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| <p style="text-align: center;">DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Housing - Federal Housing Commissioner</p> <p>TO: DIRECTORS, SINGLE FAMILY HOCs DIRECTORS, MULTIFAMILY HUBs</p> | <p>Series and Series Number: MATERIALS RELEASE NO: 1341</p> |
| | <p>ISSUE DATE August 1, 2017</p> |
| | <p>REVIEW DATE August 1, 2020</p> |
| <p>SUBJECT: 1. Product PWI Joists</p> <p>2. Name and address of Manufacturer Pacific Woodtech Corporation 1850 Park Lane Burlington, WA 98233</p> | |

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE:

PWI joists are used as joists, rafters, headers and blocking panels.

Description:

PWI joists consist of Laminated Veneer Lumber (LVL) flanges and Oriented Strand Board (OSB) webs that are glued together to form the joists. Descriptive details for the various joist series are provided in Table 1.

PWI joists are manufactured to meet the requirements of the Pacific Woodtech Corporation *I-Joist Quality Control Manual*.

**Table 1
Joist Description**

| Joist Series | Joist Depth (in.) | | Flange | | | WEB | |
|--------------|-------------------|---------|----------|-------------|-------------|----------|-----------------|
| | Minimum | Maximum | Material | Width (in.) | Depth (in.) | Material | Thickness (in.) |
| PWI-20 | 9 ½ | 14 | LVL | 1 ¾ | 1 ⅜ | OSB | ⅜ |
| PWI-30 | 9 ½ | 11 ⅞ | LVL | 1 ½ | 1 ½ | OSB | ⅜ |
| PWI-40 | 9 ¼ | 16 | LVL | 2 ⅝ | 1 ⅜ | OSB | ⅜ |
| PWI-45 | 9 ½ | 16 | LVL | 2 ⅛ | 1 ⅜ | OSB | ⅜ |
| PWI-47 | 7 ⅞ | 20 | LVL | 2 ⅝ | 1 ⅛ | OSB | ⅜ |
| PWI-50 | 9 ½ | 16 | LVL | 1 ¾ | 1 ½ | OSB | ⅜ |
| PWI-60 | 9 ¼ | 16 | LVL | 2 ⅝ | 1 ⅜ | OSB | ⅜ |
| PWI-70 | 11 ⅞ | 20 | LVL | 2 ⅝ | 1 ½ | OSB | ⅜ |
| PWI-77 | 9 ½ | 24 | LVL | 2 ⅝ | 1 ½ | OSB | ⅞ |
| PWI-77W | 9 ½ | 24 | LVL | 2 ⅝ | 1 ½ | OSB | ⅞ |
| PWI-90 | 9 ½ | 24 | LVL | 3 ½ | 1 ½ | OSB | ⅞ |

Materials:

Flanges are made of LVL that complies with the requirements of the quality control manual.

Webs are made of OSB that complies with the requirements of the quality control manual. The webs are 8-foot-long sections of OSB that are glued end to end to form a continuous web using a tongue-and-groove joint.

Adhesives are exterior-type, heat-durable adhesives complying with the requirements of the quality control manual.

Design:

The design shall be in accordance with HUD MPS, local building codes, allowable design properties provided in Tables 2A and 2B, and the requirements of the *Pacific Woodtech Corporation User's Guide*.

Allowable clear spans for floor joists under typical residential loads are provided in Table 3. Additional floor and roof span tables are provided in the *Pacific Woodtech Corporation User's Guide*.

