



LOAD CHARTS

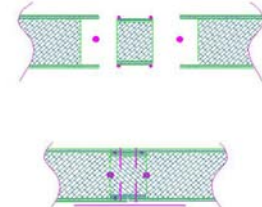
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SIPS: STRUCTURAL INSULATED PANELS

Axial Load Chart 1

ALLOWABLE AXIAL LOADS (plf) for PREMIER TYPE S (SPLINE) SIPS

Panel Core Thickness	Wall Panel Height (ft.)					
	8'	10'	12'	16'	20'	24'
3 1/2"	3500	2553	2452	NA	NA	NA
5 1/2"	4250	4042	3373	3358	NA	NA
7 1/4"	4917	4325	4473	4194	3496	NA
9 1/4"	4200	4200	4200	4200	3389	NA
11 1/4"	3890	3890	3890	3890	3890	NA

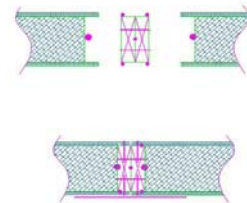


Axial loads represent ultimate load divided by a safety factor of 3.
 Loads do not reflect secondary effect of $P\Delta$.
 More information on this chart can be found in Technical Bulletin #4 (www.pbssips.com).

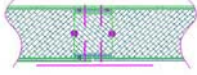
Axial Load Chart 2

ALLOWABLE AXIAL LOADS (plf) for PREMIER TYPE L (LUMBER) SIPS

Panel Core Thickness	Wall Panel Height (ft.)					
	8'	10'	12'	16'	20'	24'
3 1/2"	4723	3903	3094	2350	NA	NA
5 1/2"	5849	5889	4278	4311	NA	NA
7 1/4"	6850	6111	5556	5181	4835	NA
9 1/4"	5470	5470	5470	5470	5470	4250
11 1/4"	4500	4333	4167	3750	3750	3333



Axial loads represent ultimate load divided by a safety factor of 3.
 Loads do not reflect secondary effect of $P\Delta$.
 2x's are spaced 4' on center.
 More information on this chart can be found in Technical Bulletin #4 (www.pbssips.com).



Transverse Load Chart 3

PREMIER SIPS TYPE S (SPLINE) TRANSVERSE LOAD CHART (psf)

Panel Core Thickness	Deflection	Panel Span (ft.)									
		4'	8'	10'	12'	14'	16'	18'	20'	22'	24'
3 1/2"	L/360	99	38	28	21	16	10	NA	NA	NA	NA
	L/240	151	54	43	32	24	16				
	L/180	154*	61*	57	45	34	21				
5 1/2"	L/360	102	49	38	30	24	18	14	11	NA	NA
	L/240	159	78	57	45	32	28	22	16		
	L/180	166*	80*	60*	46*	40*	34*	29	21		
7 1/4"	L/360	119	59	60	41	34	26	20	15	NA	NA
	L/240	160*	84	75*	60	50	39	31	23		
	L/180	160*	85*	75*	69*	60*	50*	41	31		
9 1/4"	L/360	138	78	64	53	41	33	27	22	20	17
	L/240	160*	86*	65*	57*	51*	46*	41	34	29	25
	L/180	160*	86*	65*	57*	51*	46*	42*	39*	37*	34
11 1/4"	L/360	115	94*	75	51	49	47	38	28	24	21
	L/240	160*	94*	76*	59*	55*	51*	45*	39*	36	31
	L/180	160*	94*	76*	59*	55*	51*	45*	39*	36*	33*

Maximun Floor Span

Maximun Roof Span

Notes:

* indicates ultimate load divided by 3 for the design capacity.

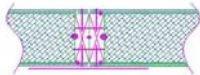
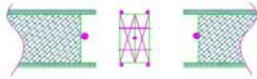
4' span is a minimum two span condition.

SIPs require a minimum of 1-1/2" bearing.

Floor SIPs should have a 3/4" minimum top skin or a 7/16" top skin overlaid with 7/16" finish flooring perpendicular to the SIP panels.

