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- **Part Number:** 1910
- **Part Title:** Occupational Safety and Health Standards
- **Subpart:** 0
- **Subpart Title:** Machinery and Machine Guarding
- **Standard Number:** 1910.213
- **Title:** Woodworking machinery requirements.

1910.213(a)

Machine construction general.

1910.213(a)(1)

Each machine shall be so constructed as to be free from sensible vibration when the largest size tool is mounted and run idle at full speed.

1910.213(a)(2)

Arbors and mandrels shall be constructed so as to have firm and secure bearing and be free from play.

1910.213(a)(3)

[Reserved]

1910.213(a)(4)

Any automatic cutoff saw that strokes continuously without the operator being able to control each stroke shall not be used.

1910.213(a)(5)

Saw frames or tables shall be constructed with lugs cast on the frame or with an equivalent means to limit the size of the saw blade that can be mounted, so as to avoid overspeed caused by mounting a saw larger than intended.

..1910.213(a)(6)

1910.213(a)(6)

Circular saw fences shall be so constructed that they can be firmly secured to the table or table assembly without changing their alignment with the saw. For saws with tilting tables or tilting arbors the fence shall be so constructed that it will remain in a line parallel with the saw, regardless of the angle of the saw with the table.

1910.213(a)(7)

Circular saw gages shall be so constructed as to slide in grooves or tracks that are accurately machined, to insure exact alignment with the saw for all positions of the guide.

1910.213(a)(8)

Hinged saw tables shall be so constructed that the table can be firmly secured in any position and in true alignment with the saw.

1910.213(a)(9)

All belts, pulleys, gears, shafts, and moving parts shall be guarded in accordance with the specific requirements of 1910.219.

1910.213(a)(10)

It is recommended that each power-driven woodworking machine be provided with a disconnect switch that can be locked in the off position.

1910.213(a)(11)

The frames and all exposed, noncurrent-carrying metal parts of portable electric woodworking machinery operated at more than 90 volts to ground shall be grounded and other portable motors driving electric tools which are held in the hand while being operated shall be grounded if they operate at more than 90 volts to ground. The ground shall be provided through use of a separate ground

1910.213(g)(2)

Each swing cutoff saw shall be provided with an effective device to return the saw automatically to the back of the table when released at any point of its travel. Such a device shall not depend for its proper functioning upon any rope, cord, or spring. If there is a counterweight, the bolts supporting the bar and counterweight shall be provided with cotter pins; and the counterweight shall be prevented from dropping by either a bolt passing through both the bar and counterweight, or a bolt put through the extreme end of the bar, or, where the counterweight does not encircle the bar, a safety chain attached to it.

1910.213(g)(3)

Limit chains or other equally effective devices shall be provided to prevent the saw from swinging beyond the front or back edges of the table, or beyond a forward position where the gullets of the lowest saw teeth will rise above the table top.

1910.213(g)(4)

Inverted swing cutoff saws shall be provided with a hood that will cover the part of the saw that protrudes above the top of the table or above the material being cut. It shall automatically adjust itself to the thickness of and remain in contact with the material being cut.

1910.213(h)

Radial saws.

1910.213(h)(1)

The upper hood shall completely enclose the upper portion of the blade down to a point that will include the end of the saw arbor. The upper hood shall be constructed in such a manner and of such material that it will protect the operator from flying splinters, broken saw teeth, etc., and will deflect sawdust away from the operator. The sides of the lower exposed portion of the blade shall be guarded to the full diameter of the blade by a device that will automatically adjust itself to the thickness of the stock and remain in contact with stock being cut to give maximum protection possible for the operation being performed.

..1910.213(h)(2)**1910.213(h)(2)**

Each radial saw used for ripping shall be provided with nonkickback fingers or dogs located on both sides of the saw so as to oppose the thrust or tendency of the saw to pick up the material or to throw it back toward the operator. They shall be designed to provide adequate holding power for all the thicknesses of material being cut.

1910.213(h)(3)

An adjustable stop shall be provided to prevent the forward travel of the blade beyond the position necessary to complete the cut in repetitive operations.

1910.213(h)(4)

Installation shall be in such a manner that the front end of the unit will be slightly higher than the rear, so as to cause the cutting head to return gently to the starting position when released by the operator.

1910.213(h)(5)

Ripping and ploughing shall be against the direction in which the saw turns. The direction of the saw rotation shall be conspicuously marked on the hood. In addition, a permanent label not less than 1 1/2 inches by 3/4 inch shall be affixed to the rear of the guard at approximately the level of the arbor, reading as follows: "Danger: Do Not Rip or Plough From This End".

1910.213(i)

Bandsaws and band resaws.

..1910.213(i)(1)**1910.213(i)(1)**

All portions of the saw blade shall be enclosed or guarded, except for the working portion of the blade between the bottom of the guide rolls and the table. Bandsaw wheels shall be fully encased. The outside periphery of the enclosure shall be solid. The front and back of the band wheels shall be either enclosed by solid material or by wire mesh or perforated metal. Such mesh or perforated metal shall be not less than 0.037 inch (U.S. Gage No. 20), and the openings shall be not greater than three-eighths inch. Solid material used for this purpose shall be of an equivalent strength and firmness. The guard for the portion of the blade between the sliding guide and the upper-saw-wheel guard shall protect the saw blade at the front and outer side. This portion of the guard shall be self-adjusting to raise and lower with the guide. The upper-wheel guard shall be made to conform to the travel of the saw on the wheel.

1910.213(i)(2)

Each bandsaw machine shall be provided with a tension control device to indicate a proper tension for the standard saws used on the machine, in order to assist in the elimination of saw breakage due to improper tension.

1910.213(i)(3)