

# Rosboro 1.8E IJC Glulam

## No Top-No Bottom-No Camber

Rosboro's 1.8E IJC is a versatile glulam beam intended for use in I-joint floor systems and other conventional framing applications. Manufactured to match standard I-joint depths and 2x4 framing widths, 1.8E IJC can also be used seamlessly within typical floor systems as well as other applications, such as window and door headers.

### The Dependability of Glulam

Because it's a glulam, using Rosboro 1.8E IJC will reduce callbacks by nearly eliminating all shrinkage, swelling, twisting and warping. 1.8E IJC beams are also lighter than LSL and LVL and are easier for carpenters to work with (lift, cut, nail and bolt) because the beam is made from larger pieces of wood. Rosboro 1.8E IJC is delivered to the jobsite coated with a sealer to help protect it from the elements.

### Engineered for the Framing Contractor

Unlike stock glulam, Rosboro 1.8E IJC has a number of qualities that make it ideal for use by the framing contractor:

- Right-side-up – Because it's manufactured with a balanced lay-up, Rosboro 1.8E IJC has no top or bottom, eliminating confusion or possible errors made during construction.
- Zero camber – these beams are manufactured flat, simplifying the construction.
- 2 x 4 widths – shims are eliminated because Rosboro 1.8E IJC is manufactured to match typical 2x4 framing widths.
- I-joint depths – these beams are available in sizes that match standard I-joint depths, which in most cases eliminates the need for shims entirely.

### Available in Common Sizes

Length: Up to 66 feet

Width: 3 1/2"

Depths: 9", 9 1/2", 11 7/8", 14", 16" and 18"

### Framing Appearance

1.8E IJC is manufactured to the APA EWS Framing Appearance Standard and is intended for use in framing applications in which appearance is not critical. To ensure proper width tolerances, the beam is touch-sanded or planed after gluing. Because less wood is removed from the unfinished beam, the framing appearance standard allows more irregularities than either the APA EWS Architectural or Industrial Appearance Standard.

### Code Recognized

Rosboro 1.8E IJC is approved by the ICC-ES under ESR-1940. It has been inspected and certified by the APA/EWS in conformance with the American National Standard (ANSI) A190.0-2002. The wetuse adhesives found in this product comply with ASTM D-2559.

### Sustainable Practices

As a timberland owner for more than a half century, Rosboro's entire operation shares a commitment to forest management and understands that laminated timber (such as 1.8E IJC glulam) is a much more efficient use of the natural resources – for today and tomorrow.



Design Properties	Width (in.)	Depth (in.)	Weight (lb/ft.)	Maximum Resistive Shear (lbf)			Maximum Resistive Moment (ft.-lbf)			Moment of Inertia
				100%	115%	125%	100%	115%	125%	
F <sub>b</sub> = 2,400 psi; F <sub>v</sub> = 265 psi; MOE = 1.8 x 10 <sup>6</sup> psi	3 1/2	9	7.7	5,565	6,400	6,956	9,450	10,868	11,813	383
		9 1/2	8.1	5,874	6,755	7,343	10,529	12,109	13,161	450
		11 7/8	10.1	7,343	8,444	9,178	16,452	18,920	20,565	879
		14	11.9	8,657	9,955	10,821	22,867	26,297	28,583	1,441
		16	13.6	9,893	11,377	12,367	29,867	34,347	37,333	2,150
		18	15.3	11,130	12,800	13,913	37,800	43,470	47,250	3,062

Notes for 1.8E IJC Design Properties:

(1) Beam weight is assumed to be 35 pcf.

(2) Maximum resistive moment shall be adjusted by the volume factor based on NDS-05.

**Rosboro  
1.8E IJC:  
Design  
Values**

Layup Combination	Flexural Stress $F_b$ (psi) <sup>1</sup>		Compression Perpendicular to Grain $F_c$ (psi)	Shear <sup>2</sup> $F_v$ (psi)	Modulus of Elasticity $E$ ( $10^6$ psi)
	Tension Zone	Compression Zone			
24F-V8	2,400	2,400	650	265	1.8

Notes for 1.8E IJC Design Values:

- (1)  $F_b$  shall be adjusted by the volume effect factor using the following formula:  $C_v = (5.125/b)^{1/10} \times (12/d)^{1/10} \times (21/L)^{1/10} \leq 1.0$   
Where:  $b$  = beam width (in.),  $d$  = beam depth (in.),  $L$  = beam length (ft.).
- (2) For non-prismatic members, notched members, members subject to impact or cyclic loading, or shear design of bending members at connections (NDS-05 3.4.3.3), the design shear ( $F_v$ ) shall be multiplied by a factor of 0.72.

