NYC Department of Buildings
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Patricia Lancaster, FAIA, Commissioner
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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 406-04-E Vol. 2

Manufacturer: Sundre Forest Products, Inc., a Subsidiary of West Fraser Mills Ltd, Box 1737, Rocky Mountain House, Alberta, Canada T4T 1B3.

Trade Name(s): West Fraser™ LVL

Product: Laminated Veneer Lumber (LVL)

Pertinent Code Section(s): RS-10, Subchapter 10, Article 7.

Prescribed Test(s): ASTM D 5456 and when applicable by D 5456: D 143, D 198, D 1761, D 2395, D 2915, D 4442, D 4761, D 4933, D 5764: 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, P.O. Box 11700 Tacoma, WA 98411-0700. In plant qualification testing conducted by International Paper Co., Sunpine Forest Products Ltd. Division and witnessed by APA-EWS. Allowable design stresses were certified by James J. Barlow, P.E., New York State License Number: 078757.

Test Report(s): Quality Control Manual for West Fraser™ Laminated Veneer Lumber for Sundre Forest Products, dated January 2005.

Description – West Fraser™ LVL is manufactured by laminating sheets of veneer on top of each other. Veneer sheets are graded using Ultrasonic Propagation Time (UPT) grading method. Graded veneers may be scarfed or unscarfed before being sent to the sheet feeder. There the veneers are sequenced into prescribed lay-ups, with glue applied on the top face of each veneer sheet, with the exception of the top veneer. The glue is exterior-grade phenolic adhesive complying with ASTM D2559. The veneer sheets are staggered and lapped within lay-up patterns as specified in Sundre Forest Products, Inc. approved Quality Control Manual. The grain of all veneer is oriented along the length of the billet. The lay-up is then subjected to hot pressing until the glue is cured. Products are available in thickness of 3/4-inch to 3 ½-inches, depths of 1 ½-inches to 48-inches and lengths to 80 feet.

TABLE 1 – ALLOWABLE DESIGN PROPERTIES FOR WEST FRASER™ LVL[1,2,3,4,5,6,7,8]

PROPERTY [1,2,3,4,5]		DESIGN STRESS (psi)			
		1.3E GRADE[1,6]	1.7E GRADE[1,6]	1.8E GRADE[1,6]	2.0E GRADE[1,7]
Modulus of Elasticity (10^6), MOE		1.3	1.7	1.8	2.0
Bending (F_b)	Joist	1700	2750	3000	3100
	Plank	1900	2600	3000	3500
Tension Parallel to Grain (F_t)		1300	1950	1950	2100
Longitudinal Shear (F_v)	Joist	220	320	350	350
Compression Parallel, ($F_{c//}$)		1800	2350	2500	3000
Compression Perpendicular, ($F_{c\perp}$)	Joist	600	750	750	750

For SI: 1 psi = 6.89 kPa, 1 inch = 25.4 mm.

[1]The tabulated values are based on loads of a normal duration and a reference depth of 12 inches. For depths of 3 $^1/_2$ inches and deeper, when loaded edgewise, the allowable bending stress shall be modified by $(^{12}/_d)^{0.1111}$ for 1.3E and 1.7E. For 1.8E lodgepole pine, the allowable bending stress shall be modified by $(^{12}/_d)^{0.08}$ and $(^{12}/_d)^{0.1538}$ for 2.0E, as shown in the following table:

1.3E 1700F_b and 1.7E 2750F_b[6] $(^{12}/_d)^{0.1111}$									
Depth (in.)	$3^1/_2$	$5^1/_2$	$7^1/_4$	$9^1/_2$	$11^7/_8$	14	16	18	24
Multiply by	1.15	1.09	1.06	1.03	1.00	0.98	0.97	0.96	0.93
1.8E 3000Fb Grade[6] $(^{12}/_d)^{0.08}$									
Depth (in.)	$3^1/_2$	$5^1/_2$	$7^1/_4$	$91/_2$	$11^7/_8$	14	16	18	24
Multiply by	1.10	1.06	1.04	1.02	1.00	0.99	0.98	0.97	0.95
2.0E 3100F_b[8] Grades[7,8] $(^{12}/_d)^{0.1538}$									
Depth (in.)	$3^1/_2$[8]	$5^1/_2$[8]	$7^1/_4$	$9^1/_2$	$11^7/_8$	14	16	18	24
Multiply by	1.08	1.08	1.08	1.04	1.00	0.98	0.96	0.94	0.90

[2]Tension (F_t) of the 1.3E, 1.7E, 1.8E and 2.0E grades is based on a gauge length of 4 feet. For specimens longer than 4 feet, a length factor of $(4/L)^{1/11}$ shall be used to adjust the F_t, where L is the actual length in feet.

