RigidLam® LVL

ENGINEERED WOOD

Studs

RIGIDLAM® LVL STUDS

Superior strength, stiffness, and straightness make Roseburg's RigidLam® LVL Studs an ideal alternative to solid-sawn lumber in common framing applications. Unmatched uniformity, backed by a product and performance warranty, delivers efficiently built, consistently straight walls.

MAKING LIVES BETTER FROM THE GROUND UP

Roseburg

RigidLam® LVL Studs*

ENGINEERED WOOD

Although conventional construction methods have allowed builders to meet the needs of homeowners, they are constantly being challenged with the need for straighter, stronger, and taller wall framing components. Roseburg's RigidLam® LVL studs are an answer to the needs of both homeowners and builders. RigidLam studs are manufactured to the industry's highest standards and, unlike solid-sawn lumber, RigidLam studs are straight, strong, and stiff, resulting in a faster installation time, fewer callbacks, and straight walls that give homeowners peace of mind.

FIRE RATED STUD WALL APPLICATIONS

Conventional Stud Wall Construction: RigidLam studs are permitted to be used in fire-resistance-rated conventional wall construction and are considered to be a direct replacement for solid-sawn lumber, having the same dimensions in any fire-resistance-rated wall assembly listed in Table 721.1(2) of the IBC. A minimum of 2.5 pcf of mineral wool insulation must be placed in the stud cavity.

Engineered Stud Wall Construction: See APA Product Report PR-L289 for additional limitations and design value adjustments when using RigidLam studs in fire-resistance-rated engineered wall construction. PR-L289 can be found on the Roseburg website (www.roseburg.com) in the Engineered Wood Products section or on the APA website (www.apawood.org).

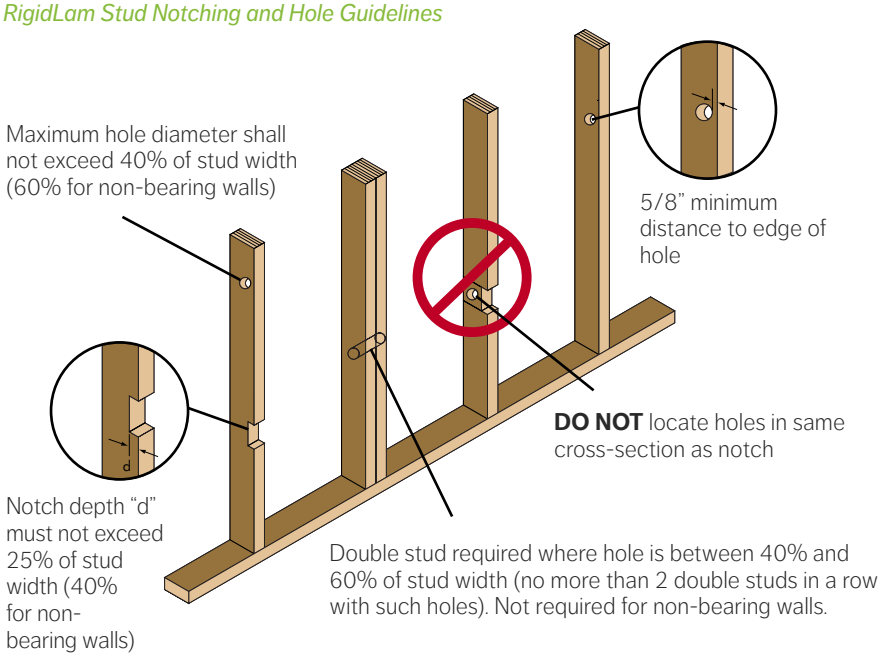
**Currently, only Douglas-fir LVL, grades 1.6E through 2.1E have been qualified for use in conventional or engineered stud wall construction.*

CONVENTIONAL CONSTRUCTION

Based on testing conducted in accordance with ICC Evaluation Service Acceptance Criteria for Wood-Based Studs, AC202, RigidLam LVL studs are considered to be alternatives to sawn lumber studs complying with Section 2308.5 of the IBC and Section R602 of the IRC.

CONVENTIONAL WALL CONSTRUCTION

RigidLam Stud Notching and Hole Guidelines



ENGINEERED CONSTRUCTION

For building applications that fall outside the scope of conventional construction, RigidLam LVL studs may be used, provided they are designed in accordance with accepted engineering practice. RigidLam LVL studs are available in 1.6E and 2.1E grades in thicknesses of 1-1/2" and 1-3/4".

ENGINEERED WALL CONSTRUCTION

RigidLam Stud Notching and Hole Guidelines

Notches: A notch up to 40% of the width of the stud may be placed anywhere along the stud, provided the reduced section is accounted for using standard engineering analysis and the allowable bending and/or tension stress is reduced by 30% to account for the stress concentrations that occur at the corners of the notch.

Holes: A hole with a maximum diameter of 30% of the width of the stud may be placed anywhere along the stud **at the centerline of the stud width** without further engineering analysis for lateral bending considerations. For other conditions, holes may be placed anywhere along the stud, provided the reduced section is accounted for using standard engineering analysis.

