



Weights of Building Materials – Pounds Per Square Foot [PSF]

CEILING

Acoustical fiber board ⁽¹⁾	1
Suspended steel channel system ⁽¹⁾	2
Suspended wood channel system	2.5
2x8 ceiling joists @ 16" o.c., R-49 insulation, 1/2" gypsum board	7
1" Plaster	8
1/2" gypsum board ⁽¹⁾	2.2
5/8" gypsum board ⁽¹⁾	2.75

ROOF

Fiberglass shingles	3
Asphalt shingles ⁽¹⁾	2
Wood shingles ⁽¹⁾	3
Spanish clay tile ⁽¹⁾	19
Concrete roof tile	12
Composition Roofing:	
Three-ply ready roofing ⁽¹⁾	1
Four-ply felt and gravel ⁽¹⁾	5.5
Five-ply felt and gravel ⁽¹⁾	6
20 gage metal deck ⁽¹⁾	2.5
18 gage metal deck ⁽¹⁾	3
0.05" thick polyvinyl chloride polymer membrane ⁽⁴⁾	0.35
1" fiberglass batt insulation	0.04
1" loose fiberglass insulation	0.04
1" loose cellulose insulation	0.14
1" rigid insulation ⁽¹⁾	1.5
Blowing wool insulation R-38 (16" deep)	0.62
3/16" slate ⁽¹⁾	7
1/4" slate ⁽¹⁾	10
Single-ply (no ballast) ⁽¹⁾	0.7
Single-ply (ballasted)	11
Dry gravel ⁽¹⁾	8.7
2x8 rafters @ 16" o.c., fiberglass shingles, 15# felt, 3/8" sheathing	8
Skylight: metal frame w/ 3/8" wire glass ⁽¹⁾	8

FLOOR

1" reinforced regular weight concrete	12.5
1" plain lightweight concrete ⁽¹⁾	8
7/16" cementitious backerboard	3
Ceramic or quarry tile (3/4") on 1/2" mortar bed ⁽¹⁾	16
Ceramic or quarry tile (3/4") on 1" mortar bed ⁽¹⁾	23
1" mortar bed	12
1" slate ⁽¹⁾	15
3/8" marble tile	6
3/8" ceramic floor tile ⁽¹⁾	4.7

FLOOR (cont.)

Hardwood flooring, 7/7-in ⁽¹⁾	4
1/4" linoleum or asphalt tile ⁽¹⁾	1
BCI/AJS [®] joists @ 16" o.c., 3/4" sheathing, 1/2" gypsum board	10
3/4" Gyp-Crete [®] topping	6.5
Carpet & Pad	2.0
Waterproofing Membranes	
Bituminous, smooth surface ⁽¹⁾	1.5
Liquid applied ⁽¹⁾	1

SHEATHING

11/32" or 3/8" Plywood – OSB ⁽³⁾	1.0 - 1.2
15/32" or 1/2" Plywood - OSB ⁽³⁾	1.4 - 1.7
19/32" or 5/8" Plywood - OSB ⁽³⁾	1.8 - 2.1
23/32" or 3/4" Plywood - OSB ⁽³⁾	2.2 - 2.5
7/8" Plywood - OSB ⁽³⁾	2.6 - 2.9
1 1/8" Plywood - OSB ⁽³⁾	3.3 - 3.6
1/2" cementitious backerboard	3
1-1/2" softwood T & G decking	4.6

FRAMING

2x4 @ 16" o.c.	1.1
2x6 @ 16" o.c.	1.7
2x8 @ 16" o.c.	2.2
2x10 @ 16" o.c.	2.9
2x12 @ 16" o.c.	3.5
BCI [®] 4500s, 5000 or 5000s @ 12" o.c.	2.0 – 2.9
BCI [®] 4500s, 5000 or 5000s @ 16" o.c.	1.5 – 2.2
BCI [®] 4500s, 5000 or 5000s @ 19.2" o.c.	1.3 – 2.8
BCI [®] 4500s, 5000 or 5000s @ 24" o.c.	1.0 – 1.5
BCI [®] 6000 or 6000s @ 12" o.c.	2.2 – 3.4
BCI [®] 6000 or 6000s @ 16" o.c.	1.7 – 2.6
BCI [®] 6000 or 6000s @ 19.2" o.c.	1.4 – 2.1
BCI [®] 6000 or 6000s @ 24" o.c.	1.1 - 1.7
BCI [®] 60, 60s, 6500 or 6500s @ 12" o.c.	2.3 – 3.8
BCI [®] 60, 60s, 6500 or 6500s @ 16" o.c.	1.7 – 2.9
BCI [®] 60, 60s, 6000 or 6500s @ 19.2" o.c.	1.4 – 2.4
BCI [®] 60, 60s, 6500 or 6500s @ 24" o.c.	1.2 – 1.9
BCI [®] 90 or 90s @ 12" o.c.	3.9 – 4.9
BCI [®] 90 or 90s @ 16" o.c.	2.9 – 3.7
BCI [®] 90 or 90s @ 19.2" o.c.	2.4 – 3.1
BCI [®] 90 or 90s @ 24" o.c.	1.9 – 2.5
AJS [®] 140, 150, 190 or 20 @ 12" o.c.	2.2 – 3.3
AJS [®] 140, 150, 190 or 20 @ 16" o.c.	1.7 – 2.5
AJS [®] 140, 150, 190 or 20 @ 19.2" o.c.	1.4 – 2.1
AJS [®] 140, 150, 190 or 20 @ 24" o.c.	1.1 – 1.7
AJS [®] 25 or 30 @ 12" o.c.	3.1 – 3.9
AJS [®] 25 or 30 @ 16" o.c.	2.3 – 2.9
AJS [®] 25 or 30 @ 19.2" o.c.	1.9 – 2.4
AJS [®] 25 or 30 @ 24" o.c.	1.6 – 2.0



WALL

5/16" x 7-1/2" fiber cement lap siding	3
4" clay brick ⁽¹⁾	39
1/4" ceramic wall tile ⁽¹⁾	3.1
1 3/4" Cultured Stone [®]	12
2x4 studs @ 16" o.c., 5/8" gypsum, insulation, 3/8" siding ⁽¹⁾	11
2x6 studs @ 16" o.c., 5/8" gypsum, insulation, 3/8" siding ⁽¹⁾	12
Wood or steel studs, 1/2" gypsum board each side ⁽¹⁾	8
Exterior stud walls w/ brick veneer ⁽¹⁾	48
Windows: glass, frame and sash ⁽¹⁾	8
Stucco	10
Log Wall: 10" diameter	26
Glass Block	
4" thick - standard (hollow)	20
3" thick - standard (hollow)	16
4" thick - thick face	30
3" thick - solid glass block	40

MISCELLANEOUS

1" of sand	8
1" of water	5.2
Hay: baled (dry) ⁽²⁾	15 PCF ⁽²⁾
Straw: baled (dry) ⁽²⁾	8 PCF ⁽²⁾
Saturated soil (garden/landscaped roof)	135 PCF
Grand Piano	1000 LB

Include at least 1.5 psf in all dead load summations to account for incidentals such as plumbing, ducts, light fixtures, etc.

- (1) *Minimum Design Loads for Buildings and Other Structures, ASCE 7-05.*
- (2) *National Farm Building Code (Canada) 1995. Value in pounds per cubic foot (PCF), multiply by maximum height to obtain PSF.*
- (3) *Approximate Engineering Dead Load Weight of Wood Structural Panels, APA EWS TT-019, 1998.*
- (4) *Duro-Last General Specifications, Duro-Last Roofing, Inc. 2005*