CITY OF NEW YORK
DEPARTMENT OF BUILDINGS

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of Materials and Equipment Acceptance (MEA) Division

Patricia J. Lancaster, A.I.A., Commissioner

MEA 5-03-E
Report of Material and Equipment Acceptance Division

Manufacturer – Temlam Inc., 48 Boivin---C.P. 1178, Ville-Marie, Quebec, Canada J0Z 3W0.
Trade Name – SelecTem
Product – Laminated Veneer Lumber (LVL)
Pertinent Code Section – 27-617 thru 27-624 and Reference Standards RS10.
Laboratory – Extrapolation of material property tables were signed and sealed by J. Mark Bartel, New York State Professional Engineer – License No. 078345. Laboratory – Intertek Testing Services (ITS) for third-party certification program; test reports as follows:
Test Reports –

6.1 SelecTem Aspen and Birch/Aspen LVL Quality Control Manual, revised, April 15, 2002.
6.2 Effect of Ultrasonic Veneer Grading on Strength and Stiffness of SelecTem LVL, ITS test reports summarized by David S. Gromala, P.E., dated January 11, 1995.
6.3 Creep Tests on SelecTem LVL, Forintek Project No. 1586K409, by Erol Karacabeyli, M.A.Sc., P.Eng., dated November 1992.
6.4 Creep Tests on SelecTem LVL, Forintek Project No. 1586K409, by Erol Karacabeyli, M.A.Sc., P.Eng., dated December, 1992.
6.5 Creep Tests on SelecTem LVL Birch & Poplar 2.0E-3300fb, Forintek Project No. 1586K650, by Erol Karacabeyli, M.A.Sc., P.Eng., dated July 1995.
6.6 Determination of Physical Properties of Temlam Laminated Veneer Lumber Structural Product, ITS Project No. 50459-C7-450041, dated March 30, 1992, revised July 18, 1992.
6.7 Determination of Physical Properties of Temlam Laminated Veneer Lumber Structural Product, ITS Project No. 50459-C7-751200, dated July 13, 1992.
6.8 Analysis of Test Results (based on ITS reports), by David S. Gromala, P.E., dated July 7, 1992.

6.9 Volume Effect in Bending and Tension for SelecTem LVL (based on ITS reports), by David S. Gromala, P.E., dated July 3, 1992.

6.10 Correlating Qualification Tests with Quality Control Tests for SelecTem LVL (based on ITS reports), by David S. Gromala, P.E., dated July 7, 1992.

6.11 Testing and Analysis of Fasteners in Aspen SelecTem Laminated Veneer Lumber in Compliance with ICBO Acceptance Criteria AC 47 (based on PFS test data), by David S. Gromala, P.E., dated May 24, 1995.

6.12 Temlam Inc., Qualification for Mixed Birch/Aspen Laminated Veneer Lumber 'Mechanical Properties', PFS Report No. 94-601, dated July 1, 1994.

6.13 Temlam Inc., Qualification for Mixed Birch/Aspen Laminated Veneer Lumber 'Fasteners', PFS Report No. 94-601, dated July 1, 1994.

6.14 Analysis of Test Results (based on PFS reports), by David S. Gromala, P.E., dated November 12, 1994.

6.15 Volume Effect in Bending and Tension for SelecTem LVL (based on PFS reports), by David S. Gromala, P.E., dated November 12, 1994.

6.16 Bending Strength and Stiffness of SelecTem LVL as a Function of Moisture Content (based on PFS reports), by David S. Gromala, P.E., dated November 10, 1994.

6.17 Testing and Analysis of Fasteners in SelecTem LVL (based on PFS reports), by David S. Gromala, P.E., dated January 5, 1995.

6.18 Testing and Analysis of Fasteners in Aspen/Birch SelecTem Laminated Veneer Lumber in Compliance with ICBO Acceptance Criteria AC 47 (based on PFS reports), by David S. Gromala, P.E., dated May 24, 1995.

March 21, 2003 letter from Intertek Testing Services certifying that ITS provides third-party in-plant quality assurance inspection/testing for Temlam, Inc.

Description -- SelecTem 1.8E and 2.0E LVL are laminated veneer lumber (LVL), a structural composite lumber (SCL) consisting of Aspen, or Birch/Aspen veneers laminated with the grain parallel to the length of the member. SelecTem LVL is intended primarily for use as floor or roof beams or joists in wood framed construction, but may be used in any structural assembly where their material properties have been used for an engineered design. SelecTem LVL is manufactured under controlled conditions under a quality assurance program as outlined in the Quality Control Manual. Intertek Testing Service (ITS) performs periodic third-party inspections of SelecTem LVL for quality control and conformance with the Quality Control Manual.

