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- (1) An alarm bell or flashing light must be actuated or other suitable warning must be given before dropping material through a broke hole when persons working below may be endangered.
- (2) Broke holes must be guarded to the fullest extent possible consistent with operational necessities. The degree of guarding provided by standard height and strength guardrails will be considered as a minimum acceptable level of protection.
- (3) When repulping devices or feed conveyor systems for repulping devices are located beneath broke holes, special precautions must be used:
  - (a) The broke hole opening must be reduced to the smallest practical dimension;
  - (b) If the broke hole opening is large enough to permit a worker to fall through and is not guarded at least to the equivalent degree of protection provided by standard guardrails, any employee pushing broke down the broke hole must wear a safety belt or harness attached to a lanyard; and
  - (c) The lanyard must be fastened in such a manner that it is impossible for the person to fall into the repulping device.
- (4) Guarding to the equivalent degree of protection provided by standard guardrails and meeting the requirements of subsections (2) and (3), may be achieved by the use of guard bars separated no more than 15-1/2 inches in a vertical plane and 12 inches in a horizontal plane, or any other location within that segment.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 17-16-132 (Order 15-20), § 296-79-29029, filed 08/01/2017, effective 09/01/2017. Statutory Authority: RCW 49.17.010, [49.17].040 and[49.17].050 . 99-16-083, § 296-79-29029, filed 8/3/99, effective 11/3/99. Statutory Authority: RCW 49.17.040, 49.17.240, and chapters 43.22 and 42.30 RCW. 81-03-007 (Order 80-31), § 296-79-29029, filed 1/8/81; Order 74-24, § 296-79-29029, filed 5/6/74.]

### **WAC 296-79-29031 Industrial kiln guns and ammunition.**

You must ensure that there are written instructions, including safety procedures, for storing and operating industrial kiln guns and ammunition. All personnel working with this equipment must be instructed in these procedures and must follow them.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 17-16-132 (Order 15-20), § 296-79-29031, filed 08/01/2017, effective 09/01/2017. Statutory Authority: RCW 49.17.010, [49.17].040 and[49.17].050 . 99-16-083, § 296-79-29031, filed 8/3/99, effective 11/3/99; Order 74-24, § 296-79-29031, filed 5/6/74.]

### **WAC 296-79-29033 Chlorine dioxide system.**

See chapter [296-62](#) WAC, Part P and chapter [296-67](#) WAC, process safety management.

- (1) Sodium chlorate.
  - (a) Personnel handling and working with sodium chlorate must be thoroughly instructed in precautions to be used in handling and special work habits.
  - (b) Facilities for storage and handling of sodium chlorate must be constructed so as to eliminate possible contact of dry or evaporated sodium chlorate with wood or other material which could cause a fire or explosion.

- (c) Sodium chlorate facilities should be constructed with a minimum of packing glands, stuffing boxes, etc.
- (2) Chlorine dioxide.  
Chlorine dioxide generating and storage facilities must be placed in areas which are adequately ventilated and are easily kept clean of wood, paper, pulp, etc., to avoid contamination which might cause a reaction. This can be accomplished by placing these facilities in a separate room or in a designated outside space.
- (3) General.
  - (a) Facilities handling sodium chlorate and chlorine dioxide must be declared “no smoking” areas and must have signs posted accordingly.
  - (b) Management must be responsible for developing written instructions including safety procedures for operating and maintaining the generator and associated equipment. All personnel working on this equipment must be thoroughly trained in these procedures and must follow them. A periodic review of these procedures is recommended.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 17-16-132 (Order 15-20), § 296-79-29033 filed 08/01/2017, effective 09/01/2017. Statutory Authority: RCW 49.17.010, [49.17].040 and[49.17].050 . 99-16-083, § 296-79-29033, filed 8/3/99, effective 11/3/99; Order 74-24, § 296-79-29033, filed 5/6/74.]

### **WAC 296-79-29035 Piling and unpling pulp.**

- (1) Piles of wet lap pulp (unless palletized) must be stepped back one-half the width of the sheet for each 8 feet of pile height. Sheets of pulp must be interlapped to make the pile secure. Pulp must not be piled over pipelines to jeopardize pipes, or so as to cause overloading of floors, or to within 18 inches below sprinkler heads.
- (2) Piles of pulp must not be undermined when being unpiled.
- (3) Floor capacities must be clearly marked on all floors.
- (4) When sprinklers are used for fire protection in the storage area, baled paper and rags must be stored in stable piles which do not extend into the area necessary for the proper function of sprinkler systems.