[3]Load parallel to glue line is for joist and perpendicular to glue line is for plank.

[4]Stresses may be adjusted for duration of load in accordance with the applicable code.

[5]Tabulated flexural stress (F_b) may be increased by 4 percent when the member qualifies as a repetitive member as defined in AFPA NDS.

[6]LVL grades produced in lodgepole pine or lodgepole pine and spruce-pine-fir in combination.

[7]LVL grades produced in lodgepole pine, or lodgepole pine and Douglas fir in combination.

[8]Depth factor adjustment limited to $7^1/_4$ inches depth equivalent.

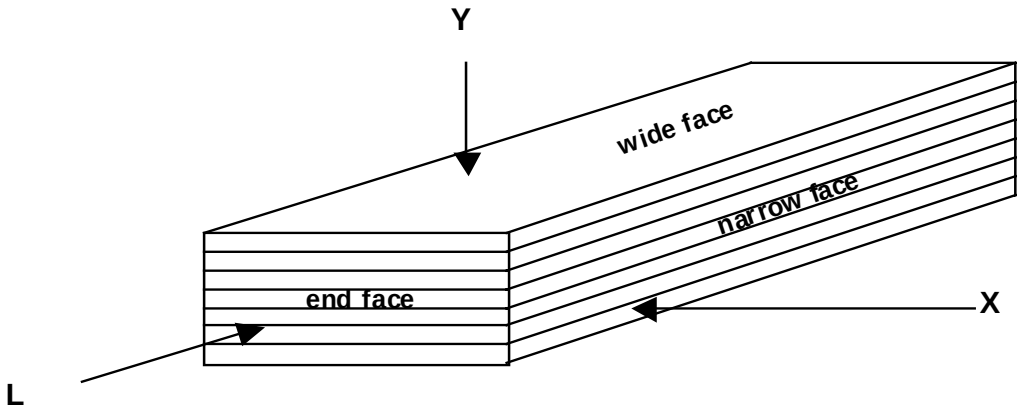
TABLE 2 – FASTENER DETAILS

[1]Allowable lateral values for nails noted in the applicable code apply to the LVL for conditions and the species noted in the table.

FASTENER DESCRIPTION		EQUIVALENT SPECIES SPECIFIC GRAVITY[1,2]			
		1.3E Grade	1.7E Grade	1.8E Grade	2.0E Grade
Nail Withdrawal					
Face	**Installed perpendicular to the wide face**	**Hem-Fir (0.43)**	Douglas Fir-Larch **(0.50)**	Douglas Fir-Larch **(0.50)**	Douglas Fir-Larch **(0.50)**
Edge	**Installed Parallel to the Wide Face**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**
Nail Dowel Bearing					
Face	**Installed perpendicular to the wide face**	**Hem-Fir (0.43)**	Douglas Fir-Larch **(0.50)**	Douglas Fir-Larch **(0.50)**	Douglas Fir-Larch **(0.50)**
Edge	**Installed parallel to the wide face**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**
Bolt Dowel Bearing					
Parallel to grain		**Northern Species (0.34)**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**
Perpendicular to grain		**Hem-Fir (0.43)**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**	**Hem-Fir (0.43)**

[2]See Figure 1 for orientation details.

FIGURE 1 – WEST FRASER™ LVL ORIENTATION



Terms & Conditions – That the West Fraser™ LVL be accepted on condition that all uses, locations and installations shall comply with the applicable requirements of the New York City Building Code and on further condition that the design provisions and specifications as listed in the above laboratory reports shall apply and on further condition that:

1. Structures designed using West Fraser™ LVL lumber 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.

2. West Fraser™ LVL lumber shall be for interior use only and stamped "INTERIOR" and "MEA 406-04-E Vol. II" on each beam.

3. West Fraser™ LVL, when stored out-of-doors or exposed to wet weather conditions during construction, be inspected by the user for swelling or warping etc. and replace if so damaged.

4. Beams less than 1 ½" thick shall be fire-stopped every 500 square feet in floor construction.

All shipments and deliveries of such materials shall be provided with a permanent marking 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 building code.

Final Acceptance April 6, 2006

Examined by