

WEB HOLE SPECIFICATIONS

DUCT HOLES

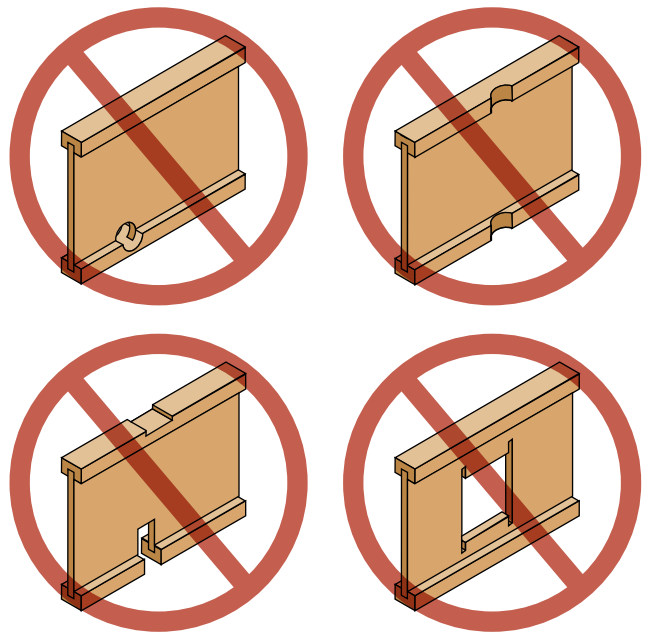
Minimum Distance 'D' From Any Support to the Centerline of the Hole

Joist Series	Joist Span (ft)	Duct Hole Width				
		8"	10"	12"	14"	16"
20	8	3'-7"	3'-8"	3'-9"		
	12	5'-5"	5'-7"	5'-8"		
	16	7'-3"	7'-5"	7'-7"		
	20	9'-1"	9'-4"	9'-6"		
30	8	3'-9"	3'-10"	3'-11"		
	12	5'-8"	5'-9"	5'-11"		
	16	7'-7"	7'-8"	7'-10"		
	20	9'-5"	9'-8"	9'-10"		
40/60	8	3'-7"	3'-8"	3'-10"	3'-11"	
	12	5'-5"	5'-7"	5'-9"	5'-10"	
	16	7'-3"	7'-5"	7'-8"	7'-10"	
	20	9'-1"	9'-4"	9'-7"	9'-9"	
	24	10'-11"	11'-2"	11'-6"	11'-9"	
	28	12'-8"	13'-1"	13'-5"	13'-8"	
50	8	3'-8"	3'-9"	3'-10"	3'-11"	
	12	5'-6"	5'-7"	5'-9"	5'-11"	
	16	7'-4"	7'-6"	7'-8"	7'-11"	
	20	9'-2"	9'-5"	9'-8"	9'-11"	
	24	11'-0"	11'-3"	11'-7"	11'-11"	
	28	12'-10"	13'-2"	13'-6"	13'-11"	
70	12	5'-3"	5'-5"	5'-7"	5'-9"	5'-11"
	16	7'-1"	7'-3"	7'-5"	7'-8"	7'-10"
	20	8'-10"	9'-1"	9'-4"	9'-7"	9'-10"
	24	10'-7"	10'-11"	11'-2"	11'-6"	11'-10"
	28	12'-5"	12'-9"	13'-1"	13'-5"	13'-9"
	32	14'-2"	14'-7"	14'-11"	15'-4"	15'-9"
80	12	5'-4"	5'-6"	5'-7"	5'-9"	5'-10"
	16	7'-2"	7'-4"	7'-6"	7'-8"	7'-10"
	20	9'-0"	9'-2"	9'-5"	9'-7"	9'-9"
	24	10'-9"	11'-0"	11'-3"	11'-6"	11'-9"
	28	12'-7"	12'-11"	13'-2"	13'-6"	13'-8"
	32	14'-5"	14'-9"	15'-1"	15'-5"	15'-8"
77 (depths to 20")	12	5'-7"	5'-8"	5'-10"	5'-11"	
	16	7'-5"	7'-7"	7'-10"	7'-11"	
	20	9'-4"	9'-6"	9'-9"	9'-11"	
	24	11'-2"	11'-5"	11'-9"	11'-11"	
	28	13'-0"	13'-4"	13'-8"	13'-11"	
	32	14'-11"	15'-3"	15'-8"	15'-11"	
90 (depths to 20")	12	5'-7"	5'-8"	5'-10"	5'-11"	
	16	7'-5"	7'-7"	7'-9"	7'-11"	
	20	9'-4"	9'-6"	9'-8"	9'-11"	
	24	11'-2"	11'-5"	11'-8"	11'-10"	
	28	13'-1"	13'-4"	13'-7"	13'-10"	
32	14'-11"	15'-3"	15'-7"	15'-10"		

For depths greater than 20", use beam sizing software to size and locate duct holes.

