

Span Notes



No. 9

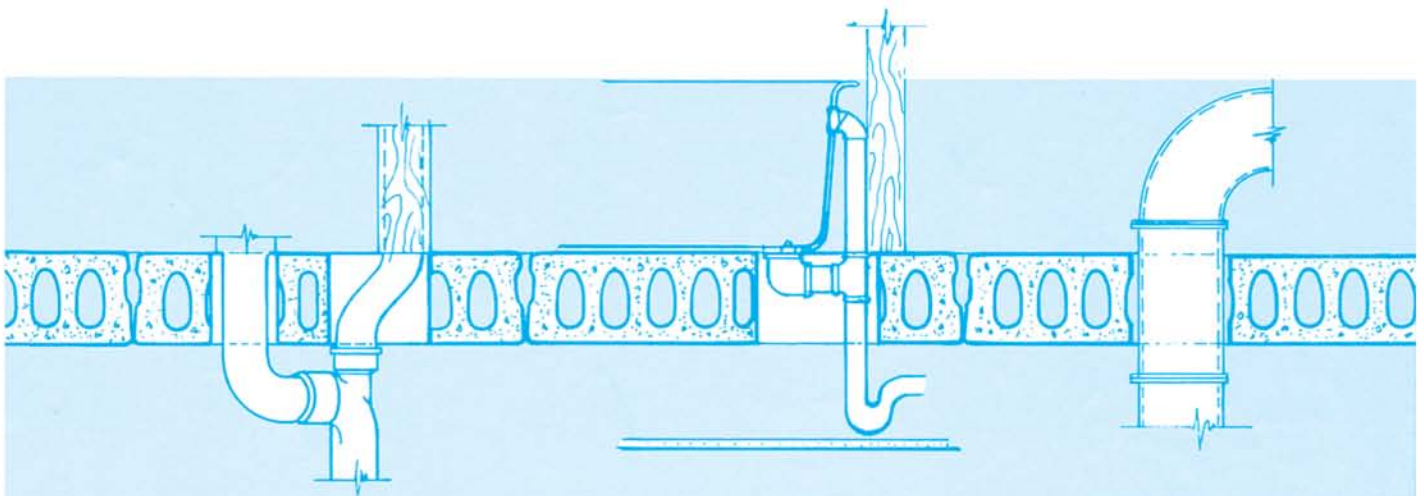
Cutting and Drilling Openings in Spancrete® Is Easy

All projects built with hollowcore plank floors and roofs as well as all other structural systems require holes and openings for plumbing, electrical, and HVAC. These projects also require fastening various items such as piping and conduit to the ceiling.

Large openings (identified as those over 10 inches) are designed for and usually provided by the Spancrete manufacturer. These openings must be shown on the approved shop drawings.

Small openings (10 inches or less), as with most other systems, are the responsibility of the respective trades. Cutting small openings and fastening items to Spancrete is often easier and less expensive than other systems because of the hollow cores.

This information is intended to illustrate and provide guidelines for the standard methods currently in use.



Small Round Holes

Holes up to 1 inch in diameter required for small conduit and piping are easily drilled with readily available carbide bits. To drill these small holes, hand held rotary hammers or electric drills are usually used.

- Drilling at the center of the core area is easiest because the flange is thinnest at the top and bottom of the core.
- Use a bit of sufficient length.
- Avoid spalling by first drilling a 1/4-inch pilot hole completely through the plank using light pressure when exiting the other side, then use the required size bit and drill from both top and bottom.
- Do not use hammer and chisel.
- Follow proper safety procedures.



To avoid spalling, drill into the core area first from one side, then from the other.

Large Round Holes

Round openings of any kind are not performed by the Spancrete supplier but are the responsibility of the respective trades. Opening sizes beyond the capacity of carbide bits generally are made using diamond core drilling equipment. Standard equipment will handle up to 16-inch diameter bits and drill through a 13-inch deep section. Diamond bits are available for either wet or dry cutting.

- Easiest cuts are made at the core area between the webs.
- Unless shown on the approved shop drawings, no strands may be cut without permission from your Spancrete manufacturer.
- Check with other trades on lower level prior to using diamond bits requiring water.
- Minimize spalling by applying only light pressure when cutting through exit side. It is relatively easy to control bit pressure when using diamond core drilling equipment.
- Cutting strand will decrease bit life.
- Follow proper safety procedures.



Square and Rectangular Openings

Square and rectangular openings larger than 10 inches generally are provided by the Spancrete manufacturer and are shown on the approved shop drawings. Openings smaller than 10 inches are usually cut by the respective trades. A small, hand-held saw with a masonry or diamond blade is often used for cutting these square and rectangular openings.

- Respective trades should cut openings only after the grouting is complete and cured.
- Do not cut strands without permission of the Spancrete manufacturer unless shown on the approved shop drawings.
- Lay out openings on top of the deck and drill 1/4-inch pilot holes at the corners to locate the opening below.
- Lay out the opening on the underside using the pilot holes.
- From below make a cut around the opening perimeter approximately 4 inches in depth using a concrete saw.
- Immediately support the cut area from below with temporary shoring.
- From above make a cut around the opening perimeter.
- Using a maximum 2 1/2 pound mall, break up the piece cut for easy removal.
- Avoid overcutting into the adjacent prestressed strand.
- It is the responsibility of the respective trade to *always* cover the opening to avoid injury.
- Follow all other proper safety procedures.



1. Cut around perimeter of opening from below.



2. After shoring the underside, cut around perimeter on top.



3. Break out remaining concrete with a mall.