# Floor Joists

| Size & Grade | Single Span Floor Joists - Span values in mm | | | | | Continuous Span Floor Joists - Span values in mm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Joist Spacing (mm) | | | | | Joist Spacing (mm) | | | | |
| | 300 | 400 | 450 | 480 | 600 | 300 | 400 | 450 | 480 | 600 |
| **90x35 F7** | 1500 | 1300 | 1300 | 1200 | 1000 | 2100 | 1600 | 1500 | 1500 | 1500 |
| **140x35 F7** | 2900 | 2200 | 2100 | 2100 | 2000 | 3400 | 2700 | 2500 | 2500 | 2400 |
| **190x35 F7** | 3900 | 3200 | 3000 | 3000 | 2900 | 4300 | 4000 | 3700 | 3600 | 3400 |
| **90x45 F7** | 1700 | 1500 | 1400 | 1400 | 1400 | 2400 | 1800 | 1700 | 1700 | 1600 |
| **140x45 F7** | 3100 | 2500 | 2400 | 2300 | 2200 | 3600 | 3000 | 2800 | 2800 | 2600 |
| **190x45 F7** | 4200 | 3600 | 3400 | 3300 | 3200 | 4600 | 4200 | 4100 | 4000 | 3800 |
| **240x45 F7** | 5000 | 4600 | 4400 | 4300 | 4100 | 5500 | 5100 | 4900 | 4800 | 4600 |
| **290x45 F7** | 5800 | 5300 | 5200 | 5100 | 4800 | 6300 | 5900 | 5700 | 5600 | 5300 |
| **140x65 GL8** | 3500 | 2900 | 2700 | 2700 | 2600 | 4000 | 3600 | 3300 | 3200 | 3100 |
| **190x65 GL8** | 4600 | 4200 | 3900 | 3800 | 3700 | 5000 | 4700 | 4500 | 4500 | 4200 |
| **240x65 GL8** | 5400 | 5100 | 5000 | 4900 | 4600 | 6000 | 5600 | 5400 | 5300 | 5000 |
| **290x65 GL8** | 6200 | 5900 | 5700 | 5600 | 5300 | 6900 | 6400 | 6300 | 6200 | 5800 |

**Loading Data:**
Dead Load of floor maximum 42 kg/m2
(Covers standard residential floor materials, including plasterboard ceiling below)
Live Load for residential loads 1.5kPa (with a check on a concentrated live load of 1.8kN anywhere)
TREATED PINE DISTRIBUTERS glulam beams are manufactured straight, without any camber built into the beams.
Floor Joist design criteria in accordance with methods presented in AS1684.1-1999, and structural timber design in accordance with AS1720.1-2010.

**Notes:**
1. Minimum bearing lengths for support of floor joists: 30mm on end supports, and 45mm internal supports.
2. The span value shown is the distance between centrelines of supports.
3. For continuous spans, the adjacent floor joist spans may be different, but look up the larger of the spans, and the shorter span must be more than 50% of the larger span. If this rule is not met, then consider the floor joists are simply supported, and look up the larger span in the single span table.
4. Deflection criteria: for permanent load combinations, the lesser of Span/300, or 12mm, and for Floor Live Loads, the lesser of Span/360, or 9mm.
5. For floor joists the lateral restraint is assumed to be achieved via the fixing of flooring direct to the top edge. No restraint of the bottom edge of the joist is assumed.
6. Where there are conflicts in design between loading codes (AS/NZS1170 series), timber code (AS1720.1-2010) and AS1684.1-1999, the loading codes and timber codes take preference.
7. Floor dynamic load check is made for a 1kN concentrated load to ensure less than 2mm deflection.
8. These floor joist designs assume the joists are seasoned, and remain dry in service.
The above span table values have been designed in accordance with the following codes:
AS1720.1-2010 Timber Design Code
AS1170.0, .1-2002, .2-2011 Loading Codes for Limit State design, Live Loads, and Wind Loads respectively.
AS1684.1-1999 Design Criteria for Residential Timber Framing (secondary code if in conflict with the above).

**Stephen John Hunt** ***BEng (Civil), CPEng***
MIEAust (#368737), (RPEQ #3731), NPER
**HR DESIGN GROUP Pty Ltd**
Director

Date: 12/02/14

**Treated Pine Distributors QLD**
Phone: 02 49735544
Fax: 02 49735922
Email: sales@tpdnsw.com.au