**Allowable  
Floor Loads  
EWS 24F-V8/DF  
 $F_b = 2,400$  psi  
 $F_v = 265$  psi  
 $E = 1.8 \times 10^6$  psi  
 $F_c = 650$  psi  
LDF = 1.0**

Width (in.)	Depth (in.)	Load Condition	Simple Span												
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	
<b>3 1/2</b>	9	Total Load (plf)	1,174	748	485	302	200	138	99	72	NA	NA	NA	NA	
		Live Load (plf)	1,107	567	328	207	138	97	71	53	NA	NA	NA	NA	
		Min. End/Int. Bearing (in)	2.1/5.2	1.7/4.2	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	NA	NA	NA	NA
	9 1/2	Total Load (plf)	1,308	834	571	356	236	163	117	86	NA	NA	NA	NA	
		Live Load (plf)	1,302	667	386	243	163	114	83	63	NA	NA	NA	NA	
		Min. End/Int. Bearing (in)	2.3/5.8	1.9/4.6	1.5/3.8	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	NA	NA	NA	NA
	11 1/8	Total Load (plf)	2,046	1,306	904	661	467	325	234	173	131	101	79	NA	
		Live Load (plf)	-	1,302	754	475	318	223	163	122	94	74	59	NA	
		Min. End/Int. Bearing (in)	3.6/9.0	2.9/7.2	2.4/6.0	2.1/5.2	1.7/4.2	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	NA
	14	Total Load (plf)	2,846	1,817	1,258	921	703	537	388	289	220	170	134	107	
		Live Load (plf)	-	-	1,235	778	521	366	267	200	154	121	97	79	
		Min. End/Int. Bearing (in)	5.0/12.6	4.0/10.1	3.4/8.4	2.9/7.2	2.5/6.3	2.2/5.4	1.8/4.4	1.5/3.6	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5
	16	Total Load (plf)	3,696	2,376	1,646	1,205	920	724	584	435	332	258	204	163	
		Live Load (plf)	-	-	-	1,161	778	546	398	299	230	181	145	118	
		Min. End/Int. Bearing (in)	6.5/16.3	5.3/13.1	4.4/10.9	3.8/9.4	3.3/8.2	2.9/7.3	2.6/6.6	2.2/5.4	1.8/4.6	1.6/3.9	1.5/3.5	1.5/3.5	1.5/3.5
	18	Total Load (plf)	4,437	3,009	2,085	1,528	1,166	918	741	605	477	372	295	237	
		Live Load (plf)	-	-	-	-	1,107	778	567	426	328	258	207	168	
		Min. End/Int. Bearing (in)	7.8/19.6	6.6/16.6	5.5/13.8	4.7/11.9	4.2/10.4	3.7/9.2	3.3/8.3	3.0/7.5	2.6/6.5	2.2/5.5	1.9/4.8	1.7/4.2	
	Width (in.)	Depth (in.)	Load Condition	Multiple Span											
				8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
	<b>3 1/2</b>	9	Total Load (plf)	1,174	748	517	378	265	184	132	97	73	NA	NA	NA
			Live Load (plf)	-	746	432	272	182	128	93	70	54	NA	NA	NA
			Min. End/Int. Bearing (in)	2.1/5.2	1.7/4.2	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	NA	NA
		9 1/2	Total Load (plf)	1,308	834	577	422	313	218	156	115	87	NA	NA	NA
Live Load (plf)			-	-	508	320	214	150	110	82	63	NA	NA	NA	
Min. End/Int. Bearing (in)			2.3/5.8	1.9/4.6	1.5/3.9	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	NA	NA	NA
11 1/8		Total Load (plf)	1,821	1,306	904	661	504	396	311	231	176	136	107	85	
		Live Load (plf)	-	-	-	624	418	294	214	161	124	97	78	63	
		Min. End/Int. Bearing (in)	3.2/8.0	2.9/7.2	2.4/6.0	2.1/5.2	1.8/4.5	1.6/4.0	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5
14		Total Load (plf)	2,246	1,691	1,258	921	703	553	445	366	293	228	180	144	
		Live Load (plf)	-	-	-	-	685	481	351	264	203	160	128	104	
		Min. End/Int. Bearing (in)	4.0/9.9	3.7/9.4	3.4/8.4	2.9/7.2	2.5/6.3	2.2/5.6	2.0/5.0	1.8/4.6	1.6/4.0	1.5/3.5	1.5/3.5	1.5/3.5	1.5/3.5
16		Total Load (plf)	2,685	1,999	1,591	1,205	920	724	584	480	401	340	273	219	
		Live Load (plf)	-	-	-	-	-	718	524	394	303	238	191	155	
		Min. End/Int. Bearing (in)	4.7/11.9	4.4/11.1	4.2/10.6	3.8/9.4	3.3/8.2	2.9/7.3	2.6/6.6	2.4/6.0	2.2/5.5	2.0/5.0	1.8/4.4	1.5/3.8	
18		Total Load (plf)	3,165	2,328	1,840	1,520	1,166	918	741	609	510	432	370	316	
		Live Load (plf)	-	-	-	-	-	-	-	560	432	339	272	221	
		Min. End/Int. Bearing (in)	5.6/14.0	5.1/12.9	4.9/12.2	4.7/11.8	4.2/10.4	3.7/9.2	3.3/8.3	3.0/7.6	2.8/6.9	2.6/6.4	2.4/5.9	2.2/5.5	

Design property notes for both Dry-Use and Wet-Use service conditions:

- (1) For preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.
- (2) Table is based on uniform loads (beam weight considered).
- (3) Tabulated live load is based on the deflection criterion of span/360.
- (4) Tabulated total load is based on the deflection criterion of span/240.
- (5) Tabulated total load is in addition to the beam weight (assumed 35 pcf).
- (6) Selected beam size shall satisfy both live load and total load.
- (7) For live deflection limits of L/240 and L/480, multiply the live load values by 1.5 and 0.75 respectively. The resulting live load shall not exceed the total load shown.