TABLE 2A. REFERENCE ALLOWABLE STRESS DESIGN VALUES FOR PWI JOISTS ⁽¹⁾

| Joist Series | Joist Depth [in] | EI ⁽²⁾ [10 ⁶ lb-in ²] | k ⁽³⁾ [10 ⁶ lb] | M ⁽⁴⁾ [ft-lb] | V ⁽⁵⁾ [lb] | Vertical Load ⁽⁶⁾ [plf] |
|--------------|------------------|---|---------------------------------------|--------------------------|-----------------------|------------------------------------|
| PWI-20 | 9½ | 145 | 4.94 | 2520 | 1330 | 2000 |
| | 11⅞ | 253 | 6.18 | 3265 | 1705 | 2000 |
| | 14 | 373 | 7.28 | 3890 | 1955 | 2000 |
| PWI-30 | 9½ | 161 | 4.94 | 3225 | 1330 | 2000 |
| | 11⅞ | 280 | 6.18 | 4170 | 1705 | 2000 |
| PWI-40 | 9¼ | 181 | 4.81 | 2650 | 1280 | 2000 |
| | 9½ | 193 | 4.94 | 2735 | 1330 | 2000 |
| | 11⅞ | 330 | 6.18 | 3545 | 1705 | 2000 |
| | 14 | 482 | 7.28 | 4270 | 1955 | 2000 |
| | 16 | 657 | 8.32 | 4950 | 2190 | 2000 |
| PWI-45 | 9½ | 193 | 4.94 | 3345 | 1330 | 2000 |
| | 11⅞ | 330 | 6.18 | 4315 | 1705 | 2000 |
| | 14 | 486 | 7.28 | 5140 | 1955 | 2000 |
| | 16 | 665 | 8.32 | 5880 | 2190 | 2000 |
| PWI-47 | 7⅞ | 133 | 4.10 | 2690 | 1000 | 2000 |
| | 9½ | 206 | 4.94 | 3335 | 1330 | 2000 |
| | 11⅞ | 344 | 6.18 | 4280 | 1705 | 2000 |
| | 14 | 499 | 7.28 | 5075 | 1955 | 2000 |
| | 16 | 674 | 8.32 | 5790 | 2190 | 2000 |
| | 18 | 878 | 9.36 | 6500 | 2425 | 1450 |
| | 20 | 1112 | 10.40 | 7200 | 2660 | 1450 |
| PWI-50 | 9½ | 186 | 4.94 | 3800 | 1330 | 2000 |
| | 11⅞ | 322 | 6.18 | 4915 | 1705 | 2000 |
| | 14 | 480 | 7.28 | 5860 | 1955 | 2000 |
| | 16 | 663 | 8.32 | 6715 | 2190 | 2000 |
| PWI-60 | 9¼ | 218 | 4.81 | 3665 | 1280 | 2000 |
| | 9½ | 231 | 4.94 | 3780 | 1330 | 2000 |
| | 11⅞ | 396 | 6.18 | 4900 | 1705 | 2000 |
| | 14 | 584 | 7.28 | 5895 | 1955 | 2000 |
| | 16 | 799 | 8.32 | 6835 | 2190 | 2000 |
| PWI-70 | 11⅞ | 440 | 6.18 | 6730 | 1705 | 2000 |
| | 14 | 644 | 7.28 | 8030 | 1955 | 2000 |
| | 16 | 873 | 8.32 | 9200 | 2190 | 2000 |
| | 18 | 1141 | 9.36 | 10355 | 2425 | 1450 |
| | 20 | 1447 | 10.40 | 11495 | 2660 | 1450 |

| | | | | | | |
|-------------------|-----|------|-------|-------|------|------|
| PWI-77 PWI-77w | 9½ | 261 | 6.08 | 5155 | 1430 | 2400 |
| | 11⅞ | 442 | 7.60 | 6675 | 1925 | 2400 |
| | 14 | 648 | 8.96 | 7960 | 2125 | 2400 |
| | 16 | 881 | 10.24 | 9120 | 2330 | 2400 |
| | 18 | 1152 | 11.52 | 10265 | 2535 | 1800 |
| | 20 | 1463 | 12.80 | 11395 | 2740 | 1800 |
| | 22 | 1815 | 14.08 | 12520 | 2935 | 1300 |
| | 24 | 2209 | 15.36 | 13630 | 3060 | 1300 |
| PWI-90 | 9½ | 392 | 6.08 | 7915 | 1430 | 2400 |
| | 11⅞ | 661 | 7.60 | 10255 | 1925 | 2400 |
| | 14 | 965 | 8.96 | 12235 | 2125 | 2400 |
| | 16 | 1306 | 10.24 | 14020 | 2330 | 2400 |
| | 18 | 1703 | 11.52 | 15780 | 2535 | 1800 |
| | 20 | 2155 | 12.80 | 17520 | 2740 | 1800 |
| | 22 | 2664 | 14.08 | 19245 | 2935 | 1300 |
| | 24 | 3232 | 15.36 | 20955 | 3060 | 1300 |

1. The tabulated values are design values for normal duration of load. All values, except EI, k, and Vertical Load, may be adjusted for other load durations as permitted by the code.
2. Bending stiffness.
3. Coefficient of shear deflection. For calculating I-joist deflection in a simple span application, use Equations 1 and 2.

$$\text{Uniform Load: } \delta = \frac{5w\ell^4}{384EI} + \frac{w\ell^2}{k} \quad [1]$$

$$\text{Center Point Load: } \delta = \frac{P\ell^3}{48EI} + \frac{2P\ell}{k} \quad [2]$$

Where:

- δ = calculated deflection [in]
- w = uniform load [lb/in]
- P = concentrated load [lb]
- ℓ = design span [in]
- EI = I-joist bending stiffness [lb-in²]
- k = coefficient of shear deflection [lb]

