



**j frame**<sup>®</sup>  
engineered timber



**PTL**

STRUCTURAL  
& FIRE

Christchurch, 28<sup>th</sup> of November 2025

### **Juken New Zealand Ltd. – Beam Span Tables**

The following beam span tables are intended to be used by designers to select the appropriate J-Frame<sup>®</sup> member for use as rafters, roof lintels, floor lintels, bearers and joists for the use in residential self-contained dwellings and meeting the requirements and intent of NZS 3604.

The design has been carried out to the AS/NZS 1170.1 suite and NZS AS 1720.1:2022 and assuming loadings in line with the document “Engineering Basis of NZS 3604:2011”. Detailed information about all design and loading assumptions can be found in the document 1132NZL – E001\_C – Beams, available on request.

It remains the sole responsibility of the individual design professional to ensure the tables are applied in accordance with their intended use.

### Rafter Span Tables - Extra High Wind Zone:

0.25kPa live load, 1.1kN live point load, 1kPa ground snow load

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

max. 750mm cantilever

Deflection limit between supports: L/300 or 25mm under live loading combinations, L/200 or 25mm under wind or snow loading combinations

Deflection limit at cantilever: 10mm under all load combinations

#### J-Frame 8 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.38 | 1.38 | 1.38 | 1.38 | 1.39 |
| 140x45    | 3.07                    | 2.96 | 2.86 | 2.75 | 2.49 | 2.31 |
| 190x45    | 4.57                    | 4.26 | 3.88 | 3.74 | 3.39 | 3.14 |
| 240x45    | 5.92                    | 5.32 | 4.84 | 4.67 | 4.25 | 3.96 |

#### J-Frame 8 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.39 | 1.39 | 1.39 | 1.37 | 1.32 |
| 140x45    | 2.82                    | 2.66 | 2.53 | 2.48 | 2.29 | 2.13 |
| 190x45    | 4.11                    | 3.83 | 3.51 | 3.38 | 3.09 | 2.88 |
| 240x45    | 5.39                    | 4.80 | 4.41 | 4.25 | 3.89 | 3.63 |

#### J-Frame 11 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.53                    | 1.54 | 1.54 | 1.54 | 1.54 | 1.54 |
| 140x45    | 3.53                    | 3.40 | 3.18 | 3.06 | 2.78 | 2.57 |
| 190x45    | 5.23                    | 4.71 | 4.29 | 4.12 | 3.77 | 3.50 |
| 240x45    | 6.42                    | 5.77 | 5.35 | 5.15 | 4.70 | 4.38 |

#### J-Frame 11 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.54                    | 1.54 | 1.55 | 1.55 | 1.56 | 1.50 |
| 140x45    | 3.22                    | 3.03 | 2.88 | 2.79 | 2.54 | 2.37 |
| 190x45    | 4.68                    | 4.25 | 3.90 | 3.76 | 3.44 | 3.20 |
| 240x45    | 5.94                    | 5.32 | 4.89 | 4.72 | 4.32 | 4.03 |

### Rafter Span Tables - Very High Wind Zone:

0.25kPa live load, 1.1kN live point load, 1kPa ground snow load

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

max. 750mm cantilever

Deflection limit between supports: L/300 or 25mm under live loading combinations, L/200 or 25mm under wind or snow loading combinations

Deflection limit at cantilever: 10mm under all load combinations

#### J-Frame 8 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.38 | 1.38 | 1.38 | 1.38 | 1.39 |
| 140x45    | 3.07                    | 2.96 | 2.87 | 2.83 | 2.67 | 2.47 |
| 190x45    | 4.57                    | 4.37 | 4.12 | 3.98 | 3.63 | 3.36 |
| 240x45    | 6.10                    | 5.61 | 5.13 | 4.95 | 4.52 | 4.20 |

#### J-Frame 8 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.39 | 1.39 | 1.39 | 1.37 | 1.32 |
| 140x45    | 2.82                    | 2.66 | 2.53 | 2.48 | 2.29 | 2.13 |
| 190x45    | 4.11                    | 3.83 | 3.51 | 3.38 | 3.09 | 2.88 |
| 240x45    | 5.39                    | 4.80 | 4.41 | 4.25 | 3.89 | 3.63 |

#### J-Frame 11 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.53                    | 1.54 | 1.54 | 1.54 | 1.54 | 1.54 |
| 140x45    | 3.53                    | 3.40 | 3.29 | 3.24 | 2.97 | 2.75 |
| 190x45    | 5.23                    | 4.97 | 4.54 | 4.38 | 4.01 | 3.74 |
| 240x45    | 6.66                    | 6.08 | 5.64 | 5.47 | 5.01 | 4.67 |

#### J-Frame 11 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.54                    | 1.54 | 1.55 | 1.55 | 1.56 | 1.50 |
| 140x45    | 3.22                    | 3.03 | 2.88 | 2.79 | 2.54 | 2.37 |
| 190x45    | 4.68                    | 4.25 | 3.90 | 3.76 | 3.44 | 3.20 |
| 240x45    | 5.94                    | 5.32 | 4.89 | 4.72 | 4.32 | 4.03 |

