

**UPLIFT CONNECTIONS - 130MPH WINDS EXP. "B"**

CONNECTION	FRAMING SPACING (in.)	ROOF SPAN (ft.)	U	L	5	NUM. OF 8d COM. NAILS OR 10d BOX NAILS IN EA. END OF 1-1/4"x20 GA. STRAP
ROOF ASSEMBLY TO WALL ASSEMBLY	16" O.C.	17	366	246	109R	4
WALL ASSEMBLY TO WALL ASSEMBLY	16" O.C.	17	366	246	109R	4
WALL ASSEMBLY TO FOUNDATION	16" O.C.	17	170	185	436	4

**THERMAL COMPONENT CRITERIA (U-FACTOR AND R-VALUE)**

MINIMUM INSULATION R-VALUE			
MAX. GLAZING U-FACTOR	CEILING	WALLS	FLOORS
.75	R-56	R-13	R-11
			BASEMENT WALLS
			R-5
			CRAWL SPACE WALLS
			R-5

**WALL SHEATH. OR CLAD. REQ. FOR WIND LOAD-EXP. B**

SHEATHING LOCATION	STUD SPAC.	MAX. NAIL SPAC. FOR 8d NAILS (INCHES, O.C.)	E	F
"N" OR ZONE	12" O.C.	6	6	12
	16" O.C.	6	6	12
	24" O.C.	6	6	12
"S" OR ZONE	12" O.C.	6	6	12
	16" O.C.	6	6	12
	24" O.C.	6	6	12

**ROOF UNDERLAYMENT APPLICATION**

FOR ROOF SLOPES FROM TWO UNITS VERTICAL IN 12 UNITS HORIZONTAL (17% PERCENT SLOPE), UP TO FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (33% PERCENT SLOPE), UNDERLAYMENT SHALL BE TWO LAYERS APPLIED IN THE FOLLOWING MANNER:

APPLY A 19 INCH STRIP OF UNDERLAYMENT FELT PARALLEL WITH AND STARTING AT THE EAVES, FASTENED SUFFICIENTLY TO HOLD IN PLACE. STARTING AT THE EAVE, APPLY 36 INCH WIDE SHEETS OF UNDERLAYMENT, OVERLAPPING SUCCESSIVE SHEETS 19 INCHES, AND FASTENED SUFFICIENTLY TO HOLD IN PLACE.

FOR ROOF SLOPES OF FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (33% PERCENT SLOPE) OR GREATER, UNDERLAYMENT SHALL BE ONE LAYER APPLIED IN THE FOLLOWING MANNER:

UNDERLAYMENT SHALL BE APPLIED SHINGLE FASHION, PARALLEL TO AND STARTING FROM THE EAVE AND LAPPED 2 INCHES. FASTENED SUFFICIENTLY TO HOLD IN PLACE. END UNITS SHALL BE OFFSET BY 6 FEET.

**SHINGLE APPLICATION/FASTENING**

ASPHALT STRIP SHINGLES SHALL HAVE A MINIMUM OF SIX FASTENERS PER SHINGLE WHERE THE ROOF IS IN ONE OF THE FOLLOWING CATEGORIES:

1. THE BASIC WIND SPEED IS 120 MPH OR GREATER AND THE EAVE IS 20 FEET OR HIGHER ABOVE GRADE.
2. THE BASIC WIND SPEED IS 120 MPH OR GREATER.
3. SPECIAL WIND ZONES.

**UPLIFT CONNECTIONS**

**ROOF ASSEMBLY TO WALL ASSEMBLY:**

UPLIFT CONNECTIONS SHALL BE FROM RAFTER OR TRUSS TO WALL STUD. WHEN RAFTERS OR TRUSSES ARE NOT LOCATED DIRECTLY ABOVE STUDS, RAFTERS SHALL BE ATTACHED TO THE WALL PLATE AND THE WALL TOP PLATE SHALL BE ATTACHED TO THE STUD. UPLIFT CONNECTIONS SHALL BE IN ACCORDANCE WITH TABLE.

**WALL ASSEMBLY TO WALL ASSEMBLY:**

STORY-TO-STORY UPLIFT CONNECTIONS, FROM UPPER STORY WALL STUD TO LOWER STORY WALL STUD. WHEN UPPER STORY WALL STUDS ARE NOT LOCATED DIRECTLY ABOVE LOWER WALL STUDS, THE STUDS SHALL BE ATTACHED TO A COMMON MEMBER IN THE FLOOR ASSEMBLY BY UPLIFT CONNECTIONS. UPLIFT CONNECTIONS SHALL BE IN ACCORDANCE WITH TABLE.

