

**Cutting, Notching
Boring Holes
in
Studs, Rafters, Joists**

City of Millbrae
Community Development
Department
Building Division

621 Magnolia Ave.
Millbrae, Ca. 94030
Building Division

650-259-2330
Fax 650-697-2657

Website - www.ci.millbrae.ca.us

Cutting, Notching and hole boring in Wall Studs, Floor Joists, Ceiling Joist and Roof Rafters have ver specific limitations. those limitations are provided in this handout.

If you are unsure about a specific problem, case or condition please contact the Building Division and ask questions BEFORE doing any cutting, notching or hole boring.

California Building Code sections are listed here with there text. Diagrams are also being provided to clarify the code text.

CBC 2320.11.7 Pipes in walls

Stud partitions containing plumbing heating, or other pipes shall be so framed and the joists underneath s spaced as to give proper clearance for the piping. Where a partition containing such piping runs parallel to the floor joist, the joists underneath such partitions shall be doubled and spaced to permit the passage of such pipes and shall be doubled and spaced to permit passage of such pipes and shall be bridged. Where plumbing, heating or other piping are placed in or partly in a partition, necessitating the cutting of the sole or top plates, a metal tie not less than 0.058inch (1.47mm) (16

galvanized gage)) and 1 ½ inches (38mm) wide shall be fastened to each plate across and to each side of the opening with not less than six 16d nails.

2320.11.9 Cutting and Notching of Wall Studs.

In exterior walls and bearing partitions, any wood stud may be cut or notched to a depth not exceeding25 percent of its width. Cutting or notching of studs to a depth not greater than 40 percent of the width of the stud is permitted in nonbearing partitions supporting no loads other than the weight of the partition.

2320.11.10 Bored Holes in Wall Studs.

A hole not greater in diameter tan 40 percent of the stud width may be bored in any wood stud. Bored holes not greater than 60 percent of the width of the stud are permitted in non bearing partitions or in any wall where each bored stud is doubled, provided not more than two such successive doubled studs are so bored.

2320.12.4 Notches and Holes in Roof and Ceiling Framing.

Notching at the ends of rafters or ceiling joists shall not exceed one forth

(1/4) the depth. Notches in the top or bottom of the rafter or ceiling joist shall not exceed one sixth (1/6) the depth and shall not be located in the middle one third (1/3) of the span, except that a notch not exceeding one third (1/3) of the depth is permitted in the top of the rafter or ceiling joist not further from the face of the support than the depth of the member.

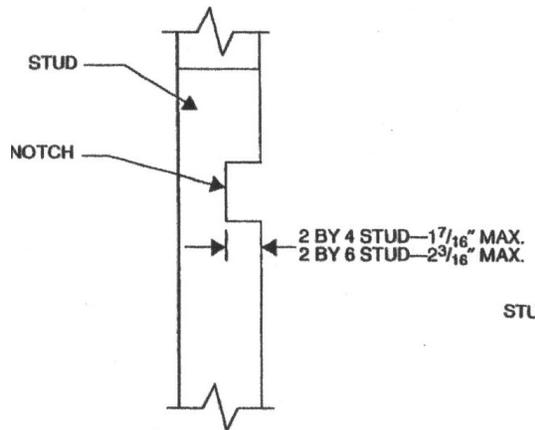
Holes bored in rafters or ceiling joists shall not be within 2 inches (51mm) of the top or bottom and the diameter shall not exceed one third (1/3) the depth of the member.

CAUTION !!!

Before cutting ANY Beam, Glue Lam, Engineered Joist or Rafters you must have the Structural Engineer give clear instructions how and where holes can be cut, notched or bored.

Cutting , notching or boring holes without the engineers permission will cause delays in the job progress and could require replacement of the beam or other structural member at the expense of whoever cut, notched or bored the hole.

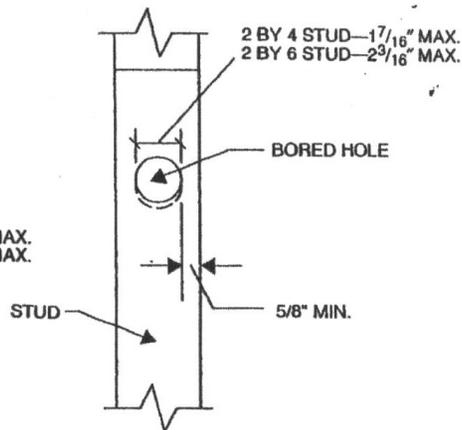
CUTTING AND NOTCHING



40% ALLOWED
NONBEARING PARTITIONS

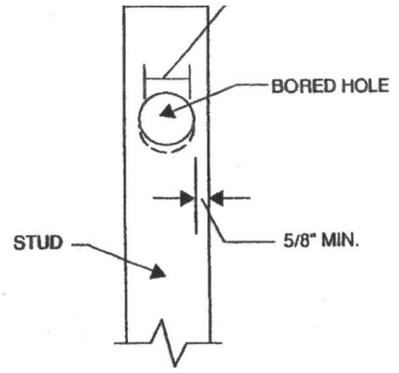
DRAWING 1

BORED HOLES



40% ALLOWED ANY WALL

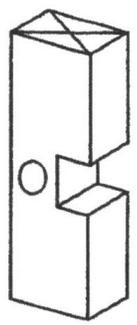
DRAWING 3



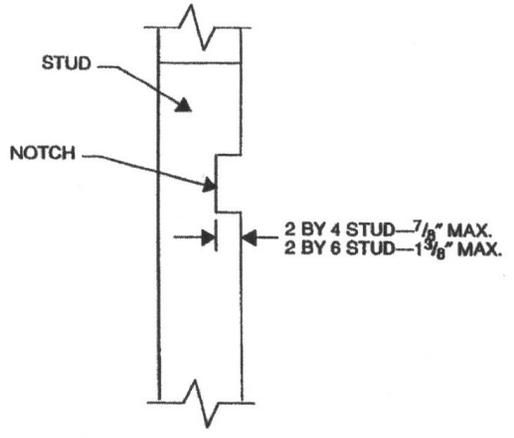
60% ALLOWED
ANY NONBEARING WALL
OR EACH BORED STUD DOUBLED
BORED HOLE NOT PERMITTED IN
MORE THAN TWO SUCCESSIVE
DOUBLED STUDS

DRAWING 4

**NOTCH AND HOLE
AT SAME LOCATION
NOT PERMITTED**



PROHIBITED CONDITION



25% ALLOWED
EXTERIOR WALLS AND
BEARING PARTITIONS

DRAWING 2