More information on this chart can be found in Technical Bulletin #18 (www.pbssips.com).

Refer to Technical Bulletin #21 for floor applications (www.pbssips.com).



Transverse Load Chart 4

PREMIER SIPS TYPE L (Lumber) TRANSVERSE LOAD CHART (psf)

Panel Core Thickness	Deflection	Panel Span (ft.)									
		4'	8'	10'	12'	14'	16'	18'	20'	22'	24'
3 1/2"	L/360	98	45	32	24	16	11	NA	NA	NA	NA
	L/240	225	67	47	34	24	16				
	L/180	298*	90	61	44	34	22				
5 1/2"	L/360	241	128	57	41	32	25	20	15	NA	NA
	L/240	288*	182*	86	60	49	37	29	22		
	L/180	288*	182*	112*	79	65	49	39	29		
7 1/4"	L/360	241	168	80	65	54	42	33	24	NA	NA
	L/240	288*	188*	126	99	81	61	49	34		
	L/180	288*	188*	133*	117*	105	80	62	44		
9 1/4"	L/360	274	188*	116	100	80	58	47	36	32	28
	L/240	326*	188*	147*	134*	120	90	70	52	46	41
	L/180	326*	188*	147*	134*	121*	108*	93	68	61	53
11 1/4"	L/360	327*	188*	167*	140	116	90	75	57	47	36
	L/240	327*	188*	167*	153*	132*	110*	97*	83*	69	53
	L/180	327*	188*	167*	153*	132*	110*	97*	83*	83*	70

Maximun Floor Span

Maximun Roof Span

Notes:

* indicates ultimate load divided by 3 for the design capacity.

2X's are Hem-Fir #2 or equivalent.

4' span is a minimum two span condition.

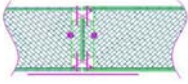
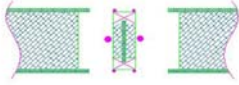
SIP panels require a minimum of 1-1/2" bearing.

Lumber splines are spaced 4' o.c.

Floor SIPs should have a 3/4" minimum top skin or a 7/16" top skin overlaid with 7/16" finish flooring perpendicular to the SIP panels.

More information on this chart can be found in Technical Bulletin #19 (www.pbssips.com).

Refer to Technical Bulletin #21 for floor applications (www.pbssips.com).



Transverse Load Chart 5

PREMIER SIPS TYPE I (I-Joist) TRANSVERSE LOAD CHART (psf)

Panel Core Thickness	Deflection	Panel Span (ft.)									
		4'	8'	10'	12'	14'	16'	18'	20'	22'	24'
7 1/4"	L/360	132	136	93	60	48	40	29	21	NA	NA
	L/240	318*	148*	107*	91	70	54	42	31		
	L/180	318*	148*	107*	92*	85	54	48	40		
9 1/4"	L/360	197	164*	124*	72	66	61	48	34	29	24
	L/240	318*	164*	124*	107*	96*	84*	70	49	43	36
	L/180	318*	164*	124*	107*	96*	84*	76*	65	56	47
11 1/4"	L/360	258	143*	103*	86	83	77*	61	42	37	31
	L/240	318*	143*	103*	93*	85*	77*	68*	59*	54*	47
	L/180	318*	143*	103*	93*	85*	77*	68*	59*	54*	49*

Maximum Floor Span

Maximum Roof Span

Notes:

* indicates ultimate load divided by 3 for the design capacity.

4' span is a minimum two span condition.

SIPs require a minimum of 1-1/2" bearing.

I-Joist splines are spaced 4' o.c.

Floor SIPs should have a 3/4" minimum top skin or a 7/16" top skin overlaid with 7/16" finish flooring perpendicular to the SIP panels.

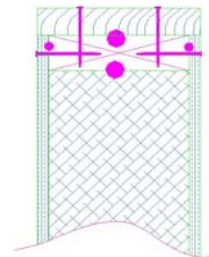
More information on this chart can be found in Technical Bulletin #13 (www.pbssips.com).