4. Moment capacity.
5. Shear capacity.
6. Blocking panel and rim joist vertical load capacity.

TABLE 2B. REFERENCE ALLOWABLE STRESS DESIGN VALUES FOR PWI JOISTS

| Joist Series | Joist Dept h | ER ($1\frac{3}{4}'' \leq \ell_b \leq 3\frac{1}{2}''$) ⁽¹⁾ | | IR ($3\frac{1}{2}'' \leq \ell_b \leq 5\frac{1}{4}''$) ⁽²⁾ | | WS ⁽³⁾ Nails | b _{EFF} ⁽⁴⁾ |
|--------------|--------------|--|-------------------------------|--|-------------------------------|-------------------------|---------------------------------|
| | | No Web Stiffeners | With Web Stiffeners | No Web Stiffeners | With Web Stiffeners | | |
| PWI-20 | 9½" | 117.1 × ℓ _b + 710 | 0.0 × ℓ _b + 1120 | 142.9 × ℓ _b + 1490 | 0.0 × ℓ _b + 2240 | 4 | 1.62 |
| | 11⅞" | 222.9 × ℓ _b + 525 | 0.0 × ℓ _b + 1420 | 245.7 × ℓ _b + 1130 | 211.4 × ℓ _b + 1535 | 4 | |
| | 14" | 222.9 × ℓ _b + 525 | 97.1 × ℓ _b + 1370 | 245.7 × ℓ _b + 1130 | 211.4 × ℓ _b + 1535 | 4 | |
| PWI-30 | 9½" | 77.7 × ℓ _b + 809 | 77.7 × ℓ _b + 809 | 0.0 × ℓ _b + 1905 | 0.0 × ℓ _b + 1905 | 4 | 1.37 |
| | 11⅞" | 210.9 × ℓ _b + 576 | 210.9 × ℓ _b + 576 | 0.0 × ℓ _b + 1905 | 0.0 × ℓ _b + 1905 | 4 | |
| PWI-40 | 9¼" | 0.0 × ℓ _b + 1080 | 0.0 × ℓ _b + 1080 | 0.0 × ℓ _b + 2160 | 0.0 × ℓ _b + 2160 | 4 | 2.18 |
| | 9½" | 22.9 × ℓ _b + 1040 | 0.0 × ℓ _b + 1120 | 0.0 × ℓ _b + 2240 | 0.0 × ℓ _b + 2240 | 4 | |
| | 11⅞" | 194.3 × ℓ _b + 740 | 0.0 × ℓ _b + 1420 | 291.4 × ℓ _b + 1310 | 0.0 × ℓ _b + 2840 | 4 | |
| | 14" | 200.0 × ℓ _b + 730 | 0.0 × ℓ _b + 1710 | 291.4 × ℓ _b + 1310 | 205.7 × ℓ _b + 2120 | 4 | |
| | 16" | 200.0 × ℓ _b + 730 | 0.0 × ℓ _b + 1970 | 291.4 × ℓ _b + 1310 | 257.1 × ℓ _b + 2250 | 8 | |
| PWI-45 | 9½" | 80.0 × ℓ _b + 840 | 0.0 × ℓ _b + 1120 | 0.0 × ℓ _b + 2240 | 0.0 × ℓ _b + 2240 | 4 | 1.93 |
| | 11⅞" | 245.7 × ℓ _b + 550 | 0.0 × ℓ _b + 1420 | 180.0 × ℓ _b + 1620 | 137.1 × ℓ _b + 2120 | 4 | |
| | 14" | 245.7 × ℓ _b + 550 | 80.0 × ℓ _b + 1430 | 180.0 × ℓ _b + 1620 | 240.0 × ℓ _b + 1760 | 4 | |
| | 16" | 245.7 × ℓ _b + 550 | 228.6 × ℓ _b + 1170 | 180.0 × ℓ _b + 1620 | 240.0 × ℓ _b + 1760 | 8 | |
| PWI-47 | 7⅞" | 171.4 × ℓ _b + 565 | 14.3 × ℓ _b + 1085 | 222.9 × ℓ _b + 1030 | 168.6 × ℓ _b + 1535 | 4 | 2.18 |
| | 9½" | 180.0 × ℓ _b + 560 | 14.3 × ℓ _b + 1220 | 217.1 × ℓ _b + 1100 | 162.9 × ℓ _b + 1730 | 4 | |
| | 11⅞" | 197.1 × ℓ _b + 540 | 17.1 × ℓ _b + 1410 | 208.6 × ℓ _b + 1200 | 157.1 × ℓ _b + 2005 | 4 | |
| | 14" | 208.6 × ℓ _b + 535 | 20.0 × ℓ _b + 1580 | 200.0 × ℓ _b + 1295 | 151.4 × ℓ _b + 2250 | 4 | |
