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## **Technical Bulletin**

### **Wall Panel Design Charts (OSB Spline) - NBC of Canada 2005**

**Page 1 of 2**

This bulletin provides wall panel design loads for the Insulspan® Structural Insulating Panel (SIP) System when used as a wall system component designed in accordance with the *National Building Code of Canada 2005*. Insulspan has completed structural testing of the Insulspan SIP System for this application using a third party testing laboratory following the requirements of ASTM E72, **Standard Test Methods of Conducting Strength Tests of Panels for Building Construction**.

The attached **Wall Panel Design Load Chart** dated August 6, 2006 summarizes design loads for Insulspan SIP wall panels with OSB spline joint configurations intended for use as cladding on timberframe buildings as noted.

- Table W-1-S – Wall Panel Variable Load (OSB Surface Spline or Insulspline Joint)

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**Table W-1-S WALL PANEL VARIABLE LOAD (psf)**



| OSB SURFACE SPLINE OR INSULSPLINE JOINTS<br>(USED FOR TIMBERFRAME STRUCTURES ONLY) |        |                      |                   |    |    |    |    |    |    |    |    |   |
|--|--------|----------------------|-------------------|----|----|----|----|----|----|----|----|---|
| Thickness  |        | Allowable Deflection | PANEL SPAN (feet) |    |    |    |    |    |    |    |    |   |
| SIP  | EPS    |                      | 8                 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |   |
| <b>TRANSVERSE LOAD with AXIAL LOAD = 0 plf</b>                                     |        |                      |                   |    |    |    |    |    |    |    |    |   |
| 4 1/2"   | 3 5/8" | L/240                | 38                | 32 | 26 | 22 | 18 |    |    |    |    | - |
|  |        | L/360                | 25                | 21 | 17 | 14 | 12 |    |    |    |    | - |
| 6 1/2"   | 5 5/8" | L/240                | 64                | 54 | 45 | 39 | 33 | 29 | 26 | 23 | 20 |   |
|  |        | L/360                | 43                | 36 | 30 | 26 | 22 | 19 | 17 | 15 | 13 |   |
| 8 1/4"   | 7 3/8" | L/240                | 87                | 75 | 63 | 55 | 47 | 42 | 38 | 33 | 29 |   |
|  |        | L/360                | 58                | 50 | 42 | 36 | 31 | 28 | 25 | 22 | 19 |   |
| 10 1/4"  | 9 3/8" | L/240                | 113               | 98 | 84 | 74 | 64 | 58 | 52 | 48 | 40 |   |
|  |        | L/360                | 75                | 65 | 56 | 49 | 43 | 39 | 35 | 31 | 27 |   |

**Notes:**

1. Table indicates design load based upon design objectives as per National Building Code of Canada 1995 and National Building Code of Canada 2005.
2. This reference table can ONLY be utilized for Insulspan SIP wall applications with spline joints for Timberframe buildings.
3. Transverse Load in the table represents maximum variable load due to wind pressure.
4. Insulspan SIP System must be assembled as per Insulspan Installation Guide and recommended assembly details.
5. Insulspan SIP skins are nailed to the OSB splines at vertical panel joints using minimum 8d (0.113"x2.5") @ 8" o.c.
6. Insulspan SIP System core material is molded expanded polystyrene (EPS) insulation complying with the requirements of CAN/ULC-S701, type 1.
7. Insulspan SIP System exterior skins are minimum 7/16" thick structural grade oriented strand board (OSB) conforming to DOC PS2, exposure 1 and CAN/CSA-O325.0 (span rating 1R24/2F16).

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