Part	OHS Code	Intent	P	C	Risk	Guideline Statement
Part 21 Rigging						
Breaking strength	**292(1)** An employer must ensure that rigging is not subjected to a load of more than (a) 10 percent of the breaking strength of the weakest part of the rigging, if a worker is being raised or lowered, (b) subject to section 292.1, 20 percent of the ultimate breaking strength of the weakest part of the rigging in all other situations unless the manufacturer has fatigue rated the rigging in accordance with CEN Standard EN 1677-1: 2000, *Components for slings – Part 1: Forged steel components grade 8*, and (c) subject to section 292.1, if the rigging is fatigue rated in accordance with CEN Standard EN 1677-1: 2000 and a worker is not being raised or lowered, the maximum load must not exceed 25 percent of the ultimate breaking strength. **292(2)** Despite subsection (1), an employer may use a dedicated rigging assembly designed and certified for a particular lift or project by a professional engineer, but the dedicated rigging assembly must be re-rated to comply with subsection (1) before it is used for another lift or project.	It is very important to be aware of breaking strength when using rigging of any type. All rigging activities need to be conducted with appropriately-certified equipment and conducted in a safe manner.	L	M	M	The employer must be certain that rigging is used according to the manufacturer's rating. If rigging is to be used on a farm or ranch, training must be provided. Any damaged or worn rigging must be replaced
Safety factors	**292.1(1)** Subject to section 292, an employer must ensure that rigging components are rated relative to their ultimate breaking strength in accordance with the following safety factors: (a) running lines 3.5 to 1; (b) non-rotating hoist lines 5 to 1; (c) tugger lines/blocks for pulling 3 to 1; (d) pendant lines/guy lines 3 to 1; and (e) winch lines 2 to 1. **292.1(2)** An employer must ensure that rigging components or hoisting lines that are used in any towing operation are not used for any hoisting operation.	Rigging components must be rated relative to the breaking strength. Rigging components and hoisting lines used for towing cannot be used for hoisting.	L	M	M	The employer must ensure that rigging is rated appropriately and used for its designated purpose only.
Load ratings	**293(1)** An employer must ensure that the maximum load rating of the rigging, as determined by the rigging	For worker safety, it is important to have	L	L	L	The employer must be certain that the

	manufacturer or a professional engineer, is legibly and conspicuously marked on the rigging. **293(2)** Despite subsection (1), if it is not practicable to mark the rigging, the employer must ensure the maximum load rating of the rigging is available to the workers at the work site.	clear indication of the manufacturer's or design engineer's maximum load rating for rigging on site.				maximum load rating is clearly marked on the rigging.
Inspection	**294** An employer must ensure that rigging to be used during a work shift is inspected thoroughly prior to each period of continuous use during the shift to ensure that the rigging is functional and safe.	Inspecting rigging before a period of continuous use will help to ensure it is functional and safe.	L	H	H	The employer must thoroughly inspect rigging prior to each period of continuous use during the shift to ensure it is functional and safe.
Prohibition	**295** A worker must not use rigging that does not comply with this Part.	Workers have a responsibility to ensure the rigging complies with the safety standards for their own protection.	M	H	H	Workers must not use rigging that does not comply with the standards set out in Part 9 of the regulation.
Rigging protection	**296** An employer must ensure that sharp edges on loads to be hoisted are guarded to prevent damage to the slings or straps of the rigging.	Objects with sharp edges can damage slings and straps of the rigging.	M	H	H	Guards are needed to protect slings and rigging straps from damage when hoisting objects with sharp edges.
Standards	**297(1)** An employer must ensure that wire rope, alloy steel chain, synthetic fibre rope, metal mesh slings and synthetic fibre slings manufactured on or after July1, 2009 meet the requirements of ASME Standard B30.9-2006, *Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks and Slings*. **297(2)** An employer must ensure that below-the-hook lifting devices, other than slings, meet the requirements of ASME Standard B30.20-2006, *Below the Hook Lifting Devices.* **297(3)** Despite subsection (2), an employer may use a capacity data sheet to label a spreader bar with its rated capacity. **297(4)** Where a capacity data sheet is used in accordance with subsection (3), an employer must	Ropes, chains, slings and other lifting devices must meet criteria set out in the Code.	L	M	M	The employer must ensure that current Code requirements for ropes, chains, slings and other lifting devices are met.

