



Report of Materials and Equipment Acceptance Division

NYC Department of Buildings
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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 123-08-E

Manufacturer: Georgia-Pacific Wood Products South LLC
19953 US Highway 31, Thorsby, Alabama 35171

Trade Name(s): Broadspan™ LVL

Product: Laminated veneer lumber (LVL)

Pertinent Code Section(s): Subchapter 10, 27-133 and Reference Standard RS 10

Prescribed Test(s): ASTM D5456 and when applicable by D5456: D143, D198, D1761, D2395, D2915, D4442, D4761, D4933, D5764: Bending, tension parallel to grain, longitudinal shear, compression parallel and perpendicular to grain, modulus of elasticity, connections, moisture content, specific gravity.

Laboratory: APA-The Engineered Wood Association
Allowable design stresses were certified by Scott K. Rutland, PE., New York State License #078840-1

Test Report(s): APA Report T2005P-25: 1.9E Laminated Veneer Lumber Qualification, April 28, 2005.
APA Report T2007P-08: 2.0E Laminated Veneer Lumber Qualification utilizing Southern Pine and Sweet Gum, February 9, 2007.
APA Report T2007P-09: 2.0E Laminated Veneer Lumber Qualification utilizing Southern Pine and Yellow Poplar, February 9, 2007.

Description: Broadspan™ LVL is manufactured by laminating sheets of veneer on top of each other with the grain of all veneer oriented parallel along the LVL length. The wood species, species combinations, veneer thickness, prescribed recipes, and adhesives used to manufacture Broadspan™ LVL are specified in the approved

Broadspan™ LVL quality control manual. Veneer sheets may be scarfed or unscarfed. The LVL adhesive is exterior grade phenolic adhesive complying with ASTM D2559. Products are available in thickness ranging from ¾ inch to 3½ inches, depths ranging from 1½ inches to 48 inches, and lengths to 80 feet. Product quality and performance is assured through daily quality assurance checks and periodic third party inspections.

Table 1. Design Properties (Allowable Stress Design) for Broadspan™ LVL ^(a,b)

| Property | | Design Stress (psi) | | |
|--|----------------------|---------------------------|---------------------------|---------------------------|
| | | 1.9E Grade ^(f) | 2.0E Grade ^(f) | 2.0E Grade ^(g) |
| Bending (F_b) ^(c) | Joist ^(d) | 2,750 | 3,100 | 3,100 |
| | Plank | 3,000 | 3,500 | 3,500 |
| Tension Parallel to Grain (F_t) ^(e) | | 1,700 | 1,900 | 2,100 |
| Longitudinal Shear (F_v) | Joist | 300 | 300 | 350 |
| Compression Parallel ($F_{c }$) | | 2,500 | 3,000 | 3,000 |
| Compression Perpendicular $F_{c\perp}$ | Joist | 750 | 750 | 750 |
| Modulus of Elasticity, E ($\times 10^6$) | | 1.9 | 2.0 | 2.0 |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 lbf = 0.454 kg, 1 psi = 6.9 kPa.

- (a) The tabulated values are design values for normal duration of load. All values, except for E and $F_{c\perp}$, are permitted to be adjusted for other load durations as permitted by the code. The design stresses are limited to conditions in which the average moisture content is less than 16 percent.
- (b) Joist = load parallel to glueline. Plank = load perpendicular to glueline.
- (c) Tabulated flexural stress (F_b) may be increased by 4 percent when the member qualifies as a repetitive member as defined in the NDS.
- (d) The tabulated values are based on a reference depth of 12 inches. For other depths (d in inches), when loaded edgewise, the allowable bending stress (F_b) shall be modified by $(12/d)^{0.1538}$, as shown in the following table. For depths less than 3-1/2 inches, the factor for the 3-1/2-inch depth shall be used.

