iLevel® by Weyerhaeuser

ONE-HOUR FIRE-RATED ASSEMBLY

For iLevel® Trus Joist® TimberStrand® LSL 2x6 Studs

- Thorough Fire Testing
- Proven Fire Performance
- Design and Construction Assistance
- Limited Product Warranty

#1503 TECHNICAL BRIEF

www.iLevel.com
1.888.iLevel8 (1.888.453.8358)

Weyerhaeuser

Standards for Determining Fire Resistance of Construction and Building Materials

In the United States and Canada, the building codes rely on test standards to establish the relative fire resistance of different wall and floor or roof/ceiling assemblies. These standards include the test methods ASTM E119 and CAN/ULC-S101. All of these tests specify a standardized fire time-temperature curve, which provides a standardized exposure for evaluating structural components and systems.

The Gypsum Association (GA) publishes the *Fire Resistance Design Manual*, GA-600, which covers fire-rated assemblies for solid sawn lumber walls. All fire-resistance ratings for generic assemblies in GA-600 are accepted as meeting the code requirements of the 2006 IBC, per IBC Table 720.1(2) footnote (o). The generic one-hour fire-rated assembly, GA File No. WP 3660, was constructed using iLevel® TimberStrand® LSL studs and tested to demonstrate equivalency to 2x6 or larger solid sawn lumber.

Thermal imaging of TimberStrand® LSL 2x6 studs resisting heat (yellow is cooler than red) during a fire test of the assembly.

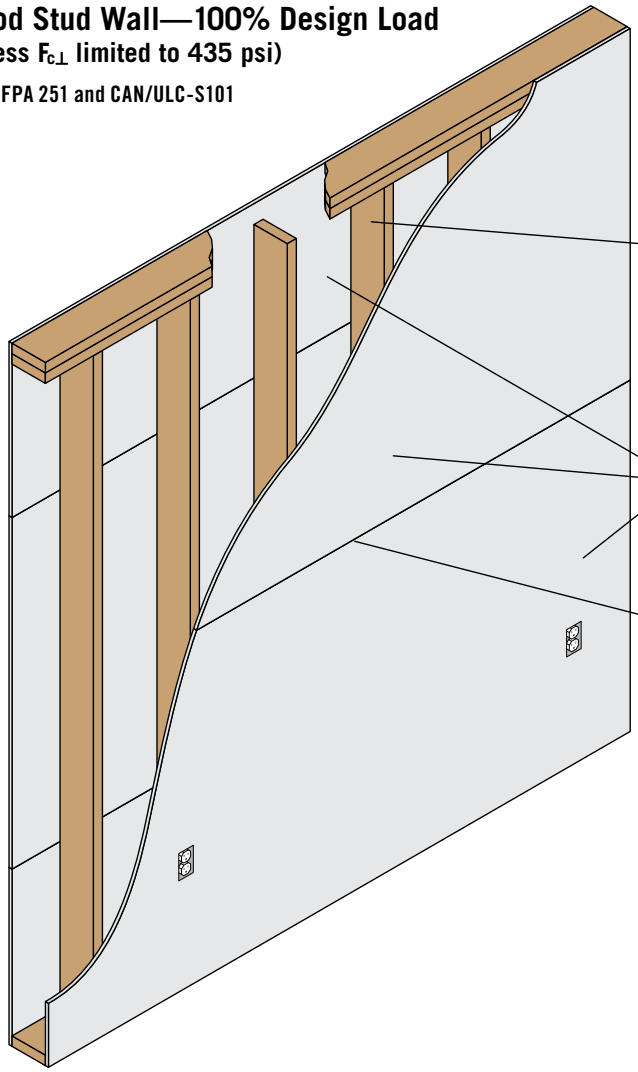
One-Hour Fire-Resistive Wood Wall Assembly with TimberStrand® LSL Studs

2x6 or larger TimberStrand® LSL is permitted as a substitute in fire-rated assemblies when used in the same or larger dimensions as sawn lumber.

2x6 Wood Stud Wall—100% Design Load

(Plate stress $F_{c\perp}$ limited to 435 psi)

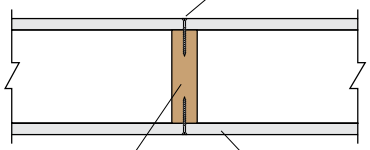
ASTM E119/NFPA 251 and CAN/ULC-S101



2x6 TimberStrand® LSL studs, spaced 16" on-center, double top plates, single bottom plate

⅝" Type X gypsum wallboard, 4' wide, applied horizontally, unblocked. Horizontal application of wallboard represents the direction of least fire resistance as opposed to vertical application.

Joints and fastener heads (wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound).



2¼" Type S drywall screws spaced 7" on-center

2x6 TimberStrand® LSL studs, spaced 16" on-center, double top plates, single bottom plate

⅝" Type X gypsum wallboard, 4' wide, applied horizontally, unblocked. Horizontal application of wallboard represents the direction of least fire resistance as opposed to vertical application.

"iLevel has completed a successful fire resistance and hose stream test of a one-hour load-bearing TimberStrand® LSL stud wall assembly. Based on the requirements for ASTM E119-05, the assembly qualifies for a one-hour fire-resistance rating, including the hose stream requirement."

—Howard Stacy, Vice President
Director, Commercial Testing Western Fire Center, Inc.,
(IAS accreditation: TL #180)

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For more information on fire assemblies and fire-safe construction, please refer to the iLevel Fire Facts Guide (Reorder #1500) or visit www.iLevel.com and www.i-joist.com

For Structural Properties See Code Evaluations: HUD MR 1265d, ICC ES ESR-1387

Call your iLevel representative today to order TimberStrand® LSL. 1.888.453.8358

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Reorder 1503

This document supersedes all previous versions. If this is more than one year old, contact your dealer or iLevel rep.
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