| | 16" | 222.9 × ℓ _b + 520 | 22.9 × ℓ _b + 1740 | 191.4 × ℓ _b + 1390 | 145.7 × ℓ _b + 2485 | 8 | |
| | 18" | 234.3 × ℓ _b + 510 | 22.9 × ℓ _b + 1905 | 182.9 × ℓ _b + 1480 | 140.0 × ℓ _b + 2720 | 8 | |
| | 20" | 248.6 × ℓ _b + 495 | 25.7 × ℓ _b + 2065 | 177.1 × ℓ _b + 1560 | 134.3 × ℓ _b + 2955 | 10 | |
| PWI-50 | 9½" | 46.9 × ℓ _b + 933 | 46.9 × ℓ _b + 933 | 0.0 × ℓ _b + 2040 | 0.0 × ℓ _b + 2040 | 4 | 1.62 |
| | 11⅞" | 180.0 × ℓ _b + 700 | 180.0 × ℓ _b + 700 | 0.0 × ℓ _b + 2040 | 0.0 × ℓ _b + 2040 | 4 | |
| | 14" | 164.6 × ℓ _b + 727 | 213.7 × ℓ _b + 641 | 0.0 × ℓ _b + 2040 | 0.0 × ℓ _b + 2040 | 4 | |
| | 16" | 164.6 × ℓ _b + 727 | 293.7 × ℓ _b + 501 | 0.0 × ℓ _b + 2040 | 0.0 × ℓ _b + 2040 | 8 | |
| PWI-60 | 9¼" | 0.0 × ℓ _b + 1080 | 0.0 × ℓ _b + 1080 | 0.0 × ℓ _b + 2160 | 0.0 × ℓ _b + 2160 | 4 | 2.18 |
| | 9½" | 22.9 × ℓ _b + 1040 | 0.0 × ℓ _b + 1120 | 0.0 × ℓ _b + 2240 | 0.0 × ℓ _b + 2240 | 4 | |
| | 11⅞" | 194.3 × ℓ _b + 740 | 0.0 × ℓ _b + 1420 | 291.4 × ℓ _b + 1310 | 0.0 × ℓ _b + 2840 | 4 | |
| | 14" | 200.0 × ℓ _b + 730 | 0.0 × ℓ _b + 1710 | 291.4 × ℓ _b + 1310 | 205.7 × ℓ _b + 2120 | 4 | |
| | 16" | 200.0 × ℓ _b + 730 | 0.0 × ℓ _b + 1970 | 291.4 × ℓ _b + 1310 | 257.1 × ℓ _b + 2250 | 8 | |
| PWI-70 | 11⅞" | 148.6 × ℓ _b + 900 | 0.0 × ℓ _b + 1420 | 217.1 × ℓ _b + 1700 | 0.0 × ℓ _b + 2840 | 4 | 2.18 |
| | 14" | 260.0 × ℓ _b + 705 | 67.4 × ℓ _b + 1474 | 308.6 × ℓ _b + 1380 | 154.3 × ℓ _b + 2610 | 4 | |
| | 16" | 260.0 × ℓ _b + 705 | 216.0 × ℓ _b + 1214 | 308.6 × ℓ _b + 1380 | 257.1 × ℓ _b + 2250 | 8 | |
| | 18" | 260.0 × ℓ _b + 705 | 246.3 × ℓ _b + 1377 | 308.6 × ℓ _b + 1380 | 342.9 × ℓ _b + 2300 | 8 | |
| | 20" | 260.0 × ℓ _b + 705 | 260.0 × ℓ _b + 1353 | 308.6 × ℓ _b + 1380 | 342.9 × ℓ _b + 2300 | 10 | |
| PWI-77 & 77w | 9½" | 82.9 × ℓ _b + 1140 | 0.0 × ℓ _b + 1430 | 94.3 × ℓ _b + 2365 | 0.0 × ℓ _b + 2860 | 4 | 2.18 |
| | 11⅞" | 271.4 × ℓ _b + 810 | 20.0 × ℓ _b + 1855 | 260.0 × ℓ _b + 1785 | 345.7 × ℓ _b + 1820 | 4 | |
| | 14" | 271.4 × ℓ _b + 810 | 134.3 × ℓ _b + 1655 | 260.0 × ℓ _b + 1785 | 345.7 × ℓ _b + 1820 | 4 | |
| | 16" | 271.4 × ℓ _b + 810 | 251.4 × ℓ _b + 1450 | 260.0 × ℓ _b + 1785 | 345.7 × ℓ _b + 1820 | 8 | |
| | 18" | 271.4 × ℓ _b + 810 | 225.7 × ℓ _b + 1745 | 260.0 × ℓ _b + 1785 | 194.3 × ℓ _b + 3090 | 8 | |
| | 20" | 271.4 × ℓ _b + 810 | 291.4 × ℓ _b + 1630 | 260.0 × ℓ _b + 1785 | 194.3 × ℓ _b + 3090 | 10 | |
| | 22" | NA | 291.4 × ℓ _b + 1880 | NA | 171.4 × ℓ _b + 3525 | 10 | |
| | 24" | NA | 291.4 × ℓ _b + 1880 | NA | 171.4 × ℓ _b + 3525 | 10 | |

