NYC Department of Buildings
280 Broadway, New York, NY 10007
Patricia Lancaster, FAIA, Commissioner
(212) 566-5000, TTY: (212) 566-4769

Report of Materials and Equipment Acceptance Division

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use subject to the terms and conditions contained herein.

MEA 393-91-E Vol. 3

Manufacturer:	Jager Building Systems, Inc., #220, 6223 2nd Street, Calgary AB, CANADA T2H 1J5 (Produced in Calgary AB, Blainville QC, & Bolton ON)
Trade Name(s):	JSI
Product:	Wooden I-Joists
Pertinent Code Section(s):	27-617 through 27-624 and Reference Standard RS10
Prescribed Test(s):	ASTM D 5055
Laboratory:	Jager Production Laboratory at each Plant with APA 3rd Party witness and PE approval signatures. All other reports sealed by J. Mark Bartel, New York State Professional Engineer – License No. 078345
Test Report(s):	▪ Blainville Plant: (JSI 2000, JSI 3000, JSI 4000) APA Report T2005M-98, dated December 5, 2005 ▪ Calgary Plant: (JSI 2000, JSI 3000, JSI 4000, JSI 4400). APA Report T2005M-77, dated October 26, 2005. ▪ Bolton Plant: (JSI 2000, JSI 3000). APA Report T2005M-88, dated November 14, 2005.

Description: The JSI Series I-Joists are pre-fabricated structural wood members using sawn lumber flanges and exterior-grade-oriented strand board (OSB) webs bonded together with exterior-grade adhesives forming an “I” cross-sectional shape. The web-to-flange connection is a proprietary, glue, tongue-and-groove joint. The web is mechanically pressed into the flange groove forming a self-locking joint. The web-to-web connection of the OSB panels is a full-depth, V-shaped glued joint. JSI Series I-Joists are uniform in depth from 9¼ to 20 inches and are produced in lengths from 8 to 52 feet.

The adhesive used in the gluing operations meets the requirements of ASTM D2559.

Table 1 – Allowable Stress Design Values for JSI[1]

Joist Depth (inches)	Joist Series	Flange Dimensions	Moment [2] (lb-ft)	Shear (lb)	EI [3] X 106 (lb-in.2)	K[4] X 106 (lb)	Self Weight (plf)
9-1/2	JSI 2000	2X3	2,375	1,120	193	4.94	2.52
	JSI 3000	2X3	3,780	1,120	231	4.94	2.62
	JSI 4000	2X4	5,355	1,120	320	4.94	3.37
11-7/8	JSI 2000	2X3	3,545	1,420	330	6.18	2.78
	JSI 3000	2X3	4,900	1,420	396	6.18	2.88
	JSI 4000	2X4	6,940	1,420	547	6.18	3.63
	JSI 4400	2X4	8,485	1,420	600	6.18	3.76
14	JSI 2000	2X3	4,270	1,710	482	7.28	3.02
	JSI 3000	2X3	5,895	1,710	584	7.28	3.11
	JSI 4000	2X4	8,360	1,710	802	7.28	3.87
	JSI 4400	2X4	10,215	1,710	876	7.28	4.00
16	JSI 2000	2X3	4,950	1,970	657	8.32	3.24
	JSI 3000	2X3	6,835	1,970	799	8.32	3.34
	JSI 4000	2X4	9,690	1,970	1,092	8.32	4.09
	JSI 4400	2X4	11,845	1,970	1,186	8.32	4.22
18	JSI 4000	2X4	10,960	2,230	1,398	9.36	4.31
	JSI 4400	2X4	13,390	2,230	1,546	9.36	4.44
20	JSI 4000	2X4	12,310	2,490	1,771	10.40	4.53
	JSI 4400	2X4	14,825	2,490	1,956	10.40	4.66

Notes:

1. The tabulated values are design values for normal duration of load. All values, except El and K, shall be permitted to be adjusted for other load durations as permitted by the code.
2. Moment of I-joists, which shall not be increased by any code-allowed repetitive member use factor.
3. Bending stiffness (El) of the I-joist.
4. Co-efficient of shear deflection (K) of the I-joist.

