

Mill Emergency Stopping Distance

Use with Machine Safety, Chapter 296-806 WAC

This tool will allow you to determine if your mill meets the emergency stopping distance required by the rule. The size or arrangement of the rolls doesn't matter--they all have to stop within the specified limits unless there is no employee exposure to the hazard.

- You need to know the roll surface speed to use the chart. The roll surface speed is the distance (in feet) a point on the peripheral surface of the roll travels in one minute. You can determine the roll surface speed as follows:

Roll Surface Speed (feet per minute) = .262 x Roll Diameter in Inches x rpm

Examples:

- 24-inch diameter roll, 15 revolutions per minute.
Roll surface speed = $.262 \times 24 \times 15 = 94.32$ feet per minute
- 12-inch diameter roll, 40 revolutions per minute.
Roll surface speed = $.262 \times 12 \times 40 = 125.76$ feet per minute

Step 1: Find the roll surface speed (in feet per minute) you calculated in Step 1 on the horizontal axis of the chart (on the bottom).

Step 2: Draw a vertical line from the roll surface speed until it meets the sloped line between the shaded and un-shaded areas of the chart.

Step 3: Draw a horizontal line from that point to the vertical axis (on the left side) and read the maximum acceptable stopping distance.

Examples:

- A mill has a no-load roll surface speed of 125 feet per minute.
The maximum stopping distance allowed is $22\frac{1}{2}$ inches
- A mill has a no-load roll surface speed of 100 feet per minute.
The maximum stopping distance allowed is 18 inches.

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Mill Stopping Distances Chart (continued)

Acceptable stopping distances for mills are those less than or equal to 1-1/2 % of the fastest speed at which they operate when empty. The size or arrangement of the rolls doesn't matter--they all have to stop within the specified limits unless safety guarding eliminates employee exposure to the hazard.

The shaded area of the chart below shows stopping distances that are acceptable for Mills. These distances are measured:

- With the rolls running empty at maximum operating speed.
- In inches of surface travel of the roll.
- From the instant the emergency stopping device is activated