[Statutory Authority: RCW 49.17.010, [49.17].040 and[49.17].050 . 99-16-083, § 296-79-29035, filed 8/3/99, effective 11/3/99; Order 76-7, § 296-79-29035, filed 3/1/76; Order 74-24, § 296-79-29035, filed 5/6/74.]

### **WAC 296-79-29037 Chocking rolls.**

Rolls must be secured by chocks or other means to prevent movement when stored horizontally.

[Statutory Authority: RCW 49.17.010, [49.17].040 and[49.17].050 . 99-16-083, § 296-79-29037, filed 8/3/99, effective 11/3/99; Order 74-24, § 296-79-29037, filed 5/6/74.]

## **WAC 296-79-300 Machine room equipment and procedures.**

- (1) Pulp and paper machines must be equipped with emergency stopping control(s) which can be actuated quickly from all normal operating stations. If useful for the safety of personnel, the stopping control(s) must be interlocked with adequate retarding or braking action to stop the machine as quickly as is practical. The devices must consist of push buttons for electric motive power (or electrically operated engine stops), pull cords connected directly to the prime mover, control clutches, or other devices.
- (2) Steps and footwalks along the fourdrinier/forming and press section must have nonslip surfacing and be complete with standard handrails, when practical.
- (3) If a machine must be lubricated while in operation an automatic lubricating device must be provided or oil cups and grease fittings must be provided which can be serviced safely without exposing the worker to any hazards.
- (4) All levers carrying weights must be so constructed that weights will not slip or fall off.
- (5) Guarding inrunning nip points The drums on pulp and paper machine winders must be provided with suitable guards to prevent a person from being caught between the roll and the front drum on the winder when the pinch point is on the operator's side.
  - (a) Such guards must be interlocked with the drive mechanism to prevent the winder from running while the guard is not in place. Except that the winder may be wired to allow it to run at thread or jog speed only for adjustment and start up purposes while the guard is not in position.
  - (b) A zero speed switch or locking device must be installed to prevent the guard from being removed while the roll is turning above thread or jog speed.
  - (c) Rewinders.

When rewinding large rolls and the nip point is adjacent to the normal work area:

    - (i) The nip point must be protected by a barrier guard;
    - (ii) Such guard must be interlocked with the drive mechanism to prevent operating the machine above thread or jog speed without the guard in place; and
    - (iii) A zero speed switch must be installed to prevent the guard from being raised while the roll is turning.
  - (d) Inrunning nips where paper is not being fed into a calender must be guarded.
- (6) An audible alarm must be sounded prior to starting up any section of a pulp or paper machine. Sufficient time must be allowed between activation of the alarm system and start up of the equipment to allow any persons to clear the hazardous area.
- (7) When starting up a dryer section, steam to heat the drums must be introduced slowly and while the drums are revolving.
- (8) A safe method must be used when starting paper into the nip of drum type reels or calender stacks. This may be accomplished by the use of feeder belts, carrier ropes, air carriage or other device or instrument.
  - (a) A rope carrying system should be used wherever possible at points of transfer; or