GENERAL NOTES

1. Table values apply to joists sized by means of the load or span tables in this publication. Use beam sizing software for a more precise analysis or to analyze conditions outside of the scope of these tables.
2. Web holes may be located anywhere between the joist flanges. Leave at least 1/8 inch clearance between the edges of holes and the flanges.
3. Do not cut rectangular holes, or round holes larger than 1 1/2 inch diameter, in cantilevers.
4. The horizontal clearance between the edges of adjacent holes must be at least twice the diameter (or longest side) of the larger hole. Exception: A 1 1/2 inch diameter hole may be drilled anywhere in the web. Provide at least 3 inches of horizontal clearance from adjacent holes of any size.
5. 1 1/2 inch diameter holes are factory-scored in the web at 16 inches on center.

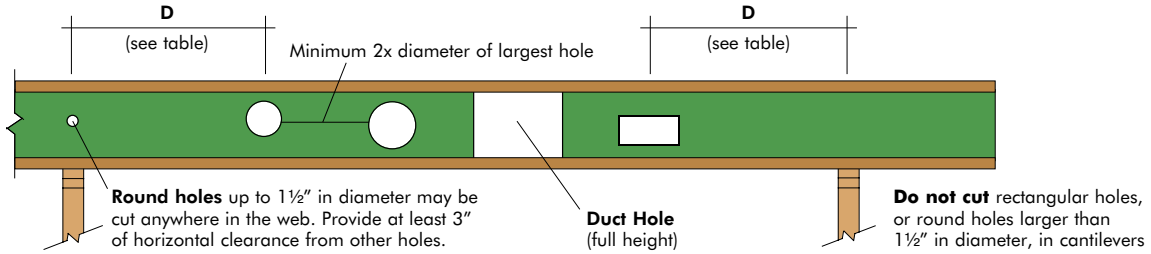


Never drill, cut or notch the flange, or over-cut the web.

Holes in webs should be cut with a sharp saw.

For rectangular holes, avoid over cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1" diameter hole in each of the 4 corners and then making the cuts between the holes is another good method to minimize damage to I-joists.