Table 2 – Allowable Reaction Values for JSI[1]

Joist Depth (in.)	Joist Series	End Reaction[2] (lb) Bearing Length						Intermediate Reaction[2] Bearing Length	
		1-1/2 in.	1-1/2 in.	1-3/4 in.	1-3/4 in.	4 in.	4 in.	3-1/2 in.	3-1/2 in.
		Web Stiffeners		Web Stiffeners		Web Stiffeners		Web Stiffeners	
		No	Yes	No	Yes	No	Yes	No	Yes
9-1/2	JSI 2000	1,070		1,080		1,120		2,160	
	JSI 3000	1,070		1,080		1,120		2,160	
	JSI 4000	1,070		1,080		1,120		2,435	
11-7/8	JSI 2000	1,160		1,200		1,420		2, 500	
	JSI 3000	1,160		1,200		1,420		2,500	
	JSI 4000	1,200		1,280		1,420		2,760	
	JSI 4400	1,200		1,280		1,420		2,760	
14	JSI 2000	1,160		1,200		1,550	1,710	2,500	
	JSI 3000	1,160		1,200		1,550	1,710	2,500	
	JSI 4000	1,200		1,280		1,550	1,710	3,020	
	JSI 4400	1,200		1,280		1,550	1,710	3,020	
16	JSI 2000	1,160		1,200		1,550	1,970	2,500	
	JSI 3000	1,160		1,200		1,550	1,970	2,500	
	JSI 4000	1,200		1,280		1,550	1,970	3,020	
	JSI 4400	1,200		1,280		1,550	1,970	3,020	
18	JSI 4000		1,700		1,990		2,230	3,020	3,980
	JSI 4400		1,700		1,990		2,230	3,020	3,980
20	JSI 4000		1,700		1,990		2,490	3,020	3,980
	JSI 4400		1,700		1,990		2.490	3,020	3,980

Notes:

1. The tabulated values are design values for normal duration of load. All values shall be permitted to be adjusted for other load durations as permitted by the code.
2. Assumes joist bear on a surface with a minimum plate-bearing stress equal to or greater than that of the flange material.

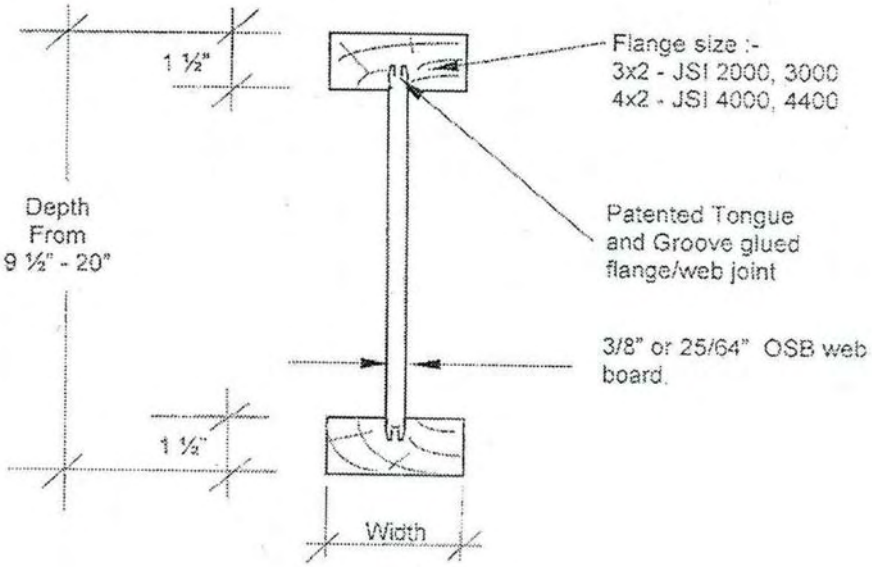
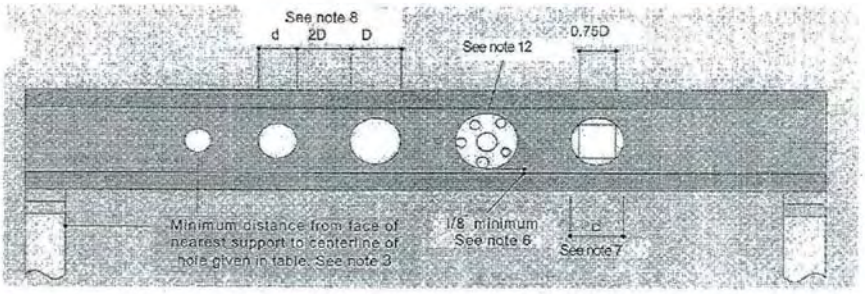