| | | | | | | | |
|--------|------|------------------------------|-------------------------------|-------------------------------|-------------------------------|----|------|
| PWI-90 | 9½" | 17.1 × ℓ _b + 1370 | 0.0 × ℓ _b + 1430 | 0.0 × ℓ _b + 2860 | 0.0 × ℓ _b + 2860 | 4 | 3.37 |
| | 11⅞" | 285.7 × ℓ _b + 900 | 14.3 × ℓ _b + 1875 | 282.9 × ℓ _b + 2365 | 0.0 × ℓ _b + 3850 | 4 | |
| | 14" | 285.7 × ℓ _b + 900 | 128.6 × ℓ _b + 1675 | 351.4 × ℓ _b + 2125 | 225.7 × ℓ _b + 3065 | 4 | |
| | 16" | 285.7 × ℓ _b + 900 | 245.7 × ℓ _b + 1470 | 351.4 × ℓ _b + 2125 | 351.4 × ℓ _b + 2625 | 8 | |
| | 18" | 285.7 × ℓ _b + 900 | 220.0 × ℓ _b + 1765 | 351.4 × ℓ _b + 2125 | 351.4 × ℓ _b + 3125 | 8 | |
| | 20" | 285.7 × ℓ _b + 900 | 285.7 × ℓ _b + 1650 | 351.4 × ℓ _b + 2125 | 351.4 × ℓ _b + 3125 | 10 | |
| | 22" | NA | 285.7 × ℓ _b + 1900 | NA | 351.4 × ℓ _b + 3375 | 10 | |
| | 24" | NA | 285.7 × ℓ _b + 1900 | NA | 351.4 × ℓ _b + 3375 | 10 | |

1. End reaction capacity for 1-3/4 inches ≤ ℓ_b ≤ 3-1/2 inches, where ℓ_b is the bearing length in inches. ER shall not exceed V (Table 2A). See also Footnote 4.
2. Intermediate reaction capacity for 3-1/2 inches ≤ ℓ_b ≤ 5-1/4 inches, where ℓ_b is the bearing length in inches. IR shall not exceed 2V (Table 2A). See also Footnote 4.
3. Number of nails needed for web stiffeners, refer to Table 3 for web stiffener and nail dimensions.
4. After adjustment for pertinent load duration, ER shall not exceed b_{EFF} × ℓ_b × F_{c⊥} and IR shall not exceed b_{EFF} × ℓ_b × F_{c⊥} × C_b, where b_{EFF} is the effective width of the flange in inches, ℓ_b is the bearing length in inches, F_{c⊥} is the reference compression design value perpendicular to grain in pounds per square inch and C_b = (ℓ_b + 0.375) ÷ ℓ_b. For the LVL flanges, F_{c⊥} = 650 psi. Do not adjust F_{c⊥} for load duration when using the equation provided in this footnote. Compression of the support surface must also be checked.

TABLE 3 – ALLOWABLE RESIDENTIAL FLOOR SPANS – 40 PSF LIVE LOAD AND 10 PSF DEAD LOAD (1–7)

