



Specification

Title: Hand Sawing
Specification No.: CSDA-HS-108
Effective Date: June 1, 1998
Revised: April 9, 2021

1. Codes, Standards & Definitions

- 1.1. Occupational Safety and Health Administration - Safety and Health Standards Digest Construction Industry (OSHA) - 3149/1996
- 1.2. The Cutting Contractor shall adhere to all applicable safety guidelines in accordance with Federal, State and local ordinances.
- 1.3. Definitions
 - 1.3.1. Owner – Legal owner of the structure being cut and consequently, the owner of the holes / openings created by the cutting contractor.
 - 1.3.2. Contracting Agency – The contractor hired directly or indirectly by the owner that is sub-letting the cutting requirements to a Cutting Contractor.
 - 1.3.3. Cutting Contractor – The contractor hired to perform the actual cutting operation.
 - 1.3.4. Slurry – The liquid material generated when the owner’s structure is cut using a water coolant.
 - 1.3.5. Embedments – Objects within or immediately adjacent to the cutting area that could be damaged during cutting. Examples of embedments are reinforcing rod and cable and utilities such as electrical power and telephone lines.
 - 1.3.6. Holes / Openings – the voids resulting from the core drilling / cutting operations of the cutting contractor. Ownership of the holes / openings rests with the owner; not the cutting contractor per CSDA Best Practice CSDA-BP-011 Establishing and Maintaining the Work Area.

2. Prerequisites

- 2.1. Normal and customary equipment on a hand saw job include:
 - 2.1.1. Provided by cutting contractor:
 - 2.1.1.1. Hand saw powered by gas, hydraulics, pneumatics, or electricity. Note: Due to exhaust considerations, gas powered hand saws are normally used for outside jobs.
 - 2.1.1.2. Diamond blades of sufficient sizes to complete the job.
 - 2.1.1.3. Hand tools pertinent to the saw being used.
 - 2.1.1.4. Vacuuming equipment for dust control per CSDA best practice CSDA-BP-022 Dust Control and slurry control per CSDA best practice CSDA-BP-001 Slurry.
 - 2.1.1.5. Provided by owner or contracting agency:
 - 2.1.1.6. Plastic sheeting
 - 2.1.1.7. Scaffolding
 - 2.1.1.8. Storage for water or slurry
 - 2.1.1.9. Shoring, rigging and rigging equipment for handling or managing the piece to be removed.
 - 2.1.1.10. Sump area and sump pump

- 2.1.1.11. Proper ventilation equipment if gas powered hand saw is to be operated indoors or in a confined space.
 - 2.1.1.12. Fall protection in accordance with OSHA standard 1926.501(b)(4) for all holes / openings created by the cutting contractor.
- 2.2. It is the responsibility of the owner or contracting agency to have the location of the area to be cut reviewed, approved and all cut lines clearly marked prior to the start of any cutting operation. A determination should be made by the owner or contracting agency as to whether over cuts are allowed. In addition, it is the responsibility of the owner or contracting agency to clearly mark the location and type of all embedments both on the cut lines and near the cutting area. We recommend consulting and following CSDA-BP-017 Best Practice on Depiction/Marking of Existing Subsurface Embedments.
- 2.3. It is the responsibility of the owner or contracting agency to provide a source for water and electricity for the cutting contractor.
- 2.4. It is the responsibility of the owner or contracting agency to provide fall protection in accordance with OSHA standard 1926.501(b) for all holes / openings creating by the cutting contractor.
- 2.5. It is recommended that a pre-job meeting be held with the owner or contracting agency to determine the following information relating to steel reinforcing bar or other embedments:
- 2.5.1. Are there steel reinforcing bars or other embedments within the structure to be cut?
 - 2.5.2. What is the size and location of the steel reinforcing bars or other embedments?
 - 2.5.3. Is it permissible to cut the steel reinforcing bars or other embedments in the course of the sawing operation?
 - 2.5.4. Is it possible to lay out the cut line in such a way that minimizes or avoids the cutting of the steel reinforcing bars or other embedments?
 - 2.5.5. After cutting begins is it permissible to move the cut line to stop splitting a steel reinforcing bar, cutting prestressed or post tensioned cable or other embedments?
- 2.6. Any scaffolding required should be designed, provided by and erected by competent personnel and according to code requirements.
- 2.7. The owner or contracting agency must determine if there are utility lines contained within, adjacent to or secured to the structure being cut. If utility lines are present as described, the owner or contracting agency must take the necessary action to have all services cut off to these utilities. If the utilities are buried, the owner or contracting agent must call the appropriate agency for accurate utility location as state or local regulation may require. The cutting contractor must be named on the permit.
- 2.7.1. If the owner or contracting agency directs that an embedment be intentionally cut whether or not service is turned off, then the owner and contracting agency shall protect the cutting contractor from all claims for damages arising from the cutting of the embedment.
 - 2.7.2. If the layout provided by the owner or contracting agency causes an embedment to be unintentionally cut, then the owner and contracting agency shall protect the cutting contractor from all claims for damages arising from the cutting of the embedment.
- 2.8. It is the owner or contracting agency's responsibility to provide protection to persons and property from potential water or slurry damage. The cutting contractor shall not be deemed an

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owner or generator of slurry and the owner and contracting agency shall protect the cutting contractor from all loss and expense associated with such claims.

- 2.9. The owner or contracting agency shall be responsible for providing proper, safe, and appropriate disposal of slurry.
 - 2.9.1. Collection and disposal of the slurry must be planned for by agreement with the owner of the structure or the owner's agent before work commences.
- 2.10. Barricades, cones, caution tape or other devices as appropriate to keep unauthorized people out of the work area shall be provided by the owner or contracting agency.
- 2.11. Should bracing of the concrete section to be removed be required, it must be installed prior to the completion of the sawing operation. If opening to be removed is to stay in place for an extended period, adequate support is required. The owner or contracting agency shall provide all bracing and engineering required for safe removal unless otherwise agreed to in writing by the cutting contractor.

3. Hand Sawing Set-up Procedures

- 3.1 The cutting contractor's equipment must comply with all applicable OSHA standards.
- 3.2 Clean and inspect the saw, blade and blade guard for damage before use. Ensure the blade is mounted properly. Never use a blade with cracks in the core or missing segments.
- 3.3 The side cover and blade guard should be properly fastened to the saw as per saw manufacturer's specifications.
- 3.4 Inspect any air, hydraulic or water hoses or electric cords attached to the hand saw for proper condition and fit. Repair or replace as required.
- 3.5 Confirm the blade is of the proper specification for the material being cut.
- 3.6 When sawing interior walls or slabs with internal combustion powered saws, precautions must be taken by the owner or contracting agency to provide adequate ventilation, air circulation, and/or oxygen replacement that meet OSHA standards. Other options for interior sawing include electric, hydraulic, or pneumatic powered saws.

4. Cutting Operation

- 4.1 Do not cut with personnel directly in line with the blade.
- 4.2 Plan the cutting sequence so that the bottom horizontal cut is not the last one to be completed to prevent the work piece from settling on and causing damage to the saw or blade.
- 4.3 Notify the owner or contracting agency when the hole/opening is completed so that they can provide fall protection in accordance with OSHA standard 1926.501(b).

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