Figure No. 1 - Typical JSI® Joist Cross - Section

Table 3 - Allowable Web Holes - 40 PSF LIVE LOAD & 10 PSF DEAD LOAD



MINIMUM DISTANCE FROM FACE OF ALL JOIST SUPPORTS TO CENTER OF HOLE

Based on Single or Multispan and 10 psf dead load + 40 psf live load. (LL DEFLECTION L/360 TL DEFLECTION L/240)

Joist Depth	Joist Series	Minimum Distance from Inside Face of Any Support to Center of Hole — Round Hole Diameter (in.)														
		2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4
9 ½"	JSI 2000	1'-0"	2'-0"	3'-6"	5'-0"	6'-6"	6'-6"									
	JSI 3000	2'-6"	4'-0"	5'-0"	6'-6"	8'-0"	8'-6"									
	JSI 4000	3'-6"	5'-0"	6'-6"	8'-0"	9'-6"	10'-0"									
11-7/8"	JSI 2000	0'-6"	0'-6"	1'-6"	3'-0"	4'-6"	4'-6"	5'-6"	7'-0"	8'-6"						
	JSI 3000	1'-0"	2'-6"	3'-6"	5'-0"	6'-6"	6'-6"	8'-0"	9'-6"	11'-0"						
	JSI 4000	2'-6"	4'-0"	5'-0"	6'-6"	8'-0"	8'-6"	10'-0"	12'-0"	13'-0"						
	JSI 4400	2'-6"	4'-0"	5'-0"	6'-6"	8'-6"	9'-0"	10'-5"	12'-6"	13'-6"						
14"	JSI 2000	0'-6"	0'-6"	0'-6"	1'-0"	2'-6"	2'-6"	3'-6"	5'-0"	6'-0"	6'-6"	8'-0"	10'-0"			
	JSI 3000	0'-6"	0'-6"	1'-0"	2'-0"	3'-6"	4'-0"	5'-6"	7'-0"	8'-0"	9'-0"	11'-0"	13'-0"			
	JSI 4000	1'-0"	2'-6"	3'-6"	5'-0"	6'-6"	6'-6"	8'-0"	10'-0"	11'-0"	12'-0"	14'-0"	15'-6"			
	JSI 4400	1'-0"	2'-6"	3'-6"	5'-0"	7'-0"	7'-6"	8'-6"	10'-6"	11'-6"	12'-6"	14'-6"	16'-0"			
16"	JSI 2000	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"	1'-0"	2'-0"	3'-6"	4'-0"	4'-6"	6'-0"	7'-0"	7'-6"	9'-6"	11'-6"
	JSI 3000	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"	1'-0"	2'-6"	4'-0"	5'-0"	5'-6"	8'-0"	9'-6"	10'-0"	12'-6"	15'-0"
	JSI 4000	0'-6"	0'-6"	1'-0"	2'-6"	4'-0"	4'-6"	6'-0"	7'-6"	8'-6"	9'-6"	11'-0"	13'-0"	13'-6"	16'-0"	
	JSI 4400	0'-6"	0'-6"	1'-0"	2'-6"	4'-0"	4'-6"	6'-0"	7'-6"	9'-0"	9'-6"	12'-0"	15'-6"	14'-0"	17'-0"	
18"	JSI 4000	0'-6"	0'-6"	2'-0"	3'-0"	4'-6"	5'-0"	6'-0"	7'-0"	8'-0"	8'-6"	10'-0"	11'-0"	11'-6"	13'-6"	15'-0"
	JSI 4400	0'-6"	2'-0"	3'-0"	4'-6"	6'-0"	6'-0"	7'-0"	8'-6"	9'-6"	10'-0"	11'-6"	13'-0"	13'-0"	15'-0"	16'-6"
20"	JSI 4000	0'-6"	0'-6"	0'-6"	1'-6"	3'-0"	3'-0"	4'-0"	5'-6"	6'-6"	7'-0"	8'-0"	9'-6"	9'-6"	11'-0"	12'-6"
	JSI 4400	0'-6"	0'-6"	0'-6"	2'-0"	3'-0"	3'-6"	4'-6"	6'-0"	7'-0"	7'-6"	9'-6"	10'-6"	11'-0"	13'-0"	14'-6"