- (b) Sheaves should be spaced so that they do not create a nip point with each other and the sheave and its support should be capable of withstanding the speed and breaking strength of the rope for which they are intended.
- (9) Employees must not feed a stack with any hand held device which is capable of going through the nip.
- (10) Employees must not attempt to remove a broken carrier rope from a dryer while the section is running at operating speed.
- (11) Employees must stop the dryer to remove a wrap except in cases where it can be safely removed by using air or other safe means.
- (12) To remove deposits from rolls, a specially designed scraper or tool must be used. Scraping of rolls must be performed on the outgoing nip side.
- (13) Doctor blades.
  - (a) Cleaning. Employees must not place their hands between the sharp edge of an unloaded doctor blade and the roll while cleaning the doctor blade.
  - (b) Doctor blades must have the sharp edges properly guarded during transportation and storage.
  - (c) Special protective gloves must be provided and must be worn by employees when filing or handling sharp edged doctor blades.
- (14) Handling reels.
  - (a) Reels must stop rotating before being lifted away from reel frame.
  - (b) Crane hooks must not be used to stop a turning reel.
  - (c) Exposed rotating reel shafts with square block ends must be guarded.
  - (d) The crane operator must ascertain that reels are properly seated at winder stand or at reel arms before they disengage the hooks.
  - (e) On stored reels, a clearance of at least 8 inches between the reels of paper must be maintained.
- (15) All winder shafts must be equipped with a winder collar guide. The winder must have a guide rail to align the shaft for easy entrance into the opened rewind shaft bearing housing. If winder shafts are too heavy for manual handling, mechanical equipment must be used.
- (16) Shaftless winders must be provided with a barrier guard of sufficient strength and size to confine the rolls in the event they become dislodged while running.
- (17) All calender stacks and spreader bars must be grounded according to chapter [296-24](#) WAC, Part L, and WAC [296-800-280](#) as protection against shock induced by static electricity.
- (18) Nonskid type surface required.
  - (a) All exposed sole plates between dryers, calenders, reels, and rewinders must have a nonskid type surface.
  - (b) A nonskid type surface must be provided in the work areas around the winders or rewinders.

- (19) If a powered roll ejector is used it should be interlocked to prevent accidental actuation until the receiving platform or roll lowering table is in position to receive the roll.
- (20) Employees must keep clear of hazardous areas around the lowerator, especially all lowerator openings in a floor and where roll is being discharged.
- (21) Provision must be made to hold the rider roll when in a raised position unless counterbalancing eliminates the hazard.
- (22) Drain openings in pits. Flush floor drain openings larger than 3 inches in diameter in the bottom of pits must be guarded to prevent workers from stepping through, while working in this area.
- (23) Employees must not enter into or climb on any paper machine roll that is subject to free turning unless a positive locking device has been installed to prevent the roll from turning.
- (24) You must ensure sufficient inspection and nondestructive examination of reel spool and calender roll journals. The type and frequency of testing must be adequate to detect indications of failure. Any reel spool or calender roll journal found to have an indication of failure must be removed from service. Nondestructive examination personnel must be qualified in accordance with SNT-TC 1A.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 17-16-132 (Order 15-20), § 296-79-300, filed 08/01/2017, effective 09/01/2017. Statutory Authority: RCW 49.17.010, [49.17].040, and[49.17].050 . 01-11-038, § 296-79-300, filed 5/9/01, effective 9/1/01; 99-16-083, § 296-79-300, filed 8/3/99, effective 11/3/99. Statutory Authority: Chapter 49.17 RCW. 91-24-017 (Order 91-07), § 296-79-300, filed 11/22/91, effective 12/24/91. Statutory Authority: RCW 49.17.040, 49.17.240, and chapters 43.22 and 42.30 RCW. 81-03-007 (Order 80-31), § 296-79-300, filed 1/8/81; Order 76-7, § 296-79-300, filed 3/1/76; Order 74-24, § 296-79-300, filed 5/6/74; Order 70-6, § 296-79-300, filed 7/10/70, effective 8/10/70.]

### ***WAC 296-79-310 Converting operations (bag and container manufacturing, printing, coating, finishing and related processes).***

[Statutory Authority: RCW [49.17.010](#), [\[49.17\].040](#) and [\[49.17\].050](#) . 99-16-083, § 296-79-310, filed 8/3/99, effective 11/3/99; Order 74-24, § 296-79-310, filed 5/6/74; Order 70-6, § 296-79-310, filed 7/10/70, effective 8/10/70.]

#### **WAC 296-79-31001 General requirements for converting operations (bag and container manufacturing, printing, coating, finishing and related processes).**

- (1) Guillotine-type trimmers must be designed in a manner which will require the operator to use both hands simultaneously to activate the cutting blade. If machine helpers are employed in the control function of the cutter, separate two-hand controls must be provided for the control function performed by the helper.
- (2) Guillotine-type trimmers must be designed in a manner that the trimming blade will not repeat unless manually reactivated.
- (3) Sorting and counting tables must be smooth and free from splinters, with edges and corners rounded.  
Paddles must be smooth and free from splinters.
- (4) Devices (i.e., mirrors) must be installed to assist the converting machine operator in viewing blind work stations where a hazard exists.

