Reading a ForteWEB Report (Link)

The structural analysis below is an example of a member report from single-member design software developed by Weyerhaeuser. Allowable design properties for products are in accordance with code approved values for current Weyerhaeuser materials. **The input loads and dimensions have been provided by others and must be verified and approved for the specific application by the design professional responsible for the project.**

FORTEWEB

MEMBER REPORT

1 PASSED

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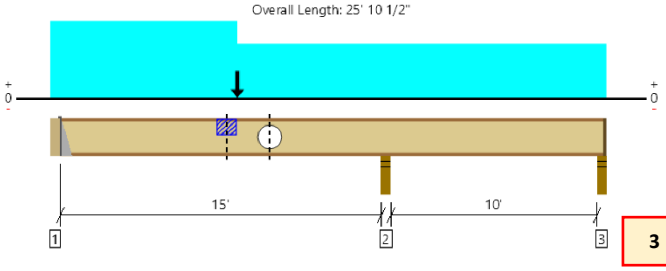
Level, Floor: Joist

1 piece(s) 11 7/8" TJI® 210 @ 12" OC



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All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	386 @ 3 1/2"	1005 (1.75")	Passed (38%)	1.00	1.0 D + 1.0 L (Alt Spans)
Shear (lbs)	453 @ 15' 3 1/2"	1821	Passed (25%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	1241 @ 6' 8 11/16"	3795	Passed (33%)	1.00	1.0 D + 1.0 L (Alt Spans)
Live Load Defl. (in)	0.092 @ 7' 3"	0.379	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.149 @ 7' 2 7/8"	0.757	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
TJ-Pro™ Rating	56	40	Passed	--	--

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System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD

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- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A structural analysis of the deck has not been performed.
- Deflection analysis is based on composite action with a single layer of 23/32" Weyerhaeuser Edge™ Panel (24" Span Rating) that is glued and nailed down.
- Additional considerations for the TJ-Pro™ Rating include: 1/2" Gypsum ceiling.

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Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Hanger on 11 7/8" LVL beam	3.50"	Hanger[1]	1.75" / 1.75" [2]	144	259	403	See note [1]
2 - Stud wall - HF	3.50"	3.50"	3.50"	278	527	805	None
3 - Stud wall - HF	3.50"	2.25"	1.75"	20	144/-55	164/-35	1 1/4" Rim Board

- Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- [1] See Connector grid below for additional information and/or requirements.
- [2] Required Bearing Length / Required Bearing Length with Web Stiffeners

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Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	6' 8" o/c	
Bottom Edge (Lu)	6' 9" o/c	

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- TJI joists are only analyzed using Maximum Allowable bracing solutions.
- Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie						
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories
1 - Top Mount Hanger	ITS2.06/11.88	2.00"	4-10dx1.5	2-10dx1.5	2-Strong-Grip	

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Loads	Location	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 8' 6"	12"	20.0	40.0	Residential Floor Loads - Living Areas (Bathroom)
2 - Uniform (PSF)	8' 6" to 25' 10 1/2"	12"	12.0	30.0	Residential Floor Loads - Sleeping Areas
3 - Point (PLF)	8' 6"	12"	64.0	-	Perpendicular Wall Weight

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Holes (Size)	Width	Height	Vertical Offset	Location	Shear (lbs)			Comments
					Actual	Allowed	Result	
1 - Circular (L)	8.00"	8.00"	5 15/16"	10'	244	424	Passed (58%)	HVAC Hole

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- Hole locations are measured from the outside face of left support (or left cantilever end) to the centerline of the hole.
- Vertical Offset is measured from the top of the member to the centerline of the hole.

Notch Type	Flange	Length	Depth	Location	Compression Moment (Ft-lbs)			Tension Moment (Ft-lbs)			Comments
					Actual	Allowed	Result	Actual	Allowed	Result	
Along Side	Top	3 1/2"	3/4"	8'	1192	2321	Passed (51%)	0	1338	Passed (0%)	Plumbing Waste Line Notch

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- Notches are not allowed on adjacent joists.

Weyerhaeuser Notes

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The product application, input design loads, dimensions and support information have been provided by 3D's General Contracting

ForteWEB Software Operator	Job Notes
John Doe Lumber Co. (555) 123-5555 johndoe@lumberco.com	Smith's Residence 123 Any Street New York, NY 10001 Project #12345

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Weyerhaeuser

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ForteWEB v3.4, Engine: V8.2.2.122, Data: V8.1.2.2
File Name: Forte Explanation
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1. **Analysis result** (Passed or Failed).

2. **Product analyzed** including number of plies, joist depth, product type, and o.c. spacing.

3. **Span dimensions and conditions** including simple spans, continuous spans, and cantilevers.

4. **System design information** including building code and design methodology.

5. **Design results** including member reaction, shear, moment, live load, and total load deflection, and TJ-Pro Rating (when applicable).
Actual @ Location: critical design values occur using the displayed load combination and pattern.
Allowed: maximum design values for the member and parameters selected.
Result: (≤ 102%) member is sufficient to withstand applied loads.

6. **Deflection criteria**
Live Load (LL)
Total Load (TL)

7. **Additional design considerations** including composite action and TJ-Pro Rating.

8. **Support information** including support type/condition, bearing length, loads to support, and accessories.

9. **Lateral bracing** maximum distance between bracing points (compression edge) to prevent rotation/buckling.

10. **Load information** including load type (uniform, tapered, point-PLF, etc.), location, spacing, classification (live load, dead load, roof live, etc.), and load duration factor.

11. **Hole information** including shape, size, vertical offset, horizontal location, shear reduction, and results.

12. **Notch flange information** including notch type, size, location, and design results.

13. **ForteWEB software operator information**

14. **Job notes** input typically includes project information.