

FROM OH&S EXPLANATORY GUIDE FOR CODE

SECTION 375 GRINDERS

Subsection 375(1) Grinding machines shape materials by bringing them into contact with a rotating abrasive wheel or disk. Hazards associated with grinders include (a) eye injuries, if appropriate eye protection is not worn, (b) contact with moving parts, (c) using broken or cracked grinding wheels, (d) reaching across or near rotating grinding wheels, 25 - 10 Occupational Health and Safety Code 2009 Part 25 Explanation Guide (e) grinding on the side of a wheel not designed for this type of use, (f) vibrations and excessive speed that cause a wheel or disk to shatter, (g) using the wrong type, a poorly maintained, or unbalanced wheel or disk, (h) incorrectly holding the work, and (i) incorrectly adjusted tool rest or a grinder that does not have a tool rest but should. Workers operating grinders must be trained to safely and correctly operate the equipment. Appropriate personal protective equipment must be worn. Grinders must be operated in accordance with the manufacturer's specifications and where required, be equipped with a grinder guard. Guards protect the operator and should not be removed as serious injuries can occur. Guards should enclose the wheel as completely as the nature of the work permits. In using the various types of abrasive wheels and disks, the manufacturer's stated running speeds in revolutions per minute (RPM) and operational procedures must be followed. Before a grinding wheel is installed, its size and maximum rated speed must be checked against the manufacturer's specifications. The maximum rated speed must be equal to or greater than the maximum speed of the grinder shaft. The hazard associated with grinding wheels is that they tend to shatter into pieces (due to centrifugal force) with the potential of injuring both operators and bystanders. If a hand held grinder is being used, the object being ground must be secured and unable to move.

Subsection 375(2) Almost all guards on hand held grinders cover one-half or 180 degrees of a grinding disk's circumference. This subsection allows guards to be cut back to cover 120 degrees of the grinding disk's circumference. Doing so exposes more of the grinding disk, allowing the disk to be used in tighter, difficult-to-get-at

grinding locations, and may reduce the danger of grinder kickback with some work pieces.

Subsection 375(3) If a tool rest is installed on a fixed grinder, the employer must ensure that the manufacturer's specifications are followed if they exist or the tool rest is (a) installed in a manner compatible with the work process, (b) securely attached to the grinder, (c) set at or within 3 millimetres of the face of the wheel, and (d) set at or above the centre line of the wheel. 25 - 11 Occupational Health and Safety Code 2009 Part 25 Explanation Guide Many wheels have broken and caused injury to operators because work has become wedged between the tool rest and the wheel. The tool rest should be substantially constructed and securely clamped not more than 3 millimetres from the face of the wheel. The position of the tool rest should be checked frequently. The tool rest height must be set at or above the centre line of the wheel.

Subsection 375(4) An abrasive wheel is made of bonded abrasive and only the periphery or circumference of an abrasive wheel is usually designed for grinding. If grinding on the side is required, then wheels designed for this purpose that are either cemented or bolted to a steel or flexible backing plate can be used. Workers are responsible for making sure that they do not grind material using the side of an abrasive wheel unless the wheel has been designed for that purpose. The tool rest of a fixed grinder must never be adjusted while the wheel is in motion. The tool rest may slip, strike the wheel and break it, or the operator may catch a finger between the wheel and the rest. For more information

www.ccohs.ca/oshanswers/safety_haz/abrasive_wheels/safeuse1.html Use of

Portable Grinders

www.ccohs.ca/oshanswers/safety_haz/metalworking/surfacegrinders.html

Surface Grinders

www.ccohs.ca/oshanswers/safety_haz/abrasive_wheels/mounting.html Wheel

Mounting on Portable Grinders