ICC NTA, LLC Listing Report

Report Holder
Premier Building Systems, LLC
18504 Canyon Road East
Puyallup, WA 98375

1. Product
1.1 PremierSIPS wall assemblies identified in NER-1009 used as a Lateral Force Resistance System in Seismic Design Categories D, E, and F.

2. Standards
ICC NTA, LLC is listing the above product(s) for compliance with the applicable sections of the following standards:
2.1 ASCE/ SEI 7-10 Section 11.1.4
2.2 ASCE/SEI 7-10 Section 12.2.1

To obtain the most current ICC NTA NLR Report, visit www.icc-nta.org/report-search/.

3. Manufacturing Quality Control
ICC NTA, LLC has evaluated the manufacturer’s quality system in accordance with:
3.1 NTA IM 014 Structural Insulated Panels
3.2 NTA IM 036 Quality System Requirements

4. Construction Components (Ref. Figure 1)
4.1 (#1) Structural Insulated Panels. PremierSIPS consisting of nominal 3 ½-inch thick EPS core laminated between two sheets of minimum 7/16-inch thick oriented strand board (OSB). SIP Panels shall bear the PRS032808-3 listing mark.
4.2 (#2) Splines. PremierSIPS for use in seismic construction are interconnected with Spline connections as described in Table 1.
4.3 (#3) Chords and Top and Bottom Plates. PremierSIPS for use in seismic construction shall use #2 Douglas-fir larch lumber for Chords, Top Plates and Bottom Plates. Construction shall include a single 2x bottom plate, either a double 2x top plate or a single 4x top plate and either a double 2x or single 4x end chord.
4.4 Fasteners
4.4.1 (#4) 8d Full Round Head Cooler Nails, 0.113-in. x 2-3/8-in. Applied as described in Table 1.
4.4.2 (#5) 16d Full Round Head Common Nails, 0.162 x 3-in. Applied in plate to chord connections.
4.4.3 (#6) 16d Full Round Head Common Nails, 0.162 x 3-1/2-in. Applied in lumber to lumber connections to join double lumber top plates and double lumber chords.
4.4.4 (#7) Holdowns. Designed in accordance with accepted engineering practice to resist design chord forces.

5. Design
5.1 Design Approval. Where required by the authority having jurisdiction, structures using PremierSIPS shall be designed by a registered design professional. Construction documents, including engineering calculations and drawings providing floor plans, window details, door details, and connector details, shall be submitted to the code official when application is made for a permit. The individual preparing such documents shall possess the necessary qualifications as required by the applicable code and the professional registration laws of the state where the construction is undertaken. Approved construction documents shall be available at all times on the jobsite during installation.
5.2 Connection to Structure. Designed in accordance with accepted engineering practice to transfer racking forces into the wall at the top and out of the wall at the base.
5.3 **Design Loads.** Design loads to be resisted by the SIP panels shall be as required under the applicable building code. Loads on the panels shall not exceed the loads noted in this report.

5.4 **In-Plane Shear Design.** Shear walls shall be sized to resist all code required wind and seismic loads without exceeding the allowable loads provided in Table 1. Shear wall chords, holdowns, and connections to transfer shear forces between the wall and surrounding structure shall be designed in accordance with accepted engineering practice. The allowable loads provided in Table 1, as published, are limited to assemblies with height-to-width ratios not exceeding 2:1. The allowable loads may be adjusted in accordance with Footnote 5 of Table 1. *(IM 014 ACU17)*

5.5 **Seismic Design Categories.** The shear wall configurations in Table 1 are permitted in Seismic Design Categories D, E and F. Such walls shall be designed using the seismic design coefficients and limitations provided in ASCE 7-10 for light-framed walls sheathed with wood structural panels rated for shear resistance (SFRS A13). These SIP panels shall use the following factors for design: Response Modification Coefficient, $R = 6.5$; System Overstrength Factor, $\Omega_0 = 3.0$; Deflection Amplification Factor, $C_d = 4.0$. *(IM 014 ACU16)*

5.6 **Adhesives.** Adhesives shall not be applied to wood-to-wood or spline-to-facing interfaces in shear walls in Seismic Design Categories D, E and F. Premier sealants may be applied to wood-to-foam or facing-to-foam interfaces. Flexible SIP tape may be applied over panel joints.