The following tables show the design properties of SelecTem 1.8E and 2.0E LVL.

TABLE 1
SELECTEM LVL ALLOWABLE DESIGN STRESSES

PROPERTY			DESIGN VALUE		
			Aspen	Birch/Aspen	
			1.8E grade	1.8E grade	2.0E grade
F_b	Flexural stress		2850	3025	3300
E	Modulus of elasticity (psi x 10^6)		1.8	1.8	2
F_t	Tension parallel to grain (psi)		2000	2100	2300
$F_{c\text{-parallel}}$	Compression parallel to grain (psi)		2900	2700	
$F_{c\text{-perp.}}$	Compression perpendicular to grain (psi)	Joist/Beam	550	575	
		Plank	450	500	
F_v	Horizontal Shear (psi)	Joist/Beam	250	290	
		Plank	150	150	180

For SI: 1 inch = 25.4 cm, 1-psi = 0.00689 MPa

TABLE 1 NOTES:

1) The tabulated flexural stresses are based on loads of a normal duration and a reference depth of 12 inches. For other depths, the tabulated flexural stress shall be adjusted by a size factor adjustment of $(12/d)^{0.25}$ for Aspen SelecTem and $(12/d)^{0.15}$ for Birch/Aspen SelecTem, as shown below:

Aspen:						
Depth (inches):	3-1/2	9-1/2	14	18	20	24
Multiply by:	1.35	1.05	0.95	0.90	0.88	0.84
Birch/Aspen:						
Depth (inches):	3-1/2	9-1/2	14	18	20	24
Multiply by:	1.20	1.04	0.98	0.94	0.93	0.90

The maximum size factor permitted for depth effect is 1.35 for Aspen SelecTem and 1.20 for Birch/Aspen SelecTem. The size factor derived in this footnote is cumulative with the duration-of-load adjustment factor and the repetitive-member adjustment factor.

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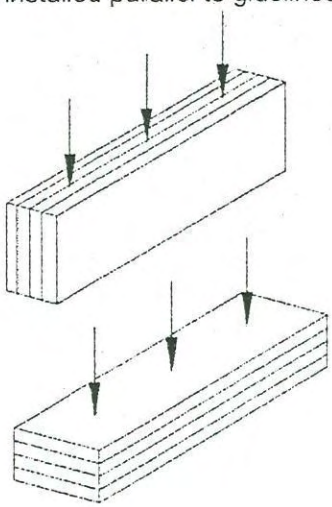
2) See Figure 1 for illustration of orientation.
3) Stresses are permitted to be adjusted for duration of load in accordance with the applicable code.
4) Tabulated flexural stress (F_b) shall be permitted to be increased by 4 percent when the member qualifies as a repetitive member as defined in ANSI/AFPA NDS.
5) The allowable stresses in Table 1 are based on covered dry conditions of use. Dry conditions of use are those environmental conditions represented by sawn lumber at which the moisture content is less than 16 percent.

TABLE 2
SELECTEM LVL EQUIVALENT SPECIFIC GRAVITY FOR FASTENERS

LVL Product & Grade	Veneer Species	Equivalent Specific Gravity		
		Nails		Bolts
		Withdrawal Load	Lateral Load	Lateral Load (1/2" Dia., installed perpendicular to gluelines)[5]
		Nails Installed at Edge or at Wide Face	Nails Installed at Edge[4] or at Wide Face	Load Applied Parallel or Perpendicular to Grain of Veneers
SelecTem 1.8E	Aspen	0.46	0.43	0.50
SelecTem 1.8E	Birch/Aspen	0.50	0.50	0.50
SelecTem 2.0E	Birch/Aspen	0.50	0.50	0.50

TABLE 1 NOTES:

1) Fastener values based on the above equivalent specific gravities are for loads of normal duration. The values may be adjusted for the appropriate duration of load factor in accordance with ANSI/AFPA NDS.
2) See Figure 1 for illustration of orientation. See Table 3 for minimum nail spacing requirements
3) Bolt spacing shall be in accordance with the applicable model code for solid-sawn lumber.
4) Applies to nails loaded parallel to gluelines. Nails installed at edge and loaded laterally perpendicular to gluelines are beyond the scope of this report.
5) Bolts installed parallel to gluelines are beyond the scope of this report.