| Joist Series | Joist Depth | Simple Span | | | | Two or More Continuous Spans | | | |
|--------------|-------------|-------------|----------|------------|----------|------------------------------|----------|------------|----------|
| | | 12" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. | 12" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. |
| PWI-20 | 9½" | 16'-7" | 15'-3" | 14'-5" | 13'-6" | 18'-6" | 16'-11" | 15'-7" | 13'-11" |
| | 11⅞" | 19'-11" | 18'-3" | 17'-3" | 16'-0" | 22'-2" | 19'-6" | 17'-10" | 15'-8" |
| | 14" | 22'-8" | 20'-9" | 19'-6" | 17'-5" | 24'-8" | 21'-4" | 19'-6" | 15'-8" |
| PWI-30 | 9½" | 17'-1" | 15'-8" | 14'-9" | 13'-10" | 19'-0" | 17'-5" | 16'-5" | 15'-0" |
| | 11⅞" | 20'-6" | 18'-9" | 17'-8" | 16'-6" | 22'-10" | 20'-10" | 18'-9" | 15'-0" |
| PWI-40 | 9¼" | 17'-7" | 16'-1" | 15'-2" | 14'-2" | 19'-7" | 17'-7" | 16'-0" | 14'-4" |
| | 9½" | 18'-0" | 16'-5" | 15'-6" | 14'-6" | 20'-0" | 17'-10" | 16'-3" | 14'-6" |
| | 11⅞" | 21'-5" | 19'-7" | 18'-6" | 16'-8" | 23'-7" | 20'-4" | 18'-7" | 16'-7" |
| | 14" | 24'-4" | 22'-2" | 20'-6" | 18'-4" | 25'-11" | 22'-5" | 20'-5" | 18'-3" |
| PWI-45 | 9½" | 18'-0" | 16'-5" | 15'-6" | 14'-6" | 20'-0" | 18'-3" | 17'-3" | 16'-1" |
| | 11⅞" | 21'-5" | 19'-7" | 18'-6" | 17'-3" | 23'-11" | 21'-10" | 20'-6" | 17'-9" |
| | 14" | 24'-4" | 22'-3" | 21'-0" | 19'-5" | 27'-2" | 24'-7" | 22'-3" | 17'-9" |
| | 16" | 27'-0" | 24'-8" | 23'-4" | 19'-5" | 30'-2" | 26'-4" | 22'-3" | 17'-9" |
| PWI-47 | 7⅞" | 15'-10" | 14'-6" | 13'-8" | 12'-9" | 17'-7" | 16'-1" | 15'-2" | 14'-1" |
| | 9½" | 18'-4" | 16'-9" | 15'-9" | 14'-9" | 20'-5" | 18'-7" | 17'-6" | 14'-7" |
| | 11⅞" | 21'-8" | 19'-10" | 18'-8" | 17'-5" | 24'-2" | 22'-0" | 19'-0" | 15'-2" |
| | 14" | 24'-6" | 22'-5" | 21'-2" | 17'-10" | 27'-4" | 23'-8" | 19'-8" | 15'-8" |
| | 16" | 27'-2" | 24'-9" | 22'-7" | 18'-0" | 30'-2" | 24'-6" | 20'-4" | 16'-3" |
| | 18" | 29'-7" | 27'-1" | 22'-10" | 18'-3" | 32'-0" | 25'-2" | 20'-11" | 16'-8" |
| PWI-50 | 9½" | 17'-10" | 16'-3" | 15'-4" | 14'-4" | 19'-10" | 18'-1" | 17'-1" | 15'-11" |
| | 11⅞" | 21'-3" | 19'-6" | 18'-5" | 17'-2" | 23'-9" | 21'-8" | 20'-2" | 16'-1" |
| | 14" | 24'-3" | 22'-2" | 21'-0" | 19'-7" | 27'-1" | 24'-3" | 20'-2" | 16'-1" |
| | 16" | 27'-0" | 24'-8" | 23'-4" | 20'-1" | 30'-1" | 24'-3" | 20'-2" | 16'-1" |
| PWI-60 | 9¼" | 18'-7" | 16'-11" | 16'-0" | 14'-11" | 20'-8" | 18'-10" | 17'-9" | 16'-6" |
| | 9½" | 18'-11" | 17'-3" | 16'-3" | 15'-2" | 21'-1" | 19'-2" | 18'-1" | 16'-10" |
| | 11⅞" | 22'-7" | 20'-7" | 19'-5" | 18'-2" | 25'-2" | 22'-11" | 21'-7" | 18'-5" |
| | 14" | 25'-8" | 23'-5" | 22'-1" | 20'-7" | 28'-8" | 26'-1" | 23'-0" | 18'-5" |
| 16" | 28'-6" | 26'-0" | 24'-6" | 21'-5" | 31'-9" | 27'-8" | 23'-0" | 18'-5" | |