Refer to Technical Bulletin #21 for floor applications (www.pbssips.com).

Load Chart 6

POINT LOAD DESIGN VALUES ON PREMIER WALL SIPS

	1 1/2" min. bearing width	3" min. bearing width
Standard Detail	2040 lbs.	2450 lbs.
Additional Cap Plate	4030 lbs.	4678 lbs.



More information on this chart can be found in PBS Technical Bulletin #2 at www.pbssips.com.

Refer to PBS Detail-010 for cap plate detail. (www.pbssips.com)

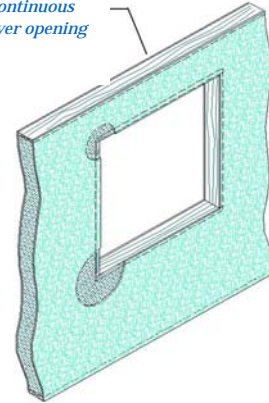
Load Chart 7

ALLOWABLE HEADER LOADS (PLF)

CONDITION 1: SIP PANEL IS CONTINUOUS OVER OPENING (NO SPLINES)

Header Depth	Deflection	Header Span (ft.)			
		4'	6'	8'	10'
12"	L/480	740*	385*	229*	142*
	L/360	740*	385*	229*	142*
	L/240	740*	385*	229*	142*
18"	L/480	798*	574*	385*	311*
	L/360	798*	574*	385*	311*
	L/240	798*	574*	385*	311*
24"	L/480	886*	629*	429*	361*
	L/360	886*	629*	429*	361*
	L/240	886*	629*	429*	361*

Continuous over opening



Notes:

* indicates ultimate load divided by 3 for the design capacity.

- In all cases where a concentrated load is placed over an opening or the design loads exceed the capacity of a SIP panel header, Premier Insul-Beam should be used if possible or an engineered header assembly is required.

- More information on this chart can be found in Technical Bulletin #10 (www.pbssips.com).

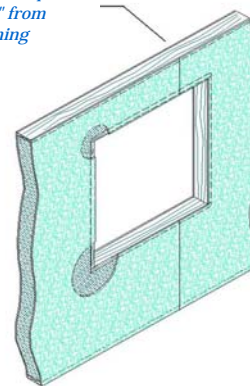
Load Chart 8

ALLOWABLE HEADER LOADS (PLF)

CONDITION 2: PANEL IS NOT CONTINUOUS OVER OPENING (SPLINES)

Header Depth	Deflection	Header Span (ft.)			
		4'	6'	8'	10'
12"	L/480	345	243	156	99
	L/360	450	295	190	125
	L/240	630	382	236*	153*
18"	L/480	705	388	254	235
	L/360	750*	482	302*	281*
	L/240	750*	482	302*	281*
24"	L/480	698	582*	368*	350*
	L/360	895*	582*	368*	350*
	L/240	895*	582*	368*	350*

SIP's wall panel spline minimum 6" from edge of opening

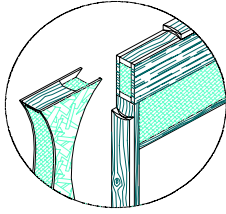


Notes:

* indicates ultimate load divided by 3 for the design capacity.

- In all cases where a concentrated load is placed over an opening or the design loads exceed the capacity of a SIP panel header, Premier Insul-Beam should be used if possible or an engineered header assembly is required.

- More information on this chart can be found in Technical Bulletin #10 (www.pbssips.com).