Notes :-

1. Distances in this table apply to uniformly loaded joists, simple or continuous.
2. Distances in this table are valid for JSI spacing of 24" o.c. or less with glued and nailed decking. Assumed decking material is 23/32" OSB for JSI spacing greater than 19.2" o.c. and 19/32" for JSI spacing less than or equal to 19.2" o.c.
3. The distance between the inside edge of the support and the centerline of any hole must be in compliance with the requirements of the table.
4. JSI top and bottom flanges cannot be cut , notched, or otherwise modified.
5. Whenever possible holes should be centered on the middle of the web.
6. A minimum of 1/8 inch must be maintained the top or bottom of the hole and the adjacent JSI flange.
7. The sides of the square holes or longest side of rectangular holes must not exceed ¾ of the diameter of the max. round hole permitted at that location.
8. Where more than one hole is necessary, the distance between adjacent hole edges shall equal or exceed twice the diameter of the largest hole or twice the largest square hole or twice the length of the longest side of the longest rectangular hole. Each hole must be sized and located in compliance with the requirements of the table.
9. No more than 3 maximum size holes are permitted per span
10. A 1-1/2" inch diameter hole can be placed anywhere in the web provided that it meets the requirements of note 8.
11. For I-Joists with more than one span, use the longest span to determine the hole size and location in either span.
12. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.
13. tabulated values assume a minimum bearing length of 1-3/4" at ends bearings; 3-1/2" at interior bearings and assume the JSI bearing on a surface with a minimum plate bearing stress of 425 psi.
14. For JSI depths less than or equal to 16" web stiffeners are not required for tabulated values, except as required by the hanger manufacturer
15. For JSI depths greater than or equal to 18" web stiffeners are required for the tabulated values.
16. For all other conditions contact Jager Engineered Wood Products or use **QuickTools Enterprise Suite software** to generate site specific JSI design information
17. BLANK space in Table. – NOT ALLOWED. Reduce hole size.

Terms and Conditions: The above JSI joists are accepted on the condition that:

1. All uses, locations and installations shall comply with the applicable requirements of the New York City Building Code and Technical Policy and Procedure Notice #8, 1992, dated August 19, 1992 (attached) and TPPN #2, 2000 dated July 24, 2000 (attached).

2. Structure designs using the JSI joists shall conform to the manufacturer's specifications except that appropriate design load(s), deflection limitation(s) and other performance standards of the New York City Building Code shall apply.

3. The glue used shall not delaminate during a fire.

4. JSI joists shall be used indoors.

5. When stored out-of-doors, or exposed to wet weather conditions during construction, JSI joists shall be inspected by the user for flange-web separation, swelling or warping and replaced if so damaged.

6. The size and location of any cutouts in the web of the joist shall not exceed the manufacturer's recommendations and shall be subject to controlled inspection.

7. The flanges of JSI joists shall not be cut, notched or bored.

8. Fire-stopping shall be provided between the ceiling and floor or roof above and shall be divided into approximately equal areas not greater than 500 square feet.