	ensure that the data sheet and corresponding spreader bar are identified by a unique numbering system.					
Slings	**298(1)** An employer must ensure that synthetic fibre slings are permanently and legibly marked or appropriately tagged with the following: (a) the manufacturer's name or trade mark; (b) the manufacturer's code or stock number; (c) the safe working load for the types of hitches permitted; and (d) where appropriate, the type and material of construction. **298(2)** An employer must ensure that slings at a worksite are not subjected to pull tests beyond 100 percent of their rated load capacity.	Synthetic fibre slings must be clearly marked with their manufacturing information and their rated load capacity to ensure operator safety.	L	H	M	The Employer must ensure synthetic fibre slings are clearly marked with their manufacturing information including rated load capacity, and loads must not exceed the rated load capacity
Rope wound on drum	**299(1)** An employer must ensure that rope on a winding drum is securely fastened to the drum. **299(2)** An employer must ensure that the number of wraps of rope remaining at all times on a drum (a) complies with the manufacturer's specifications for the rope and the drum, or (b) if there are no manufacturer's specifications, is not less than 5 full wraps.	Rope on a winding drum must be wrapped according to specifications.	L	L	L	The employer must be certain that rope used on the winding drum is wrapped according to specifications.
Cable clips	**300(1)** An employer must ensure that U-bolt type clips used for fastening wire rope are installed (a) so that the U-bolt section of the clip bears on the short or "dead" side of the rope, (b) so that the saddle of a clip bears on the long or "live" side of the rope, and (c) using the number and with the spacing that complies with the specifications in Schedule 5. **300(2)** An employer must ensure that cable clips used for fastening wire rope are installed, and torqued to the manufacturer's specifications or, in the absence of manufacturer's specifications, to the values specified in Schedule 5.	The safe use of the various type of clips used for fastening wire rope means they must be installed according to Code requirements.	L	M	M	The employer must ensure the clips used in fastening wire ropes have been installed according to Code.

	300(3) An employer must ensure that double-saddle clips (fist clips) used for fastening wire rope are installed using the number and the spacing and torque that complies with the specifications in Schedule 5. **300(4)** An employer must ensure that double base clips used for fastening wire rope are installed with a spacing that is not less than 6 times the diameter of the rope.					
Ferrules	**301(1)** If a ferrule is used to form an eye loop in a wire rope and (a) the ends of the splice are visible beneath the ferrule, or (b) the ferrule is identified as covering a "Flemish eye" splice, the employer must ensure that the ferrule is commercially manufactured of steel and properly swaged onto the splice. **301(2)** Despite subsection (1), if an aluminum alloy ferrule must be used, an employer must ensure that the ferrule is (a) commercially manufactured, (b) identified as being made of aluminum alloy, and (c) properly swaged onto the splice.	When a ferrule is used to form an eye loop it must be done so in accordance with Code requirements. Ferrules help prevent unnecessary wear on the loop of the cable or wire	L	L	L	The employer must be certain that when a ferrule is used it is done so according to Code requirements.
Matching components	**302(1)** An employer must ensure that the wire ropes, sheaves, spools and drums used in rigging have a diameter of not less than the diameter specified by the manufacturer for use in that circumstance. **302(2)** An employer must ensure that the rope used in rigging is of the correct size for the sheave, spool or drum over which the rope passes. **302(3)** An employer must ensure that the grooving of wire rope sheaves is of the correct size for the wire rope used. **302(4)** An employer must ensure that end fittings and connectors used on a wire rope conform to the manufacturer's specifications as to number, size and method of installation. **302(5)** An employer must ensure that rigging blocks are constructed and installed so that the ropes cannot jump off the sheaves.	All component material used in rigging must meet the manufacturer's specifications and must be compatible with each other	L	L	L	The employer must ensure that all component parts included in the rigging are used according to the manufacturer's specifications. Do not use components in rigging that are different sizes from each other.
Safety latches	**303(1)** An employer must ensure that a hook has a safety latch, mousing or	Improper use of certain equipment such as a hook can	L	L	L	The employer should ensure that hooks are

	shackle if the hook could cause injury if it is dislodged while in use. **303(2)** Despite subsection (1), if a competent worker disconnecting the hook would be in danger if the hook has a safety latch, mousing or shackle, the employer may use another type of hook. **303(3)** Despite subsection (1), an employer may use a sorting hook for hoisting a skeleton steel structure or for performing similar operations if a sorting hook is safer to use than a hook with a safety latch, mousing or shackle. **303(4)** During a hoisting operation in a caisson, an employer (a) must not use a spring-loaded safety latch hook, and (b) must use a shackle assembly consisting of a pin fully shouldered into the eyes of the shackle and secured by a nut that is prevented from rotating by a cotter pin.	mean it becomes dislodged and may cause injury to the worker and those in the vicinity.				used with a safety latch, mousing or shackle.
Makeshift rigging and welding	**304** An employer must ensure that rigging does not have (a) makeshift fittings or attachments, including those constructed from reinforcing steel rod, that are load bearing components, (b) rigging and fittings that are repaired by welding unless they are certified safe for use by a professional engineer after the repair is completed, or (c) alloy steel chain that is welded or annealed.	Rigging equipment must not be used with makeshift fittings or welds.	L	L	L	The employer must ensure there no makeshift fittings or welds on the rigging unless the fittings or welds are certified safe.
Rejection Criteria						
Synthetic fibre slings	**305(1)** An employer must ensure that a synthetic fibre web sling is permanently removed from service if it is damaged or worn as follows: (a) the length of the edge cut exceeds the web thickness; (b) the depth of an abrasion is more than 15 percent of the webbing thickness, taken as a proportion of all plies; (c) the total depth of the abrasion on both sides of the webbing is more	Using damaged or worn equipment can cause accidents and potential injury.	L	M	M	The employer must ensure that a synthetic fibre web sling is not used if there are signs of damage or excessive wear.

