC must undertake a process of ongoing review of its regulations to ensure that they are consistent with current workplace practices, technological advances and other changes affecting occupational health and safety.

3. SOURCE OF REQUEST

Supplier of rigging and sling equipment
WorkSafeBC Investigations Division (Engineering)

PART 15: RIGGING

GENERAL REQUIREMENTS

- Design factors** **15.6** (1) The design factors based on breaking strengths for rigging components must be at least equal to the values given in Table 15-1, except as otherwise specified in this Regulation.

Table 15-1: Minimum Design Factors for Rigging

Item	Component	Minimum design factor
1	Nylon fibre rope sling	5
2	Polyester rope sling	5
3	Polypropylene rope sling	5
4	Alloy steel chain sling	4
5	Wire rope sling	5
6	Metal mesh sling	5
7	Synthetic web sling	5
8	Synthetic roundsling	5
9	Chain fittings	4
10	Wire rope sling fittings	5
11	Other fittings	as specified by manufacturer
12	Non-rotating wire rope	as specified by manufacturer but not less than 5
13	Conventional wire rope	5

- (2) The design factors specified by subsection (1) may be reduced for a dedicated rigging assembly designed and certified by a professional engineer for a specific lift, but the dedicated assembly must be re-rated according to the requirements of subsection (1) for continued use.
- (3) The design factor for any rigging assembly used to support workers must be at least 10.

GENERAL REQUIREMENTS

Wedge socket connections 15.9 If a wedge socket is used as a wire rope termination, the dead end of the rope must be secured to prevent release of the wedge or rope slippage at the socket.

Table 15-1: Design factors for rigging

Component	Design factor
Nylon fibre rope sling	9
Polyester rope sling	9
Polypropylene rope sling	6
Alloy steel chain sling	4
Wire rope sling	5
Metal mesh sling	5
Synthetic web sling	5
Chain fittings	4
Wire rope sling fittings	5
Other fittings	as specified by manufacturer
Nonrotating wire rope	as specified by manufacturer but not less than 5
Conventional wire rope	5

SLINGS

Standards 15.30 Unless otherwise required by this Regulation, wire rope, alloy steel chain, metal mesh, synthetic fibre rope, **synthetic roundslings** and synthetic fibre web slings must meet the requirements of *ASME B30.9-1990, Slings*, **ASME B30.9-2006 Slings**.

Explanatory Note:

Section 15.30 of the Occupational Health and Safety Regulation (“OHSR”) states that unless otherwise required by the Regulation, wire rope, alloy steel chain, metal mesh, synthetic fibre rope and synthetic fibre web slings must meet the requirements of *ASME B30.9-1990 Slings* (“the 1990 standard”). Since 1990, this standard has been considerably revised. Significant changes really started in 1997 and further revisions followed in 1998, 2000, 2003 and 2006. Hence, the 1990 standard has now been superseded by the *ASME B30.9-2006* (“the 2006 standard”) which excludes natural fibre rope and includes synthetic roundslings. Natural fibre rope is rarely used for slings anymore while synthetic roundslings are often used.

It is therefore proposed to replace the reference to the 1990 standard in section 15.30 with a reference to the 2006 standard, and to add synthetic roundslings to the rigging components identified in section 15.30 as well as to Table 15-1.

**PROPOSED AMENDMENTS FOR PART 15: RIGGING
IN THE OCCUPATIONAL HEALTH AND SAFETY REGULATION**

The design factors for nylon, polyester and polypropylene slings are lower in the 2006 standard than they are in the 1990 standard. However, the 2006 standard includes other requirements that compensate for the lowered design factors (e.g., synthetic fibre rope construction can be 8 strand plaited or hollow braided, not just 3 strand construction; and identification, proof testing, and daily inspection are all now required where they were not in 1990). Therefore the proposed change to the design factors in Table 15-1 will continue to ensure an acceptable standard of safety. Slings that are designed, fabricated, inspected and used according to the 2006 standard are safe for use.

These proposed changes would ensure manufacturers have a recognized, up to date standard for design, fabrication, proof testing and possible certification of their products. It will also provide their customers with a recognized standard for operating practices, inspection, removal and repair of legal products. Stakeholders, including manufacturers, will not need to contact WorkSafeBC for clarification on product testing and acceptability.

Further, although Table 15-1 is referenced directly by section 15.6 (and indirectly by section 15.30), it is currently placed within section 15.9. For ease of reference, it is proposed to move Table 15-1 within section 15.6 (1).

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