9. The building permit applicant shall notify the Fire Department of the proposed installment of JSI joists prior to the Building Department issuance of a construction permit. Evidence of such notification shall be a certifying statement submitted on Form TR-1, Technical Report, reading as follows:

   > I hereby state that I have mailed a copy of this statement to the Fire Department Bureau of Fire, Technology Management Unit, as notification of the proposed installation of "Prefabricated Wood I-Joists" at this location.

   This statement shall be placed on the reverse side of the form in the lower right-hand box.

   The copy of the completed form TR-1 shall be mailed to the new address at:

   Chief-in-Charge of the Bureau of Fire Prevention
   Fire Department
   Bureau of Fire Prevention
   Technology Management Unit
   9 MetroTech Center
   Brooklyn, N.Y. 11201-3857

10. All shipments and deliveries of such equipment shall be provided with a metal tag, suitably placed, certifying that the equipment shipped or delivered is equivalent to that tested and acceptable for use, as provided in Section 27-131 of the New York City Building Code.

Note: In accordance with Section 27-131(d), all materials tested and accepted for use shall be subject to periodic retesting as determined by the Commissioner; and any material which upon retesting is found not to comply with code requirements or the requirements set forth in the approval of the Commissioner, shall cease to be acceptable for the use intended. During the period for such retesting, the Commissioner may require the use of such material to be restricted or discontinued, if necessary, to secure safety.

Final Acceptance July 11, 2007.

Examined By Donald

The City of New York

DEPARTMENT OF BUILDINGS

EXECUTIVE OFFICES
60 HUDSON STREET, NEW YORK, N.Y. 10013

RUDOLPH F. RINALDI, Commissioner

1123100

RICHARD C. VISCONTI, A.I.A.
Assistant Commissioner
Technical Affairs

ISSUANCE # 367

TECHNICAL
POLICY AND PROCEDURE NOTICE # 8/92

TO: Distribution

FROM: Richard C. Visconti, A.I.A. Richard Visconti

DATE: August 19, 1992

SUBJECT: Laminated Wood "I" Beams

PURPOSE: To interpret the requirements of the Administrative Code, Sections 27-617 and 27-620, pertaining to firestopping requirements per RS 10-8 and Inspection of Methods of Construction per Table 10-2 for laminated wood "I" beams used in fire resistance rated floor/roof-ceiling assemblies.

SPECIFICS:

1. Firestopping

   Reference Standard RS 10-8, Section 9.2.1 – General Requirements for Firestopping states that, "the space between the ceiling and the floor or roof above shall be divided by providing firestopping where ceilings are suspended below solid joists or suspended from or attached directly to the bottom of open wood floor trusses in buildings of combustible construction.

   The Department now interprets the requirement to comply with firestopping provisions of Section 9.2.1 et seq. to include laminated wood "I" beam assemblies. Therefore, the space between the ceiling and the floor or roof above shall be divided into approximately equal areas not greater than 500 square feet. Firestopping is subject to controlled inspection pursuit to Section 27-345.

2. Inspection of Methods of Construction

Table 10-2 – Operations on Structural Elements that shall be subject to Controlled Inspection, lists the "Fabrication of glue-laminated assemblies and of plywood components."

The Department now interprets that requirement to comply with the controlled inspection provision of Table 10-2 to include laminated wood "I" beams. Therefore, the cutting of openings for ducts, pipes, conduit, etc. in laminated wood "I" beams shall be considered fabrication and, therefore, subject to controlled inspection.

3. Notification

The applicant shall be required to notify the Fire Department of the proposed installation of laminated wood "I" beams prior to the Department issuing a construction permit. Evidence of such notification shall be a certifying statement submitted on Form TR-1, Technical Report, reading as follows:

I hereby state that I have mailed a copy of this statement to the Fire Department, Bureau of Fire Prevention, Technology Management Unit, as notification of the proposed installation of laminated wood "I" beams at this location.