**WALL ASSEMBLY TO FOUNDATION:**

FIRST FLOOR WALL STUDS SHALL BE CONNECTED TO THE FOUNDATION, SILL PLATE, OR BOTTOM PLATE. A MINIMUM OF A 1-1/4" x 20 GA. 5/16" ASS GR55 STEEL STRAP SHALL BE NAILED TO THE WALL STUDS AND THE FOUNDATION, SILL PLATE, OR BOTTOM PLATE. THE STRAP SHALL BE ATTACHED TO THE WALL STUDS AND THE FOUNDATION, SILL PLATE, OR BOTTOM PLATE, 3 INCH SQUARE WASHERS SHALL NOT EXCEED THE REQUIREMENTS. STEEL BOLT SPACINGS SHALL NOT EXCEED THE REQUIREMENTS. STEEL STRAPS, NAILED IN OR IN CONTACT WITH SPOKES, CHAINS OR WEDGES SHALL BE PROHIBITED. STEEL STRAPS SHALL BE FABRICATED OR MANUF. FROM G185 OR 2450 GALV. STL. CONNECTIONS SHALL BE IN ACCORDANCE WITH TABLE.

**WINDBORNE DEBRIS PROTECTION FASTENING SCHEDULE FOR WOOD STRUCTURAL PANELS**

FASTENER TYPE	FASTENER SPACING		
	4 FOOT PANEL SPAN ≤ 4 FOOT	4 FOOT PANEL SPAN ≤ 6 FOOT	6 FOOT PANEL SPAN ≤ 8 FOOT
2-1/2" x 4" WOOD SCREWS	16"	16"	8"
2-1/2" x 4" WOOD SCREWS	16"	16"	12"

WINDBORNE DEBRIS LOCATED IN WIND BORNE DEBRIS RESISTING WALLS SHALL BE FASTENED TO THE STUDS WITH 2-1/2" x 4" WOOD SCREWS. THE FASTENERS SHALL BE SPACED AS SHOWN IN THE SCHEDULE. PROTECTION IN ONE AND TWO STORY BUILDINGS, RAISED SHALL BE PERMITTED TO COVER THE GABLE STRIPS ONLY. APPROVED FASTENING METHODS.

**HEADER NAILING SCHEDULE**

DESCRIPTION	NUM. OF COM. NAILS	NUM. OF BOX NAILS	SPACING
"S" OR ZONE (FACE-NAIL)	6d	10d	12" O.C. END

NOTE: ALL FASTENERS SHALL HAVE SOLID BLOCKING.

**DESIGN CRITERIA:**

THE CONSTRUCTION FOR SAID RESIDENCE, WHERE BASIC WIND SPEED IS 130 MILES PER HOUR, IS DESIGNED IN ACCORDANCE WITH THE ROOFING ASSOCIATION (ARRA) WOOD FRAME CONSTRUCTION MANUAL FOR ONE AND TWO FAMILY DWELLINGS (WFCM 2001, EDITION AS WELL AS THE INTERNATIONAL RESIDENTIAL CODE (IRC) 2009 EDITION.

**JACK STUD REQUIREMENTS - FOR INTERIOR LOADBEARING WALLS**

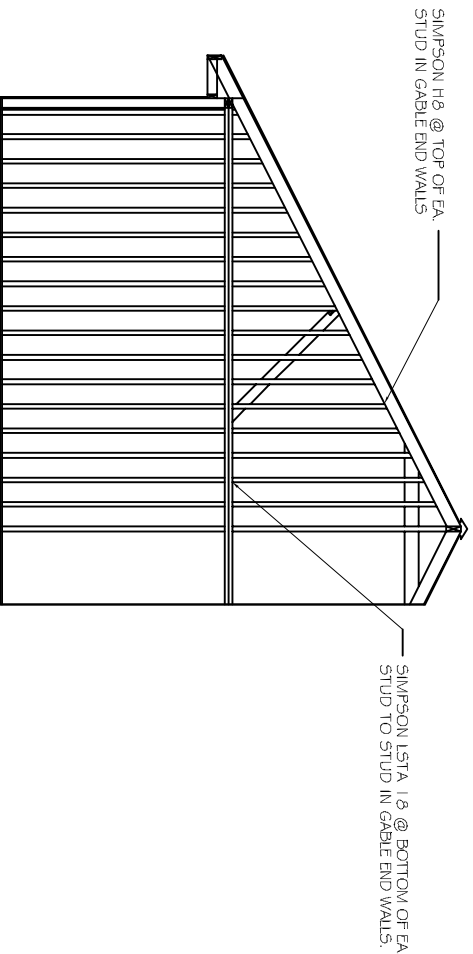
HEADER SPAN (ft.)	ROOF SPAN (ft.)					
	12 FEET	14 FEET	16 FEET	18 FEET	20 FEET	24 FEET
2	1	1	1	1	1	1
4	1	1	1	1	1	1
6	1	1	1	1	1	1
8	1	1	1	1	1	1
10	1	1	1	1	1	1
12	1	1	1	1	1	1
14	2	1	1	1	1	1
16	2	1	1	1	1	1
18	2	1	1	1	1	1
20	2	1	1	1	1	1
24	2	1	1	1	1	1