JOIST/BEAM LOADING
AND EDGE NAILING
(PARALLEL TO GLUE LINES)

PLANK LOADING,
AND WIDE FACE NAILING/BOLTING
(PERPENDICULAR TO GLUE LINES)

FIGURE 1
SELECTEM LVL ORIENTATION

FIGURE 2
ALLOWABLE ROUND HOLES
FOR UNIFORMLY LOADED SELECTEM LVL BEAMS

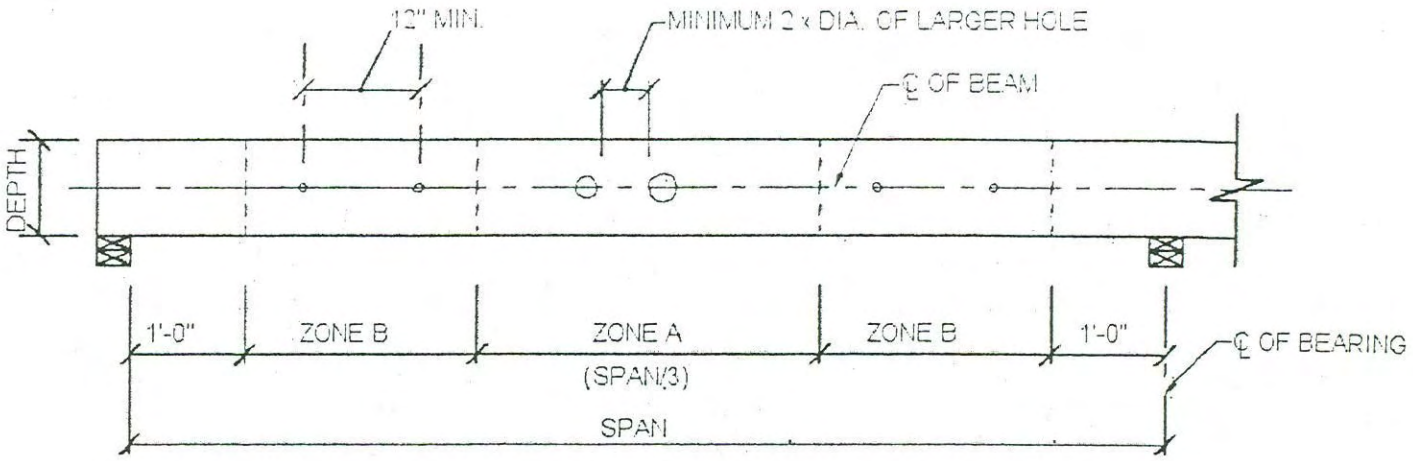


FIGURE 3 NOTES:

1) This diagram applies to simple and multi-span applications with uniform loading. Beams must be properly sized using the uniform load tables in the SelecTem User's Guides or "Multi" beam analysis software by Jager Building Systems Inc.
2) Only round holes located at the centerline of the beam (depth/2) are permitted as follows:

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ZONE A

Maximum Round Hole Diameter (Inches)	Beam Depths (Inches)	Minimum Spacing between holes	Maximum Number of Holes, Zone A
1	5-1/2 to 9-1/4	clear distance between holes shall be two times the diameter of the largest hole	Three
2	9-1/2 to 14		
3	16 to 20		
4	24		

ZONE B

Maximum Round Hole Diameter (Inches)	Beam Depths (Inches)	Minimum Spacing between holes	Maximum Number of Holes, Zone A
3/4	5-1/2 to 24	12 inches o.c.	No. of 3/4" holes limited only by length of Zone B

3) Rectangular holes are not allowed.
4) Other load conditions, hole sizes, or hole configurations, and holes at cantilevers, must be evaluated by a professional registered engineer.

Recommendation – SelecTem 1.8E and 2.0E LVL as described above shall be accepted on condition that all uses, locations and installations shall comply with all 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 SelecTem shall conform to the manufacturer's specifications except that the appropriate design load(s), deflection limitation(s), and other performance standards of the New York City Building Code shall apply.

2. SelecTem shall be for interior use only and stamped MEA 5-03-E on each beam.

3. SelecTem, when stored out of doors or exposed to wet weather conditions during construction, shall be inspected by the user for swelling or warping and be replaced if damaged.

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

5. All shipments and deliveries of such material shall be provided with a permanent marking suitably placed, certifying that the materials shipped or delivered is equivalent to those tested and accepted for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance June 23, 2003

Examined by Donald Lloyd