RigidLam® LVL Studs*

ENGINEERED WOOD

RIGIDLAM® LVL STUD ALLOWABLE DESIGN STRESSES VS. SOLID-SAWN LUMBER[1][a]

2x4		Joist (edgewise)			Plank (flatwise)			Axial		MOE
		F_b	F_v	$Fc_{\perp}$[2]	F_b	F_v	$Fc_{\perp}$[2]	F_c	F_t	
Species	**Grade**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**
RigidLam LVL Stud	**1.6E**	**2,730[4]**	**220**	**575**	**2,250**	**130**	**650**	**1,950**	**1,500[3]**	**1,600,000**
RigidLam LVL Stud	**2.1E**	**3,761[4]**	**290**	**750**	**3,100**	**130**	**650**	**3,000**	**2,100[3]**	**2,100,000**
Douglas-fir[b]	No. 2	1,553[c]	180	625	1,485[d]	180	625	1,553[e]	863[e]	1,600,000
Spruce-Pine-Fir[b]	No. 2	1,509[c]	135	425	1,444[d]	135	425	1,323[e]	675[e]	1,400,000

2x6		Joist (edgewise)			Plank (flatwise)			Axial		MOE
		F_b	F_v	$Fc_{\perp}$[2]	F_b	F_v	$Fc_{\perp}$[2]	F_c	F_t	
Species	**Grade**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**	**(psi)**
RigidLam LVL Stud	**1.6E**	**2,580[4]**	**220**	**575**	**2,250**	**130**	**650**	**1,950**	**1,500[3]**	**1,600,000**
RigidLam LVL Stud	**2.1E**	**3,554[4]**	**290**	**750**	**3,100**	**130**	**650**	**3,000**	**2,100[3]**	**2,100,000**
Douglas-fir[b]	No. 2	1,346[c]	180	625	1,346[d]	180	625	1485[e]	748[e]	1,600,000
Spruce-Pine-Fir[b]	No. 2	1,308[c]	135	425	1,308[d]	135	425	1,265[e]	585[e]	1,400,000

RigidLam LVL Notes

1. These allowable design stresses apply to dry service conditions.
2. Duration of Load increases not allowed.
3. Tabulated values are based on a 4 ft length. For lengths greater than 4 ft, multiply by $(4/Length)^{1/9}$. For lengths less than 4 ft, use the table values.
4. Bending values have been multiplied by $(12/d)^{1/8}$ and a repetitive member factor of 1.04.

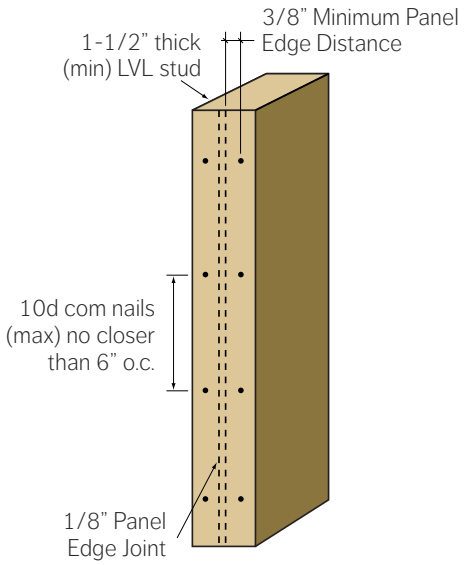
Solid-Sawn Notes

a. These allowable design stresses apply to dry service conditions.
b. Solid-sawn design values taken from 2018 National Design Specification.
c. F_b has been adjusted for repetitive member use and size factor increases.
d. F_b has been adjusted for size-factor increases and flat-use increases.
e. F_c and F_t have been adjusted for size-factor increases.

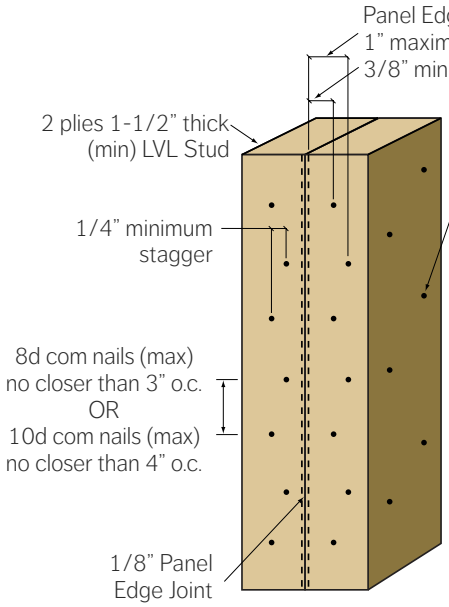
CONVENTIONAL & ENGINEERED WALL CONSTRUCTION

RigidLam Stud Nailing Restrictions

Nailing Restrictions for Single Stud at Adjoining Panel Edges



Nailing Restrictions for Double Studs at Adjoining Panel Edges



Stitch-nailing requirements:

Conventional Construction: Stitch-nail studs together with a minimum two staggered rows of 10dx3" box nails at 10" o.c. in each row.

Engineered Construction: Stitch-nail studs together with a minimum of the same size and spacing of the nailing required to attach the sheathing to the framing at the panel edges, provided a minimum nail penetration of 6 times the nail diameter is achieved. *2015 SDPWS Section 4.3.6.1.1*

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