| | | | | | | | | | |
|-------------------|----------------------------------|---------|---------|---------|---------|---------|---------|---------|--------|
| PWI-70 | 11 ⁷ / ₈ " | 23'-4" | 21'-3" | 20'-1" | 18'-8" | 25'-11" | 23'-8" | 22'-3" | 19'-5" |
| | 14" | 26'-5" | 24'-1" | 22'-9" | 21'-2" | 29'-6" | 26'-10" | 24'-4" | 19'-5" |
| | 16" | 29'-3" | 26'-8" | 25'-2" | 23'-0" | 32'-8" | 29'-3" | 24'-4" | 19'-5" |
| | 18" | 32'-0" | 29'-2" | 27'-6" | 23'-0" | 35'-8" | 29'-3" | 24'-4" | 19'-5" |
| | 20" | 34'-8" | 31'-7" | 28'-10" | 23'-0" | 38'-8" | 29'-3" | 24'-4" | 19'-5" |
| PWI-77 PWI-77w | 9 ¹ / ₂ " | 19'-8" | 18'-0" | 17'-0" | 15'-10" | 21'-11" | 20'-1" | 18'-11" | 17'-8" |
| | 11 ⁷ / ₈ " | 23'-5" | 21'-5" | 20'-3" | 18'-11" | 26'-2" | 23'-10" | 22'-6" | 21'-0" |
| | 14" | 26'-7" | 24'-4" | 23'-0" | 21'-5" | 29'-8" | 27'-1" | 25'-7" | 21'-4" |
| | 16" | 29'-6" | 26'-11" | 25'-5" | 23'-9" | 32'-11" | 30'-0" | 26'-8" | 21'-4" |
| | 18" | 32'-3" | 29'-5" | 27'-10" | 25'-6" | 36'-0" | 32'-1" | 26'-8" | 21'-4" |
| | 20" | 34'-11" | 31'-10" | 30'-1" | 25'-6" | 39'-0" | 32'-1" | 26'-8" | 21'-4" |
| | 22" | 37'-6" | 34'-3" | 32'-4" | 30'-2" | 41'-11" | 38'-3" | 35'-1" | 31'-5" |
| 24" | 40'-1" | 36'-7" | 34'-6" | 32'-3" | 44'-9" | 40'-2" | 36'-8" | 32'-9" | |
| PWI-90 | 9 ¹ / ₂ " | 22'-3" | 20'-3" | 19'-1" | 17'-9" | 24'-9" | 22'-6" | 21'-3" | 19'-9" |
| | 11 ⁷ / ₈ " | 26'-5" | 24'-1" | 22'-8" | 21'-2" | 29'-6" | 26'-10" | 25'-3" | 23'-6" |
| | 14" | 30'-0" | 27'-4" | 25'-9" | 24'-0" | 33'-5" | 30'-5" | 28'-8" | 26'-7" |
| | 16" | 33'-2" | 30'-3" | 28'-6" | 26'-6" | 37'-0" | 33'-8" | 31'-9" | 26'-7" |
| | 18" | 36'-3" | 33'-0" | 31'-1" | 27'-10" | 40'-6" | 36'-10" | 33'-3" | 26'-7" |
| | 20" | 39'-3" | 35'-9" | 33'-8" | 27'-10" | 43'-9" | 39'-10" | 33'-3" | 26'-7" |
| | 22" | 42'-1" | 38'-4" | 36'-2" | 33'-8" | 47'-0" | 42'-9" | 40'-3" | 36'-7" |
| 24" | 44'-11" | 40'-11" | 38'-7" | 35'-11" | 50'-2" | 45'-8" | 43'-0" | 36'-7" | |

- Table values apply to uniformly loaded, residential floor joists.
- Span is measured from face to face of supports.
- Deflection is limited to L/240 at total load and L/480 at live load.
- Table values are based on sheathing that is glued and nailed to the joists (23/32" panels for joists at 24" o.c. and 19/32" panels for joists at 19.2" o.c. and less). Reduce spans by 12" if sheathing is nailed only.
- Provide at least 1³/₄" of bearing length at end supports and 3¹/₂" at intermediate supports. Web stiffeners are not required when joists are used at these spans and spacings, except as might be required by joist hanger manufacturers.
- Provide lateral restraint at supports (e.g. blocking panels, rim board) and along the compression flange of each joist (e.g. wood structural panel sheathing, gypsum board ceiling, wood structural panel soffit).
- Use other means to analyze conditions outside the scope of this table (e.g. commercial floors, different bearing conditions, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.

INSTALLATION REQUIREMENTS:

PWI joists shall be installed in accordance with the recommendations provided by the manufacturer. Table 4 shows web stiffeners information.

TABLE 4. MINIMUM DIMENSIONS FOR WEB STIFFENERS AND NAILS ⁽¹⁾

| Flange Width (in.) | Minimum Dimensions (in.) | | |
|-----------------------|--------------------------|--------|---------------|
| | Web Stiffeners | | Nails |
| | Thickness | Width | |
| 1-1/2 | 15/32 | 2-5/16 | 2-1/2 x 0.131 |
| 1-3/4 | 19/32 | 2-5/16 | 2-1/2 x 0.131 |
| 2-1/16 | 23/32 | 2-5/16 | 2-1/2 x 0.131 |
| 2-5/16 | 23/32 | 2-5/16 | 2-1/2 x 0.131 |
| 2-1/2 | 23/32 | 2-5/16 | 2-1/2 x 0.131 |
| 3-1/2 | 1-1/2 | 3-1/2 | 3-1/4 x 0.131 |

1. Web stiffener length is approximately 1/8 inch less than the clear distance between flanges.

Web Holes:

Permissible web holes and cantilever reinforcements shall be in accordance with the recommendations provided by the manufacturer.

Fasteners:

Allowable capacities and spacing for nails into the top of flanges of PWI joists with LVL flanges are in accordance with the NDS for solid-sawn lumber with a specific gravity of 0.50. Allowable capacities and spacing for nails into the sides of flanges of PWI joists with LVL flanges are in accordance with the NDS for solid-sawn lumber with a specific gravity of 0.50 for lateral values and 0.47 for withdrawal values.