6. **Installation**

6.1 **General.** PremierSIPs wall assemblies shall be fabricated, identified and erected in accordance with this report, the approved construction documents and the applicable code. In the event of a conflict between the manufacturer’s published installation instructions and this report, this report shall govern. Approved construction documents shall be available at all times on the jobsite during installation.

7. **Evidence Submitted**

Evaluation evidence and data are on file with ICC NTA, LLC. ICC NTA, LLC is accredited by A2LA as follows:

- ISO 17020 Inspection Agency
- ISO 17025 Testing Laboratory
- ISO 17065 Product Certification Agency

The scope of accreditation related to testing, inspection or product certification pertain only to the test methods and/or standard referenced therein. Design parameters and the application of building code requirements, such as special inspection, have not been reviewed by A2LA and are not covered in the accreditation.

8. **Findings**

All products referenced herein are manufactured under an in-plant Quality Assurance program to ensure that the production quality meets or exceeds the requirements of the standards noted herein and the criteria as established by ICC NTA, LLC. Furthermore, product must comply with the requirements of this listing report.

*This listing report is subject to annual review.*
9. Markings
Each eligible product shall be permanently marked to provide the following information:

9.1 The ICC NTA, LLC listing mark, shown below.
9.2 NTA’s NLR No. NLR-1011
9.3 Identifier for production facility
9.4 Project or batch number

Table 1: Allowable In-Plane Shear Strength (Pounds per Foot) for SIP Shear Walls (Seismic Loads in Seismic Design Categories A, B, C, D, E and F)\(^1,2\)

<table>
<thead>
<tr>
<th>Spline Type(^3)</th>
<th>Framing Minimum SG(^4)</th>
<th>Minimum Facing Connections(^2)</th>
<th>Spline(^3)</th>
<th>Shear Strength(^5) (plf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block, Surface, or Lumber Spline (Type S, Type L)</td>
<td>0.50</td>
<td>0.113” x 2-3/8” nails, 3” on center Staggered (3/8” edge distance and 3/4” edge distance)</td>
<td>(23/32” thick, 3” wide spline) 0.113” x 2-3/8” round head nails, 3” on center Staggered (3/8”, 3/4” edge distance)</td>
<td>720</td>
</tr>
<tr>
<td></td>
<td>0.50</td>
<td>0.113” x 2-3/8” nails, 2” on center Staggered (3/8” edge distance and 3/4” edge distance)</td>
<td>0.113” x 2-3/8” round head nails, 2” on center Staggered (3/8”, 3/4” edge distance)</td>
<td>(23/32” thick, 3” wide spline) 0.113” x 2-3/8” nails, 2” on center Staggered (3/8” edge distance and 3/4” edge distance)</td>
</tr>
</tbody>
</table>

\(^1\) Shear strength values, as published in this table, are limited to assemblies resisting wind or seismic forces where the aspect ratio (height:width) does not exceed 1:1 for Type S panel connections or 2:1 for Type L panel connections. \(\text{IM 014 ACU17}\)

\(^2\) Chords, hold-downs and connections to other structural elements must be designed by a registered design professional in accordance with accepted engineering practice.

\(^3\) Spline type at interior panel-to-panel joints only, solid chord members are required at each end of each shear wall segment.

\(^4\) Required connections must be made on each side of the panel. Dimensional or engineered lumber shall have an equivalent specific gravity not less than specified.

\(^5\) For design to resist seismic forces, shear wall height-width ratios greater than 2:1, but not exceeding 3.5:1, are permitted for assemblies using lumber splines provided the allowable shear strength values in this table are multiplied by 2w/h.
This NLR report is intended to indicate that ICC NTA, LLC. has listed the product described and found it to be eligible for labeling. Product not labeled as specified herein is not covered by this report. ICC NTA, LLC. makes no warranty, either expressed or implied, regarding the product covered by this report. For more information or questions regarding this report please contact NTA at 1-833-NER-HELP (833-637-4357).

Figure 1: Typical Construction

Surface Spline (Type S)

Block Spline (Type S)

Lumber Spline (Type L)

Figure 2: Spline Connection Types