| | | | | | | | | | |
|-------------|-------|-------|-------|-------|--------|------|------|------|------|
| Depth (in.) | 3-1/2 | 5-1/2 | 7-1/4 | 9-1/2 | 11-7/8 | 14 | 16 | 18 | 24 |
| Multiply by | 1.21 | 1.13 | 1.08 | 1.04 | 1.00 | 0.98 | 0.96 | 0.94 | 0.90 |

- (e) The tabulated values are based on a reference length of 4 feet. For other lengths, the allowable tensile stress shall be modified by $(4/\ell)^{1/11}$, where ℓ = length in feet. For lengths less than 4 feet, use the allowable tension stresses in Table 1 unadjusted.
- (f) LVL grades produced in southern pine; or southern pine, sweet gum and poplar in combination.
- (g) LVL grades produced in southern pine; or southern pine and eucalyptus in combination.

Table 2. Fastener Details for Broadspan™ LVL

| Equivalent Specific Gravity (S.G.) | | | | | | |
|------------------------------------|---------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| LVL Grade | Nails | | | | Bolts | |
| | Withdrawal Load | | Lateral Load | | Lateral Load | |
| | Installed in Edge | Installed in Face | Installed in Edge | Installed in Face | Installed in Face | |
| Parallel to Grain | | | | | Perpendicular to Grain | |
| 1.9E | Hemlock- fir (0.43) | Douglas-fir/ larch (0.50) | Douglas-fir/ larch (0.50) | Douglas-fir/ larch (0.50) | Douglas-fir/ larch (0.50) | Douglas-fir/ larch (0.50) |
| 2.0E | Hemlock- fir (0.43) | Douglas-fir/ larch (0.50) | Douglas-fir/ larch (0.50) | Douglas-fir/ larch (0.50) | Douglas-fir/ larch (0.50) | Douglas-fir/ larch (0.50) |

Table 3. Allowable Nail Spacing for Broadspan™ LVL ^(a)

| Connector Size | Nails Installed in the Narrow Face ^(b) |
|--------------------------------|---|
| | On-Center Spacing (inches) |
| 8d box and common nail | 3 |
| 10d box and common nail | 4 |
| 16d sinker and 12d common nail | 4 |
| 16d common nail ^(c) | 8 |

For SI: 1 inch = 25.4 mm.

- (a) In general, the minimum on-center spacing permitted for nails installed in the wide face of Broadspan™ LVL is the same as that permitted by the applicable code for solid-sawn lumber.
- (b) Unless otherwise specified, nails installed parallel to the gluelines on the narrow face of material at least 3/4 inch thick and 3-1/2 inches wide.
- (c) Nails installed parallel to the gluelines on the narrow face of material at least 1-1/2 inches thick and 5-1/4 inches wide.

Terms and Conditions: The Broadspan™ LVL is accepted on condition that:

1. All uses, locations and installations comply with the applicable requirements of the New York City Building Code.
2. The design provisions and specifications as listed in the above tables shall apply.

3. Structures designed using Broadspan™ LVL lumber shall conform to the manufacturer's design specifications except that appropriate design load(s), deflection limitation(s) and other performance standards of the New York City Building Code shall apply.
4. Broadspan™ LVL lumber shall be for locations that will ultimately be protected from the weather (interior use only) and each beam will be stamped "INTERIOR" or "Exposure 1", indicating the exposure durability as defined in PS 1-07 and PS 2-92 Voluntary Product Standards.
5. Broadspan™ LVL, when stored out-of-doors or exposed to wet weather conditions during construction shall be inspected by the user for swelling or warping etc., and replaced if damaged.
6. Beams less than 1½" thick shall be fire-stopped every 500 square feet in floor construction.
7. All shipments and deliveries of such materials shall be provided with a "MEA 94-02-E" stamp or label on each beam, suitably placed, certifying that the materials shipped or delivered are equivalent to those tested and accepted for use, as provided for 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 May 15, 2008
Examined By Donald [Signature]