**SILL OR BOTTOM PLATE TO FND. CONNECTIONS RESISTING UPLIFT LOADS - 130MPH WINDS EXP. "B"**

BOTTOM PLATE TO FND. ANCHOR CONNECTION RESISTING	FOUNDATION SUPPORTING	MAX. ANCHOR BOLT SPACING (in.)	INTERIOR ZONES
Uplift Loads	1-3 STORIES	20	33

**SILL OR BOTTOM PLATE TO FND. CONNECTIONS RESISTING SHEAR LOADS - 130MPH WINDS EXP. "B"**

BOTTOM PLATE TO FND. ANCHOR BOLT CONNECTION RESISTING	FOUNDATION SUPPORTING	MAX. ANCHOR BOLT SPACING (in.)	5/8" ANCH. BOLTS
Shear Loads	1-3 STORIES	30	45



**HEADER SPANS FOR INT. LOADBEARING WALLS**

HEADER SUPPORTING	BLDG WIDTH (ft.)		
	12	24	36
12x24	4.5'	6.1'	8.0'
12x30	6.1'	8.0'	10.0'
12x36	8.0'	10.0'	12.0'
12x42	10.0'	12.0'	15.0'
12x48	12.0'	15.0'	18.0'
12x54	15.0'	18.0'	22.0'
12x60	18.0'	22.0'	27.0'
12x66	22.0'	27.0'	33.0'
12x72	27.0'	33.0'	40.0'
12x78	33.0'	40.0'	48.0'
12x84	40.0'	48.0'	57.0'
12x90	48.0'	57.0'	67.0'
12x96	57.0'	67.0'	78.0'
12x102	67.0'	78.0'	90.0'
12x108	78.0'	90.0'	102.0'
12x114	90.0'	102.0'	114.0'
12x120	102.0'	114.0'	126.0'
12x126	114.0'	126.0'	138.0'
12x132	126.0'	138.0'	150.0'
12x138	138.0'	150.0'	162.0'
12x144	150.0'	162.0'	174.0'
12x150	162.0'	174.0'	186.0'
12x156	174.0'	186.0'	198.0'
12x162	186.0'	198.0'	210.0'
12x168	198.0'	210.0'	222.0'
12x174	210.0'	222.0'	234.0'
12x180	222.0'	234.0'	246.0'
12x186	234.0'	246.0'	258.0'
12x192	246.0'	258.0'	270.0'
12x198	258.0'	270.0'	282.0'
12x204	270.0'	282.0'	294.0'
12x210	282.0'	294.0'	306.0'
12x216	294.0'	306.0'	318.0'
12x222	306.0'	318.0'	330.0'
12x228	318.0'	330.0'	342.0'
12x234	330.0'	342.0'	354.0'
12x240	342.0'	354.0'	366.0'
12x246	354.0'	366.0'	378.0'
12x252	366.0'	378.0'	390.0'
12x258	378.0'	390.0'	402.0'
12x264	390.0'	402.0'	414.0'
12x270	402.0'	414.0'	426.0'
12x276	414.0'	426.0'	438.0'
12x282	426.0'	438.0'	450.0'
12x288	438.0'	450.0'	462.0'
12x294	450.0'	462.0'	474.0'
12x300	462.0'	474.0'	486.0'
12x306	474.0'	486.0'	498.0'
12x312	486.0'	498.0'	510.0'
12x318	498.0'	510.0'	522.0'
12x324	510.0'	522.0'	534.0'
12x330	522.0'	534.0'	546.0'
12x336	534.0'	546.0'	558.0'
12x342	546.0'	558.0'	570.0'
12x348	558.0'	570.0'	582.0'
12x354	570.0'	582.0'	594.0'
12x360	582.0'	594.0'	606.0'
12x366	594.0'	606.0'	618.0'
12x372	606.0'	618.0'	630.0'
12x378	618.0'	630.0'	642.0'
12x384	630.0'	642.0'	654.0'
12x390	642.0'	654.0'	666.0'
12x396	654.0'	666.0'	678.0'
12x402	666.0'	678.0'	690.0'
