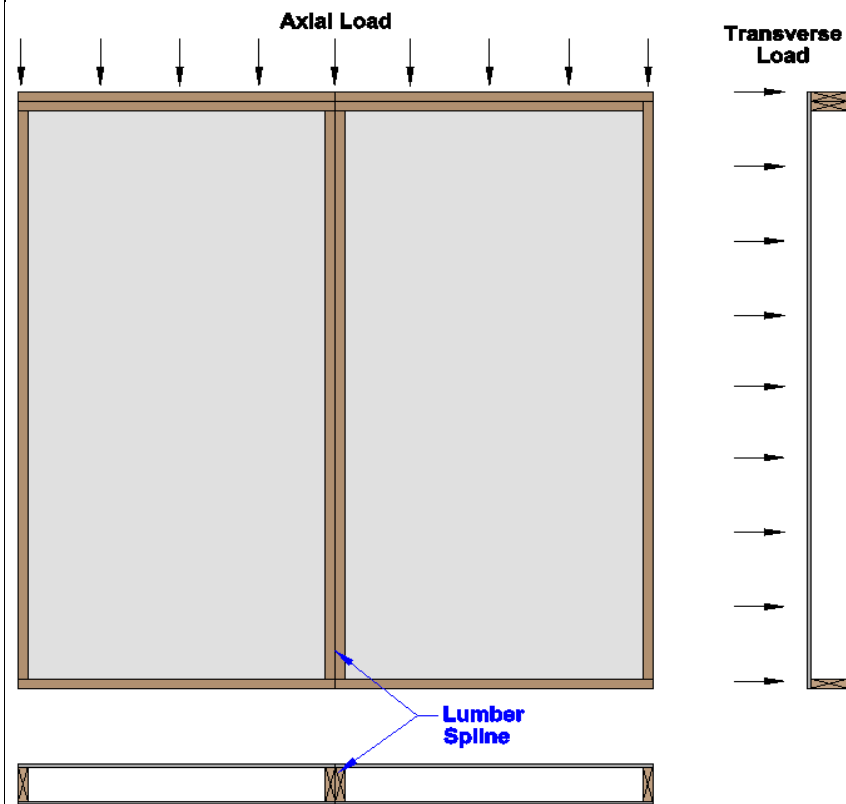


SIP Thickness	Uniform Loads	SIP Height (ft.)								
		8'	9'	10'	11'	12'	13'	14'	15'	16'
4-1/2"	Axial Load (PLF)	4366	3611	2863	2913	2175	1915	1654	1453	1260
	Transverse Load (PSF)	81	68	55	44	35	29	23	19	15
6-1/2"	Axial Load (PLF)	4963	4425	3905	3426	2989	2603	2267	1973	1713
	Transverse Load (PSF)	163	132	101	86	71	65	59	51	44
8-1/4"	Axial Load (PLF)	6390	5979	5559	5131	4711	4299	3913	3544	3208
	Transverse Load (PSF)	168	144	120	112	105	100	95	83	71

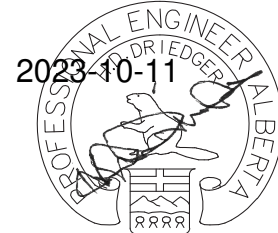
SIP Thickness	Uniform Loads	SIP Height (ft.)					
		17'	18'	19'	20'	21'	22'
6-1/2"	Axial Load (PLF)	1495	1310	1150	1016	NA	NA
	Transverse Load (PSF)	40	36	32	29	NA	NA
8-1/4"	Axial Load (PLF)	2889	2611	2351	2124	1915	1730
	Transverse Load (PSF)	64	56	48	40	33	28

Zs2 SIPs have undergone extensive independent laboratory ASTM E72 Compressive Structural Analysis testing, resulting in data that allows design professionals to utilize this engineering formula when they design with SIPs.

1. Load Chart provides maximum allowable uniformly distributed pounds per lineal foot (PLF) axial load based on SIP thickness and height with Lumber splines. Joists or trusses spaced at 24 in. o.c. or closer are considered an uniform load. Panels taller than standard sheet sizes are assumed to have horizontal splines.
2. The Chart values have a minimum safety factor of 3, calculated axial pounds per lineal foot (PLF) and lateral transverse pounds per square foot (PSF) for wind loads.
3. Wall axial loads shall be designed to the less of the uniform axial loads or transverse loads.
4. Both facings must bear on the supporting foundation or structure.
5. Built up members are to be used when point loads are greater than 75% of the axial capacity listed. Built up members are not to exceed 5 plies unless written approval has been given by ZS2's engineer. Assembly of built up columns are to be specified by engineer.
6. Permanent loads, such as dead load, shall not exceed 0.50 times the axial capacity. Dead load of panel is to be included in the applied loads.