This statement shall be placed on the reverse side of the form in the lower right-hand box.

The copy of the completed Form TR-1 shall be mailed to:

Chief-in-Charge of the Bureau of Fire Prevention
Fire Department
Bureau of Fire Prevention
Technology Management Unit
9 MetroTech Center
Brooklyn, N.Y. 11201-3857

The City of New York
ISSUANCE #586

DEPARTMENT OF BUILDINGS
EXECUTIVE OFFICES
60 HUDSON STREET, NEW YORK, N.Y. 10013-3304
RICHARD C. VISCONTI, R.A., Acting Commissioner
Website: nyclink.org/buildings
(212) 312-8000
TTY (212) 312-8188

SATISH K. BABBAR, R.A.
Acting Deputy Commissioner
Technical Affair
(212) 312-8324
Fax (212) 312-8319

TECHNICAL
POLICY AND PROCEDURE NOTICE #2/00

TO: Distribution
FROM: Satish K. Babbar, R.A.
DATE: July 24, 2000

Semi-Controlled Inspection for Structural Light Gauge Cold-Formed Steel, Plate Connected Wood Floor Trusses and Laminated Wood "I" Beams

Effective: Immediately

Supercedes: Brooklyn Borough Memorandum by Borough Superintendent, George E. Berger, dated August 11, 1983.

Background: There have been several structural failures involving lightweight floor construction. Professional inspection is needed during construction of buildings and other structures utilizing it in order to insure that the delivered members are not damaged or defective, the installation is proper and safeguards are taken to prevent failure.

Purpose: To set forth the requirements for the semi-controlled inspection of the construction, including size, quality, framing, erection and both temporary and permanent bracing of light gauge cold-formed steel structural members, place connected wood floor trusses and laminated wood "I" beams.

Reference: Section 27-132(b) of the Administrative Code.

SPECIFICS:

Requirements: The plans submitted for approval/acceptance/ professional certification showing these members shall be complete including member sizes, positions, locations, permanent and temporary bracing, fasteners (location, type and spacing), stiffeners, connections, etc., as needed for the proper erection of the structure.

The construction of all light gage cold-formed steel structural members, place connected wood floor trusses and laminated wood "I" beams shall be subject to semi-controlled inspection for size, quality, framing, erection and both temporary and permanent bracing, as set forth below:

Size Profiles used structurally shall conform to the specified dimension. Care shall be taken not to stretch, bend, or otherwise distort parts of the sections unless forming is in the integral part of the design,

Quality All materials shall be clean, straight, and undamaged. Damaged member shall be discarded. Only BSA/MEA approved laminated wood "I" beams shall be used. Glue shall completely bond all laminated wood "I" beam surfaces being joined. Quality Control for the erection of all members shall be under the supervision of the professional designated to perform the semi-controlled inspection.

Framing Components may be cut by slitting, shearing, sawing, or flame cutting, as appropriate, in accordance with manufacturer's instructions and the design drawings. All punched holes and sheared or flame cut edges of material in members subject to calculated stress shall be clean and free from notches and burred edges. The approval/accepted/professionally certified drawings shall be adhered to regarding member dimensions, locations, positions, beam separators, bearing surfaces and fasteners, including shear connectors, plate connectors, screws, bolts and welds, as applicable.

Erection Care shall be taken to avoid damage to members when erecting, loading, unloading and otherwise handling them.

Bracing Temporary bracing, shoring, jacks, etc., shall not be removed until the registered architect or professional engineer determines that they are

no longer needed. Permanent bracing, web stiffeners, bridging, wind bracing, etc., shall be installed according to the approved-accepted/professionally certified drawings.

INSPECTONS AND REPORT TO BE SUBMITTED: These inspections are to be performed by, or under the direct supervision of, licensed professional engineers or registered architects, who shall submit Form TR-1 indicating the following: "Semi-controlled inspection of light gauge cold-formed steel structural members, plate connected wood floor trusses or laminated wood "I" beams (as applicable) per TPPN #2/00".