WEB HOLE SPECIFICATIONS



ROUND AND RECTANGULAR HOLES

		Minimum Distance 'D' From Any Support to the Centerline of the Hole													
Round Hole Diameter		2"	3"	4"	5"	6"	6¼"	8⁵⁄₈"	10"	10¾"	12"	12¾"	14¾"	16¾"	
Rectangular Hole Side		1½"	2¼"	3"	3¾"	4½"	4⁵⁄₈"	6³⁄₈"	7½"	8"	9"	9½"	11"	12½"	
9¼" Joist	Span (ft)	8	1'-1"	1'-8"	2'-2"	2'-9"	3'-3"								
		12	1'-8"	2'-6"	3'-3"	4'-1"	4'-11"								
		16	2'-2"	3'-3"	4'-4"	5'-5"	6'-6"								
9½" Joist	Span (ft)	8	1'-1"	1'-7"	2'-1"	2'-8"	3'-2"	3'-3"							
		12	1'-7"	2'-4"	3'-2"	3'-11"	4'-9"	4'-11"							
		16	2'-1"	3'-2"	4'-3"	5'-3"	6'-4"	6'-7"							
11⅞" Joist	Span (ft)	8	1'-1"	1'-2"	1'-7"	2'-0"	2'-5"	2'-7"	3'-7"						
		12	1'-1"	1'-9"	2'-5"	3'-0"	3'-8"	3'-10"	5'-5"						
		16	1'-5"	2'-4"	3'-2"	4'-1"	4'-11"	5'-2"	7'-2"						
		20	1'-10"	2'-11"	4'-0"	5'-1"	6'-2"	6'-5"	9'-0"						
14" Joist	Span (ft)	12	1'-1"	1'-2"	1'-5"	2'-0"	2'-8"	2'-10"	4'-3"	5'-1"	5'-6"				
		16	1'-1"	1'-2"	1'-11"	2'-9"	3'-6"	3'-9"	5'-8"	6'-9"	7'-4"				
		20	1'-1"	1'-5"	2'-5"	3'-5"	4'-5"	4'-8"	7'-1"	8'-5"	9'-3"				
		24	1'-1"	1'-8"	2'-10"	4'-1"	5'-4"	5'-7"	8'-6"	10'-2"	11'-1"				
16" Joist	Span (ft)	12	1'-1"	1'-2"	1'-2"	1'-3"	1'-5"	1'-6"	3'-0"	3'-10"	4'-3"	5'-1"	5'-6"		
		16	1'-1"	1'-2"	1'-2"	1'-3"	1'-10"	2'-1"	4'-0"	5'-1"	5'-9"	6'-9"	7'-4"		
		20	1'-1"	1'-2"	1'-2"	1'-3"	2'-4"	2'-7"	5'-0"	6'-5"	7'-2"	8'-5"	9'-2"		
		24	1'-1"	1'-2"	1'-2"	1'-7"	2'-9"	3'-1"	6'-0"	7'-8"	8'-7"	10'-1"	11'-0"		
		28	1'-1"	1'-2"	1'-2"	1'-10"	3'-3"	3'-7"	7'-0"	8'-11"	10'-0"	11'-10"	12'-10"		
18" Joist	Span (ft)	12	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-7"	2'-6"	2'-11"	3'-9"	4'-2"	5'-5"	
		16	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	2'-2"	3'-3"	3'-11"	5'-0"	5'-7"	7'-3"	
		20	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	2'-8"	4'-1"	4'-11"	6'-2"	7'-0"	9'-1"	
		24	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	3'-2"	4'-11"	5'-10"	7'-5"	8'-5"	10'-11"	
		28	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	3'-9"	5'-9"	6'-10"	8'-8"	9'-9"	12'-9"	
20" Joist	Span (ft)	16	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-4"	1'-10"	2'-5"	3'-6"	4'-1"	5'-9"	7'-4"
		20	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-4"	2'-3"	3'-1"	4'-4"	5'-1"	7'-2"	9'-2"
		24	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-4"	2'-9"	3'-8"	5'-2"	6'-1"	8'-7"	11'-0"
		28	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-4"	3'-2"	4'-3"	6'-1"	7'-2"	10'-0"	12'-10"
		32	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-5"	3'-8"	4'-11"	6'-11"	8'-2"	11'-5"	14'-8"
22" Joist	Span (ft)	16	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	2'-7"	3'-4"	3'-9"	4'-5"	4'-10"	6'-0"	7'-1"
		20	1'-1"	1'-2"	1'-2"	1'-3"	1'-5"	1'-7"	3'-2"	4'-2"	4'-8"	5'-7"	6'-1"	7'-6"	8'-10"
		24	1'-1"	1'-2"	1'-2"	1'-3"	1'-8"	1'-10"	3'-10"	5'-0"	5'-7"	6'-8"	7'-3"	8'-11"	10'-7"
		28	1'-1"	1'-2"	1'-2"	1'-3"	1'-11"	2'-2"	4'-6"	5'-10"	6'-7"	7'-9"	8'-6"	10'-5"	12'-5"
		32	1'-1"	1'-2"	1'-2"	1'-3"	2'-3"	2'-6"	5'-2"	6'-8"	7'-6"	8'-11"	9'-9"	11'-11"	14'-2"
24" Joist	Span (ft)	16	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-10"	2'-7"	3'-0"	3'-8"	4'-0"	5'-1"	6'-2"
		20	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	2'-3"	3'-2"	3'-8"	4'-6"	5'-0"	6'-4"	7'-8"
		24	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	2'-9"	3'-10"	4'-5"	5'-5"	6'-0"	7'-8"	9'-3"
		28	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	3'-2"	4'-6"	5'-2"	6'-4"	7'-0"	8'-11"	10'-9"
		32	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	3'-8"	5'-2"	5'-11"	7'-3"	8'-1"	10'-2"	12'-4"