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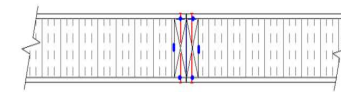
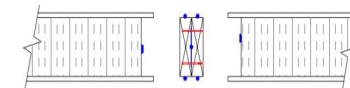

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Engineer's stamp expires in
3 years (October 11, 2026).
A complete review is required
at, or prior to, that date.

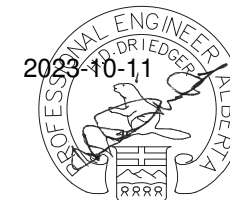
Transverse load Chart, Pounds per Square Foot (psf) Lumber Spline or Rafter, Continuous SPF No 2. Or Better

Panel Thickness	Deflection	4' Panel Span (ft.)											
		4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	
4 1/2"	L/360	88	64	41	29								
	L/240	202	131	60	42								
	L/180	267	173	81	55								
6 1/2"	L/360	215	165	114	51	37	29						
	L/240	257	210	163	78	54	44	34	26	20			
	L/180	257	210	163	101	71	59	44	36	26			
8 1/4"	L/360	215	183	150	71	59	48	38	30	22			
	L/240	257	213	168	113	89	72	55	44	30			
	L/180	257	213	168	120	105	95	71	56	40			
10 1/4"	L/360	245	207	168	104	89	71	53	42	33	29		
	L/240	292	230	168	131	120	107	81	63	47	42		
	L/180	292	230	168	131	120	108	97	84	61	55		
12 1/4"	L/360	292	230	168	149	125	104	81	67	51	42		
	L/240	292	230	168	149	138	119	99	87	75	62		
	L/180	292	230	168	149	138	119	99	87	75	75		

ELEV.VIEW



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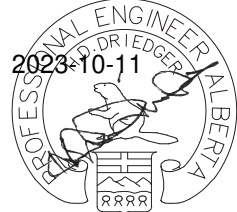
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1. SIP System must be constructed and installed according to ZS2 Technologies manufacturing and installation details and manuals. Any deviations from ZS2 guidelines releases ZS2 and their engineering from any liability associated with errors or failures.
2. A factor of safety of 3 has been applied to stated loads.
3. Panels taller than standard sheet sizes are assumed to have a horizontal spline.
4. Splines installed as per ZS2 manufacturing and installation guides do not create a hinge-like behaviour.
5. Factored applied loads are to be compared against the values in the load charts. Dead load of panel must be included with factored applied loads.
6. Transverse loads were created based on testing according to ASTM E72.

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ZS2 SIP PANEL HEADER, 4-1/2", 6-1/2" AND 8-1/4" LOAD DESIGN CHART LOADS

ALLOWABLE POUNDS PER LINEAR FOOT (PLF)