- (5) Mechanical lifting devices must be provided for placing and removing rolls from rewinders. Rolls must not be left suspended overhead while the controls are unattended.
- (6) When using a crane or hoist to place rolls into a backstand and the operator cannot see both ends of the backstand, assistance will be provided or appropriate devices will be installed to eliminate the hazards involved. The operator must ascertain that rolls are properly seated at winder stand or at roll arms before disengaging the hooks.
- (7) Slitters, slotters, and scorers not in use must be properly stored so a hazard is not created.
- (8) All power closing sections must be equipped with an audible warning system which will be activated when closing the sections.
- (9) Roll-type embosser. The nipping point located on the operator's side must be guarded by either automatic or manually operated barrier guards interlocked with the drive.

[Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050 . 99-16-083, § 296-79-31001, filed 8/3/99, effective 11/3/99; Order 76-7, § 296-79-31001, filed 3/1/76; Order 74-24, § 296-79-31001, filed 5/6/74.]

### **WAC 296-79-31003 Corrugator.**

- (1) Every recessed floor conveyor system must be identified by standard color coding, and so designed and installed to minimize tripping hazards.
- (2) All areas subject to wet processes must be provided with drains.
  - (a) Drain trenches must be provided with gratings flush with the adjoining floor.
  - (b) Use of curbing in work areas should be avoided in new installations. If the use of curbing cannot be avoided, the design must be such that the curbs do not constitute a tripping hazard in normal working areas. When curbing exists and constitutes a hazard, it must be color coded.
- (3) Rails of rail mounted devices such as roll stands must be flush with the adjacent floor, and so installed to provide a minimum of 18 inches clearance between the equipment and walls or other fixed objects.
- (4) All corrugating and pressure rolls must be equipped with appropriately designed and installed threading guides so as to prevent contact with the infeed nip of the various rolls by the operator.
- (5) A minimum of 4 inches clearance or effective nip guarding must be maintained between heated drums, idler rolls, and cross shafting on all preheaters and preconditioners.
- (6) Lower elevating conveyor belt rolls on the single facer bridge must have a minimum nip clearance of 4 inches or effective nip guarding.
- (7) Web shears at the discharge end of the double facer must be equipped with barrier type guards.
- (8) Slitter stations not in use must be disconnected from the power source by positive means.
- (9) Elevating type conveyors must have the floor area color-coded.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 17-16-132 (Order 15-20), § 296-79-31003, filed 08/01/2017, effective 09/01/2017. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050 . 99-16-083, § 296-79-31003, filed 8/3/99, effective 11/3/99; Order 74-24, § 296-79-31003, filed 5/6/74.]

### **WAC 296-79-31009 Die cutting.**

Bobst type die cutters.

A minimum of 4 inches must be provided between the end of the slat and the guide bar.

[Statutory Authority: RCW 49.17.010, [49.17].040 and[49.17].050 . 99-16-083, § 296-79-31009, filed 8/3/99, effective 11/3/99; Order 74-24, § 296-79-31009, filed 5/6/74.]

### **WAC 296-79-320 Sulfite recovery furnace area requirements.**

- (1) You must have a program to train all personnel associated with recovery boiler operations in safe operating procedures and emergency shutdown procedures.
- (2) An audible warning system must be installed in kraft and soda base sulfite recovery furnace areas and must be actuated whenever an emergency exists.
- (3) All personnel who enter the recovery furnace area must understand the emergency evacuation procedure.
- (4) Warning system maintenance. Emergency warning systems in the recovery furnace areas must be kept in proper working condition and must be tested or checked weekly.
- (5) Personnel must stand to the side while opening a furnace or boiler firebox door.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 17-16-132 (Order 15-20), § 296-79-320, filed 08/01/2017, effective 09/01/2017. Statutory Authority: RCW 49.17.010, [49.17].040 and[49.17].050 . 99-16-083, § 296-79-320, filed 8/3/99, effective 11/3/99; Order 74-24, § 296-79-320, filed 5/6/74; Order 70-6, § 296-79-320, filed 7/10/70, effective 8/10/70.]