Bridging:

Bridging is not required in the joist span unless specified by the building designer.

Lateral Support:

Provide lateral restraint at supports (e.g., blocking panels, rim board) and along the compression flange of each joist (e.g., wood structural panel sheathing, gypsum board ceiling, wood structural panel soffit).

Fire-resistive Construction:

PWI joists may be used in the assemblies described in 2006 IBC Table 720.1(3), Item Numbers 21-1.1, 23-1.1, and 25-1.1 through 29-1.1, and 2009 IBC Table 720.1(3) and 2012 IBC Table 721.1(3), Item Numbers 21-1.1 and 23-1.1 through 28-1.1, provided the joists meet the criteria listed in the "Floor or Roof Construction" column. PWI joists with 1½-by-1½-inch flanges (38 mm by 38 mm) satisfy the minimum 2.3-square-inch (14.4 cm²) flange-cross-sectional area criterion of Item Number 23-1.1. PWI joists may also be used in wood I-joist assemblies that qualify under Footnote q of the IBC tables referenced in this paragraph.

Limitations:

PWI joists shall be designed in accordance with the applicable code using the design properties specified in this MR.

PWI joists are limited to dry service conditions where the average equilibrium moisture content of sawn lumber is less than 16 percent.

CERTIFICATION AND PRODUCT LABELING:

Pacific Woodtech Corporation shall certify that each product listed in this MR conforms to the requirements of this Materials Release. APA – The Engineered Wood Association shall validate the manufacturer's certification that Pacific Woodtech products listed in this MR meet the requirements of this MR. Quality assurance test records shall be made available for inspection by HUD upon request. Each certified product shall be labeled with the manufacturer's name and/or trademark (PACIFIC WOODTECH), a code that identifies the production facility (1048), the inspection agency's name and/or trademark (APA), the joist depth and series, a code that identifies the date of manufacture (DD M YY), and the number of this report (MR 1341).

Sample Label:

9½" PWI-30



HUD MR
1341

PACIFIC
WOODTECH

1048 DD M YY

PRODUCTION FACILITIES

This product will be manufactured at the following production facilities:

Pacific Woodtech Corporation
1850 Park Lane
Burlington, WA 98233
(360) 707-2200

WARRANTY

Pacific Woodtech Corporation warrants that PWI joists are free of defects in material and workmanship, as manufactured, and, when stored, installed and finished in accordance with Pacific Woodtech Corporation's published installation instructions, will perform as specified in current published specifications for the expected lifetime of the structure in which they are installed.

Pacific Woodtech Corporation must be given reasonable prior notice and opportunity to inspect the product before it will honor any claims under this warranty. If, after inspection and confirmation of the problem, Pacific Woodtech Corporation will repair or replace (at its option) the product at its expense. The product must be stored, handled and installed in accordance with Pacific Woodtech Corporation's current published installation instructions and design specifications. Failure to follow such instruction will void this warranty. The product must be stored in accordance with recommended procedures and protected from incidental exposure to moisture from whatever source by proper building standards.

The limited lifetime warranty set forth above is exclusive and in lieu of any other warranty or guarantee, expressed or implied, including but not limited to any warranties of merchantability or fitness for a particular purpose. Correction of defects in the manner and under the conditions states above shall constitute the fulfillment of all Pacific Woodtech Corporation's obligations and liabilities to any person with respect to the product, as manufactured, whether based on contract, negligence, strict liability or otherwise. No person or entity is authorized to create for Pacific Woodtech Corporation any other obligation or liability to any person relating to the product. In no event shall Pacific Woodtech Corporation be liable for indirect, special, incidental or consequential damages or any kind sustained from any cause.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this Materials Release (MR) commits the manufacturer to fulfill as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective actions in a timely manner for all cases of justified complaint, poor performance or failure reported to HUD.
3. When requested, provide to the Office of Manufactured Housing Programs, HUD Headquarters, with a representative list of properties in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation, within of normal business confidentiality practices.

4. Inform HUD, in advance, of changes in production facilities, methods, design of the product, company name ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewals or revisions shall be sent to:

U. S. Department of Housing and Urban Development
Office of Manufactured Housing Programs
451 Seventh Street, SW, Room 9170
Washington, DC 20410-8000

Appropriate User Fee(s) for the TSP program can be submitted through the Pay.gov website at <https://pay.gov/public/form/start/73881741>

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to the MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of this MR. HUD will notify the manufacturer that the MR may be canceled when:

1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system,
2. the manufacturer has changed its organizational form without notifying HUD, or
3. the manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

This Materials Release is issued solely for the captioned firm, and is not transferable to any person or successor entity.