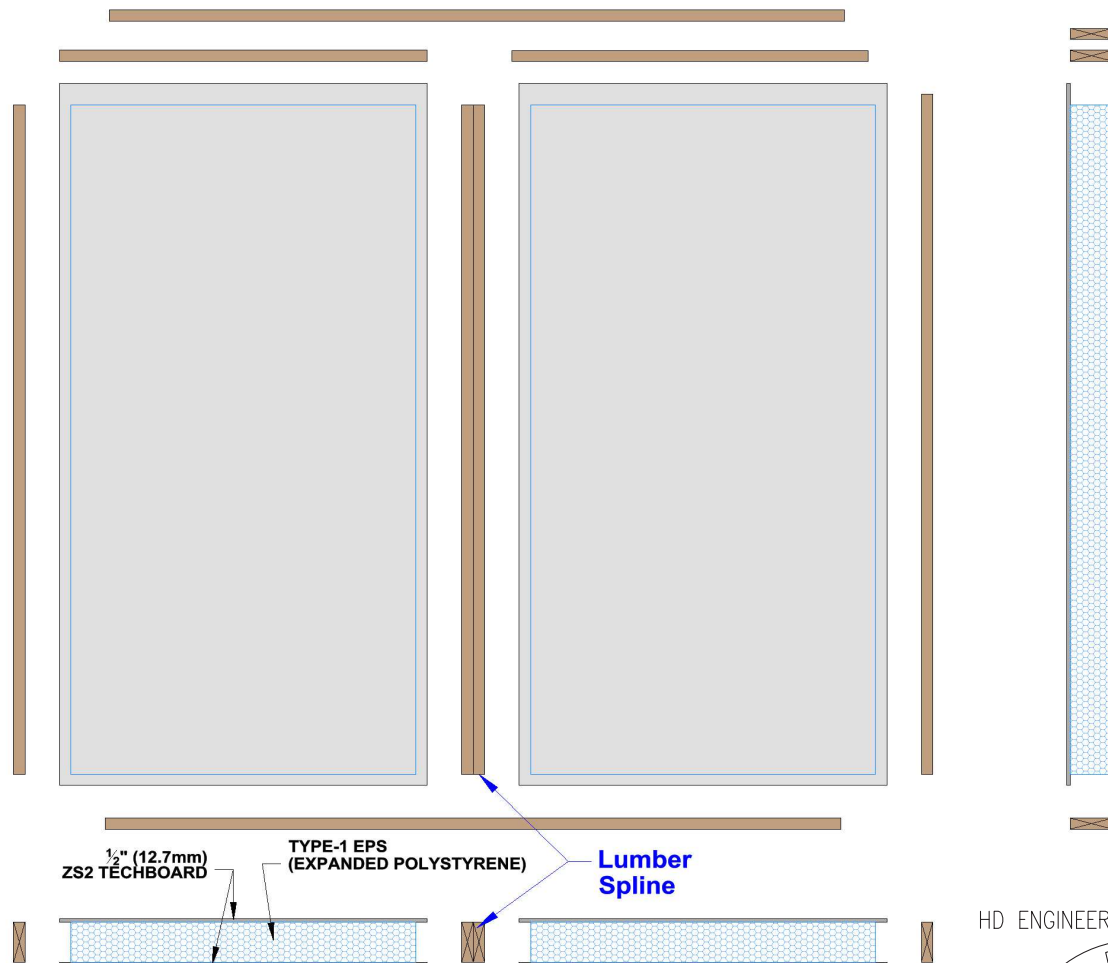
HEADER DEPTH	DEFLECTION LIMIT	HEADER SPAN (feet)					
		4	5	6	7	8	
12"	L/480	440	354	268	225	183	Wood material is No.2 or better and free of incisions and/or fire retardants. No allowed wood splines in Headers. Continuous plate over the panel header.
	L/360	590	452	314	261	208	
	L/240	595	454	314	261	208	
18"	L/480	640	516	391	343	295	Fasten on each side with 2-1/2" Nails at 4" o.c. and 2 -3/8" bead adhesive
	L/360	649	520	391	343	295	
	L/240	649	520	391	343	295	
24"	L/480	703	585	468	425	382	When required, Posts supporting headers must be designed by a design professional in accordance with accepted engineering practice.
	L/360	703	585	468	425	382	
	L/240	703	585	468	425	382	
36"	L/480	837	697	557	506	455	HD ENGINEERING SERVICES LTD.
	L/360	837	697	557	506	455	
	L/240	837	697	557	506	455	
48"	L/480	971	781	591	497	404	
	L/360	971	744	516	429	342	
	L/240	971	742	513	426	340	
72"	L/480	1341					APEGA PERMIT TO PRACTICE NO. P 2481
	L/360	1341					
	L/240	1341					
96"	L/480	1852					
	L/360	1852					
	L/240	1852					

Engineer's stamp expires in 3 years (October 11, 2026).
A complete review is required at, or prior to, that date.

Spline Type	Nominal SIP Thickness (in.)	Minimum Facing Connections ^{2,4}			Shear Strength (plf)
		Chord	Plate	Spline	
2-2x6 No 2 spf lumber or better	6.625	16GA - 1 1/2", 3" ON CENTRE	16GA - 1 1/2", 3" ON CENTRE	16GA - 1 1/2", 3" ON CENTRE	675

Refer to attached image with call outs for acceptable constructed ZS2 Panel.

1. A factor of safety of 3 has been applied to all stated loads.
2. Intermediate fasteners are to be min. 1-1/2" 16 GA staples @ 3" o/c or approved equivalent.
3. Shear loads were calculated based on testing according to ASTM E72.
4. Unless noted otherwise, loads are given in per linear foot (PLF).
5. A combination of adhesive and mechanical fasteners are used to achieve the capacities listed. Mechanical fastener types are not to be combined to achieve a higher capacity (ie. if using staples, introducing nails with staples to achieve a higher capacity is not permitted).
6. Adhesive tested is Titebond Subfloor. Alternative products may be used if capacities, behaviours, and compatibilities are proven to be the same or greater.

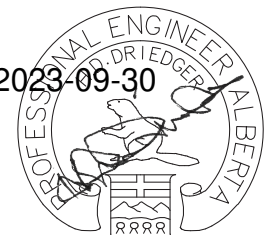


EXPLODED VIEW

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