Load Chart 9
PREMIER INSUL-BEAM II HEADER LOADS (PLF)

Number of Trimmer Studs	Deflection	Header Span (ft.)							
		2'	3'	4'	5'	6'	7'	8'	
1	L/480	3150	2100	1575	1260	1050	900	788	
	L/360	3150	2100	1575	1260	1050	900	788	
	L/240	3150	2100	1575	1260	1050	900	788	
2	L/480	6300	4200	3150	2520	2100	1800	1545	
	L/360	6300	4200	3150	2520	2100	1800	1575	
	L/240	6300	4200	3150	2520	2100	1800	1575	
Number of Trimmer Studs	Deflection	Header Span (ft.)							
		9'	10'	11'	12'	13'	14'	15'	16'
1	L/480	700	630	573	458	360	288	234	193
	L/360	700	630	573	525	480	384	313	257
	L/240	700	630	573	525	485	450	420	386
2	L/480	1085	791	594	458	360	288	234	193
	L/360	1400	1055	792	610	480	384	313	257
	L/240	1400	1245	792	864	720	577	469	386

Values listed for each deflection represent the least value of the bearing capacity of the trimmer, shear or bending capacity of the header or the actual deflection at the design load.

Refer to Technical Bulletin #30 for supporting headers in PBS Wall SIPs

Note: Trimmer stud design capacities must be reviewed.

Load Chart 10A

PREMIER WALL SIPS¹ ≈ MAXIMUM ALLOWABLE SHEAR WALL LOADS

SIP Panel Type	Min. OSB Face Thickness	Attachments				Shear (plf)
		2x Framing		Splines		
		Fasteners	Spacing	Fasteners	Spacing	
L or S	7/16"	8d box nail	6 inches	8d nail	6 inches	300
S	7/16"	8d box nail	4 inches	#6 screw ³	4 inches	600 ⁴

Notes:

1. Framing lumber shall be a minimum of SPF #2 having a minimum specific gravity of 0.43.
2. The maximum panel height-to-width ratio shall be 3.5:1
3. Screws are #6 x 1-1/4 inch Type W drywall screws.
4. Two top plates are required.

Load Chart 10B

PREMIER WALL SIPS¹ ≈ MAXIMUM ALLOWABLE SHEAR WALL LOADS

Panel Type	Minimum OSB Face Thickness	Attachments				Shear (Plf)
		Top Plate	Bottom Plate	Vertical Framing	Splines ⁵	
L or S	7/16"	8d box nail 6" oc	8d box nail 6" oc	8d box nail 6" oc - 2 rows ⁴	8d box nail 6" oc	470
L or S	7/16"	8d box nail 4" oc - 2 rows ³	8d box nail 4" oc	8d box nail 4" oc - 2 rows ⁴	8d box nail 4" oc	700
L or S	7/16"	10d box nail 6" oc - 2 rows ³	10d box nail 3" oc	10d box nail 6" oc - 2 rows ⁴	10d box nail 3" oc - 2 rows	1010

Notes:

1. Framing lumber shall be a minimum of SPF #2 having a minimum specific gravity of 0.43.
2. The maximum SIP panel height-to-width ratio shall be 3.5:1.
3. A double top plate is required.
4. A double stud or nominal 4x framing member is required.
5. Splines are 7/16" by 3" OSB.

Load Chart 11

PREMIER SIPS¹ MAXIMUM ALLOWABLE DIAPHRAGM LOADS

Minimum OSB Face Thickness	Attachments						Shear (Plf)
	Panel Supports		Panel Joints - Top Only		Panel Joints - Top & Bottom		
	Fasteners	Spacing	Fasteners	Spacing	Fasteners	Spacing	
7/16"	PBS Screw ²	12 inches	8d nail	3 inches	8d nail	6 inches	425
7/16"	PBS Screw ²	3 inches	8d nail	2 inches	8d nail	4 inches	510
7/16"	PBS Screw ²	4 inches	8d nail - 2 rows	3 inches	8d nail - 2 rows	6 inches	917
23/32"	PBS Screw ²	4 inches	8d nail - 2 rows	3 inches	8d nail - 2 rows	6 inches	1136

Notes:

1. The maximum panel height-to-width ratio shall be 4.5:1.
2. Premier Building Systems special designed big screws.

Load Chart 12

WIND SPEED VS. PRESSURE

Wall Loads (psf) - End Zone (Zone 5) for 100sf to 500 sf effective wind area												
Mean Roof Height (ft)	90 MPH			100 MPH			110 MPH			120 MPH		
	Exp B	Exp C	Exp D	Exp B	Exp C	Exp D	Exp B	Exp C	Exp D	Exp B	Exp C	Exp D
15	-15.1	-18.3	-22.2	-18.7	-22.6	-27.5	-22.6	-27.3	-33.2	-26.9	-32.5	-39.5
20	-15.1	-19.5	-23.4	-18.7	-24.1	-29.0	-22.6	-29.2	-35.0	-26.9	-34.7	-41.7
25	-15.1	-20.4	-24.3	-18.7	-25.2	-30.1	-22.6	-30.5	-36.4	-26.9	-36.3	-43.3
30	-15.1	-21.1	-25.1	-18.7	-26.2	-31.0	-22.6	-31.6	-37.5	-26.9	-37.7	-44.7
35	-15.9	-21.9	-25.7	-19.6	-27.1	-31.8	-23.7	-32.8	-38.4	-28.2	-39.0	-45.7
40	-16.5	-22.5	-26.3	-20.4	-27.9	-32.5	-24.6	-33.7	-39.3	-29.3	-40.1	-46.8
45	-16.9	-23.1	-26.9	-20.9	-28.6	-33.3	-25.3	-34.6	-40.2	-30.1	-41.2	-47.9
50	-17.5	-23.6	-27.3	-21.7	-29.2	-33.8	-26.2	-35.3	-40.9	-31.2	-42.0	-48.7
55	-18.0	-24.0	-27.8	-22.3	-29.7	-34.4	-26.9	-35.9	-41.6	-32.0	-42.8	-49.5
60	-18.4	-24.5	-28.2	-22.8	-30.3	-35.0	-27.6	-36.6	-42.3	-32.8	-43.6	-50.3
Net Design wind pressure	-15.1			-18.7			-22.6			-26.9		

Wall Loads (psf) - End Zone (Zone 5) for 100sf to 500sf effective wind area												
Mean Roof Height (ft)	130 MPH			140 MPH			150 MPH			170 MPH		
	Exp B	Exp C	Exp D	Exp B	Exp C	Exp D	Exp B	Exp C	Exp D	Exp B	Exp C	Exp D
15	-31.6	-38.2	-46.5	-36.7	-44.4	-53.9	-42.1	-50.9	-61.9	-54.1	-65.5	-79.5
20	-31.6	-40.8	-49.0	-36.7	-47.3	-56.9	-42.1	-54.3	-65.3	-54.1	-69.8	-83.9
25	-31.6	-42.7	-50.9	-36.7	-49.5	-59.1	-42.1	-56.8	-67.8	-54.1	-73.0	-87.1
30	-31.6	-44.2	-52.5	-36.7	-51.4	-60.9	-42.1	-58.9	-69.9	-54.1	-75.7	-89.8
35	-33.2	-45.8	-53.7	-38.5	-53.2	-62.4	-44.2	-61.0	-71.6	-56.8	-78.4	-92.0
40	-34.4	-47.1	-55.0	-40.0	-54.7	-63.9	-45.9	-62.7	-73.3	-59.0	-80.6	-94.1
45	-35.4	-48.3	-56.2	-41.1	-56.2	-65.3	-47.2	-64.4	-74.9	-60.6	-82.8	-96.3
50	-36.7	-49.3	-57.2	-42.6	-57.3	-66.4	-48.8	-65.7	-76.2	-62.8	-84.4	-97.9
55	-37.6	-50.2	-58.1	-43.7	-58.4	-67.5	-50.1	-66.9	-77.5	-64.4	-86.0	-99.5
60	-38.6	-51.2	-59.1	-44.8	-59.5	-68.6	-51.4	-68.2	-78.7	-66.0	-87.6	-101.2
Net Design wind pressure	-31.6			-36.7			-42.1			-54.1		

More information on this chart can be found in Technical Bulletin #15 (www.pbssips.com).