



# Specification

**Title:** Flat Sawing  
**Specification No.:** CSDA-F-102  
**Effective Date:** Jun 1, 1998  
**Revised:** Dec 14, 2012

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## 1. Codes, Standards & Definitions

- 1.1. Occupational Safety and Health Administration - Safety and Health Standards Digest Construction Industry (OSHA) - 3149/1996).
- 1.2. ANSI B-7.1 and B-7.5 Standards.
- 1.3. The cutting contractor shall adhere to all applicable safety guidelines in accordance with Federal, State and local ordinances.
- 1.4. Definitions:
  - 1.4.1. Owner – Legal owner of the structure being cut and consequently, the owner of the holes/openings created by the cutting contractor.
  - 1.4.2. Contracting agency – The contractor hired directly or indirectly by the owner that is sub-letting the cutting requirements to a cutting contractor.
  - 1.4.3. Cutting contractor – The contractor hired to perform the actual cutting operation.
  - 1.4.4. Slurry – The liquid material comprised of water and cuttings generated when the owner's structure is cut using a water coolant.
  - 1.4.5. 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.
  - 1.4.6. 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 with the cutting contractor.

## 2. Prerequisites

- 2.1. Normal and customary equipment used on a flat saw job include:
  - 2.1.1. Provided by cutting contractor for normal outside work:
    - 2.1.1.1. Flat saw powered by gas, propane or diesel of the appropriate horsepower and design to accomplish the job requirements
    - 2.1.1.2. Diamond blades and blade guards of sufficient sizes to complete the job
    - 2.1.1.3. Layout, marking, and measuring equipment adequate for the job
    - 2.1.1.4. Hand tools pertinent to the saw being used
    - 2.1.1.5. Vacuuming equipment for slurry control
    - 2.1.1.6. Equipment adequate to cut corners if over cuts are not allowed. i.e. core drill, chain saw, hand saw, etc.
  - 2.1.2. Provided by cutting contractor for normal inside work:
    - 2.1.2.1. Flat saw powered by electric or air power of the appropriate horsepower and design to accomplish the job requirements
    - 2.1.2.2. Diamond blades and blade guards of sufficient sizes to complete the job
    - 2.1.2.3. Layout, marking, and measuring equipment adequate for the job
    - 2.1.2.4. Hand tools pertinent to the saw being used
    - 2.1.2.5. Vacuuming equipment for slurry control
    - 2.1.2.6. Equipment adequate to cut corners if over cuts are not allowed (i.e. core drill, chain saw, hand saw, etc.)

- 2.1.2.7. Fall protection in accordance with OSHA standard 1926.501(b) for all holes / openings created by the cutting contractor.
- 2.1.3. Provided by owner or contracting agency:
  - 2.1.3.1. Plastic sheeting
  - 2.1.3.2. Storage for water or slurry
  - 2.1.3.3. Shoring for managing the piece to be removed
  - 2.1.3.4. Sump area and sump pump
  - 2.1.3.5. Ventilation appropriate for the saws used by the cutting contractor
  - 2.1.3.6. Supplies to shore or hold openings securely in place after cutting
- 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 operations. Additionally, 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.
- 2.3. It is the responsibility of the owner or owner's agent to provide water and power 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 created 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 or embedment?
- 2.6. It is the responsibility of the owner or contracting agent to notify the cutting contractor if the saw cuts are to be made on a slab on grade. If the cuts are to be above open space, it is the owner or contracting agency responsibility to provide damage control and protect for human life.
- 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.
- 2.8. 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.
  - 2.8.1. 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.

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- 2.9. 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 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.
- 2.10. The owner or contracting agency shall be responsible for providing proper, safe, and appropriate disposal of slurry.
  - 2.10.1. 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.
- 2.11. Adequate safety provisions must be provided by the owner or contracting agency to protect the operator's work area, as well as below, above, and adjacent to the area being cut.
  - 2.11.1. Safe access to and from the work area shall also be provided by the owner or contracting agency.
  - 2.11.2. Barricades, cones, and/or red "warning" tape as appropriate to keep unauthorized people out of the work area shall be provided by the owner or contracting agency.
- 2.12. In the case where cuts are to be made above an open space, the owner or contracting agency shall be responsible for designing and installing any bracing or shoring required to make sure that the material being sawn free is supported in a safe and effective manner so that when the opening is cut free, it is retained, in place, causing no damage to persons, equipment or adjacent structures.
- 2.13. The owner or contracting agency shall isolate or protect the other structures or facilities that are part of or adjacent to the structure being cut.

### 3. Sawing Set-up Procedures

Except when the cutting contractor determines that any of the following steps do not apply to a particular work or that other steps are appropriate:

- 3.1 A concrete flat saw (slab saw, pavement saw, floor saw) of the correct type and horsepower and diamond blades and blade guards of the correct size shall be supplied by the cutting contractor.
  - 3.1.1 The cutting contractor's equipment must comply with all applicable OSHA standards.
- 3.2 Clean and inspect the blade flanges and arbor for damage before mounting any blade.
- 3.3 Inspect diamond blade for the condition of the segments and core. Do not use the blade if any of the following conditions exist: core cracks or missing or broken segments or loss of tension.
- 3.4 Check to confirm blades are of proper specification for the material being cut.
- 3.5 When sawing interior 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 air powered saws.

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- 3.6 Inspect any air, hydraulic, electric or water lines or cords attached to the flat saw for proper condition and fit. Repair or replace as required.
- 3.7 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.
- 3.8 The owner or contracting agency shall provide fall protection for all holes/openings created by the cutting contractor.

**4. Cutting Operation**

Except when the cutting contractor determines that any of the following steps do not apply to a particular work or that other steps are appropriate:

- 4.1 Blades and blade guards should be properly fastened to the saw as per saw manufacturer’s specifications.
- 4.2 The saw should be operated according to the saw manufacturer’s specifications.
- 4.3 When needed, place partitions, barricades or caution tape around work areas to prevent unauthorized personnel from having access to the work area.
- 4.4 Allow no personnel to be in-line with the blade while it is rotating.
- 4.5 Never allow the saw to run un-attended.
- 4.6 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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