	than 15 percent of the webbing thickness, taken as a proportion of all plies; (d) the depth of the warp thread damage is up to 50 percent of the webbing thickness and the damage (i) is within 25 percent of the sling width of the edge, or (ii) covers 25 percent of the sling width, (e) the warp thread damage is as deep as the sling is thick (i) in an area that is within 25 percent of the sling width of the edge, or (ii) over an area that is more than 12.5 percent of the width of the sling; (f) weft thread damage allows warp threads to separate over an area that is wider than 25 percent of the sling width and longer than twice the sling width. **305(2)** An employer must ensure that a synthetic fibre web sling is permanently removed from service if (a) part of the sling is melted, charred or damaged by chemicals, (b) stitches in load bearing splices are broken or worn, or (c) end fittings are excessively pitted or corroded, cracked, distorted or broken. **305(3)** An employer must ensure that a synthetic fibre web sling is permanently removed from service if it is damaged in such a way that the total effect of the damage on the sling is approximately the same as the effect of any one of the types of damage referred to in subsections (1) or (2). **305(4)** An employer must ensure that a synthetic fibre web sling that is permanently removed from service under this section is physically altered to prevent its further use as a sling.					
Wire rope	**306(1)** An employer must ensure that wire rope is permanently removed from service if (a) wear or corrosion affects individual wires over more than one third of the original diameter of the rope,	Using damaged or worn equipment can cause accidents and potential injury.	L	M	M	The employer must ensure that a wire rope is not used if there are

	(b) there is evidence that the rope structure is distorted because of bulging, kinking, bird-caging or any other form of damage, (c) there is evidence of heat or arc damage, or (d) the normal rope diameter is reduced, from any cause, by more than (i) 0.4 millimetres if the normal rope diameter is 8 millimetres or less, (ii) 1 millimetre if the normal rope diameter is more than 8 millimetres and less than 20 millimetres, (iii) 2 millimetres if the normal rope diameter is 20 millimetres or more and less than 30 millimetres, and (iv) 3 millimetres if the normal rope diameter is 30 millimetres or more. **306(2)** An employer must ensure that a running wire rope is permanently removed from service (a) if six or more randomly distributed wires are broken in one rope lay, or (b) if three or more wires are broken in one strand in one rope lay. **306(3)** An employer must ensure that a stationary wire rope such as a guy line is permanently removed from service (a) if three or more wires are broken in one rope lay in sections between end connections, or (b) if more than one wire is broken within one rope lay of an end connection. **306(4)** An employer must ensure that wire rope that does not rotate because of its construction is permanently removed from service (a) if there is evidence of the damage referred to in subsection (1), (b) if two randomly distributed wires are broken in six rope diameters, or					signs of damage or excessive wear.

	(c) if four randomly distributed wires are broken in 30 rope diameters.					
Metal mesh slings	**307** An employer must ensure that a metal mesh sling is removed from service if (a) there is a broken weld or a broken brazed joint along the sling edge, (b) a wire in any part of the mesh is broken, (c) corrosion has reduced a wire diameter by 15 percent, (d) abrasion has reduced a wire diameter by 25 percent, (e) there is a loss of flexibility because the mesh is distorted, (f) the depth of the slot is increased by more than 10 percent because the choker fitting is distorted, (g) the width of the eye opening is decreased by more than 10 percent because either end fitting is distorted, (h) the original cross-sectional area of metal is reduced by 15 percent or more at any point around the hook opening or end fitting, (i) either end fitting is distorted, or (j) an end fitting is cracked.	Using damaged equipment can cause accidents and potential injury.	L	M	M	The employer must ensure that a metal mesh sling is not used if there are signs of damage or excessive wear.
Electric arc damage	**308** An employer must ensure that a component of rigging that has been contacted by an electric arc is removed from service unless a professional engineer certifies that it is safe to use.	Using damaged equipment can cause accidents and potential injury.	L	M	M	The employer must ensure that any component of rigging is not used if it has been contacted by an electric arc, unless deemed to be safe by a qualified person
Damaged hooks	**309** An employer must ensure that a worn, damaged or deformed hook is permanently removed from service if the wear or damage exceeds the specifications allowed by the manufacturer.	Using damaged equipment can cause accidents and potential injury.	L	M	M	The employer must ensure that a hook which has signs of damage or excessive wear beyond the manufacturer’s specifications be removed from service.