12x408	678.0'	690.0'	702.0'
12x414	690.0'	702.0'	714.0'
12x420	702.0'	714.0'	726.0'
12x426	714.0'	726.0'	738.0'
12x432	726.0'	738.0'	750.0'
12x438	738.0'	750.0'	762.0'
12x444	750.0'	762.0'	774.0'
12x450	762.0'	774.0'	786.0'
12x456	774.0'	786.0'	798.0'
12x462	786.0'	798.0'	810.0'
12x468	798.0'	810.0'	822.0'
12x474	810.0'	822.0'	834.0'
12x480	822.0'	834.0'	846.0'
12x486	834.0'	846.0'	858.0'
12x492	846.0'	858.0'	870.0'
12x498	858.0'	870.0'	882.0'
12x504	870.0'	882.0'	894.0'
12x510	882.0'	894.0'	906.0'
12x516	894.0'	906.0'	918.0'
12x522	906.0'	918.0'	930.0'
12x528	918.0'	930.0'	942.0'
12x534	930.0'	942.0'	954.0'
12x540	942.0'	954.0'	966.0'
12x546	954.0'	966.0'	978.0'
12x552	966.0'	978.0'	990.0'
12x558	978.0'	990.0'	1002.0'
12x564	990.0'	1002.0'	1014.0'
12x570	1002.0'	1014.0'	1026.0'
12x576	1014.0'	1026.0'	1038.0'
12x582	1026.0'	1038.0'	1050.0'
12x588	1038.0'	1050.0'	1062.0'
12x594	1050.0'	1062.0'	1074.0'
12x600	1062.0'	1074.0'	1086.0'
12x606	1074.0'	1086.0'	1098.0'
12x612	1086.0'	1098.0'	1110.0'
12x618	1098.0'	1110.0'	1122.0'
12x624	1110.0'	1122.0'	1134.0'
12x630	1122.0'	1134.0'	1146.0'
12x636	1134.0'	1146.0'	1158.0'
12x642	1146.0'	1158.0'	1170.0'
12x648	1158.0'	1170.0'	1182.0'
12x654	1170.0'	1182.0'	1194.0'
12x660	1182.0'	1194.0'	1206.0'
12x666	1194.0'	1206.0'	1218.0'
12x672	1206.0'	1218.0'	1230.0'
12x678	1218.0'	1230.0'	1242.0'
12x684	1230.0'	1242.0'	1254.0'
12x690	1242.0'	1254.0'	1266.0'
12x696	1254.0'	1266.0'	1278.0'
12x702	1266.0'	1278.0'	1290.0'
12x708	1278.0'	1290.0'	1302.0'
12x714	1290.0'	1302.0'	1314.0'
12x720	1302.0'	1314.0'	1326.0'
12x726	1314.0'	1326.0'	1338.0'
12x732	1326.0'	1338.0'	1350.0'
12x738	1338.0'	1350.0'	1362.0'
12x744	1350.0'	1362.0'	1374.0'
12x750	1362.0'	1374.0'	1386.0'
12x756	1374.0'	1386.0'	1398.0'
12x762	1386.0'	1398.0'	1410.0'
12x768	1398.0'	1410.0'	1422.0'
12x774	1410.0'	1422.0'	1434.0'
12x780	1422.0'	1434.0'	1446.0'
12x786	1434.0'	1446.0'	1458.0'
12x792	1446.0'	1458.0'	1470.0'
12x798	1458.0'	1470.0'	1482.0'
12x804	1470.0'	1482.0'	1494.0'
12x810	1482.0'	1494.0'	1506.0'
12x816	1494.0'	1506.0'	1518.0'
12x822	1506.0'	1518.0'	1530.0'
12x828	1518.0'	1530.0'	1542.0'
12x834	1530.0'	1542.0'	1554.0'
12x840	1542.0'	1554.0'	1566.0'
12x846	1554.0'	1566.0'	1578.0'
12x852	1566.0'	1578.0'	1590.0'
12x858	1578.0'	1590.0'	1602.0'
12x864	1590.0'	1602.0'	1614.0'
12x870	1602.0'	1614.0'	1626.0'