### Rafter Span Tables - High Wind Zone:

0.25kPa live load, 1.1kN live point load, 1kPa ground snow load

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

max. 750mm cantilever

Deflection limit between supports: L/300 or 25mm under live loading combinations, L/200 or 25mm under wind or snow loading combinations

Deflection limit at cantilever: 10mm under all load combinations

#### J-Frame 8 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.38 | 1.38 | 1.38 | 1.38 | 1.39 |
| 140x45    | 3.07                    | 2.96 | 2.87 | 2.83 | 2.72 | 2.63 |
| 190x45    | 4.57                    | 4.37 | 4.21 | 4.07 | 3.75 | 3.51 |
| 240x45    | 6.10                    | 5.65 | 5.22 | 5.04 | 4.64 | 4.35 |

#### J-Frame 8 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.39 | 1.39 | 1.39 | 1.37 | 1.32 |
| 140x45    | 2.82                    | 2.66 | 2.53 | 2.48 | 2.29 | 2.13 |
| 190x45    | 4.11                    | 3.83 | 3.51 | 3.38 | 3.09 | 2.88 |
| 240x45    | 5.39                    | 4.80 | 4.41 | 4.25 | 3.89 | 3.63 |

#### J-Frame 11 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.53                    | 1.54 | 1.54 | 1.54 | 1.54 | 1.54 |
| 140x45    | 3.53                    | 3.40 | 3.29 | 3.24 | 3.11 | 2.95 |
| 190x45    | 5.23                    | 4.99 | 4.64 | 4.49 | 4.13 | 3.87 |
| 240x45    | 6.66                    | 6.13 | 5.76 | 5.57 | 5.13 | 4.80 |

#### J-Frame 11 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.54                    | 1.54 | 1.55 | 1.55 | 1.56 | 1.50 |
| 140x45    | 3.22                    | 3.03 | 2.88 | 2.79 | 2.54 | 2.37 |
| 190x45    | 4.68                    | 4.25 | 3.90 | 3.76 | 3.44 | 3.20 |
| 240x45    | 5.94                    | 5.32 | 4.89 | 4.72 | 4.32 | 4.03 |

### Rafter Span Tables - Medium Wind Zone:

0.25kPa live load, 1.1kN live point load, 1kPa ground snow load

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

max. 750mm cantilever

Deflection limit between supports: L/300 or 25mm under live loading combinations, L/200 or 25mm under wind or snow loading combinations

Deflection limit at cantilever: 10mm under all load combinations

#### J-Frame 8 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.38 | 1.38 | 1.38 | 1.38 | 1.39 |
| 140x45    | 3.07                    | 2.96 | 2.87 | 2.83 | 2.72 | 2.63 |
| 190x45    | 4.57                    | 4.37 | 4.21 | 4.07 | 3.75 | 3.51 |
| 240x45    | 6.10                    | 5.65 | 5.22 | 5.04 | 4.64 | 4.35 |

#### J-Frame 8 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.39 | 1.39 | 1.39 | 1.37 | 1.32 |
| 140x45    | 2.82                    | 2.66 | 2.53 | 2.48 | 2.29 | 2.13 |
| 190x45    | 4.11                    | 3.83 | 3.51 | 3.38 | 3.09 | 2.88 |
| 240x45    | 5.39                    | 4.80 | 4.41 | 4.25 | 3.89 | 3.63 |

#### J-Frame 11 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.53                    | 1.54 | 1.54 | 1.54 | 1.54 | 1.54 |
| 140x45    | 3.53                    | 3.40 | 3.29 | 3.24 | 3.11 | 2.95 |
| 190x45    | 5.23                    | 4.99 | 4.64 | 4.49 | 4.13 | 3.87 |
| 240x45    | 6.66                    | 6.13 | 5.76 | 5.57 | 5.13 | 4.80 |

#### J-Frame 11 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.54                    | 1.54 | 1.55 | 1.55 | 1.56 | 1.50 |
| 140x45    | 3.22                    | 3.03 | 2.88 | 2.79 | 2.54 | 2.37 |
| 190x45    | 4.68                    | 4.25 | 3.90 | 3.76 | 3.44 | 3.20 |
| 240x45    | 5.94                    | 5.32 | 4.89 | 4.72 | 4.32 | 4.03 |

### Rafter Span Tables - Low Wind Zone:

0.25kPa live load, 1.1kN live point load, 1kPa ground snow load

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

max. 750mm cantilever

Deflection limit between supports: L/300 or 25mm under live loading combinations, L/200 or 25mm under wind or snow loading combinations

Deflection limit at cantilever: 10mm under all load combinations

#### J-Frame 8 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.38 | 1.38 | 1.38 | 1.38 | 1.39 |
| 140x45    | 3.07                    | 2.96 | 2.87 | 2.83 | 2.72 | 2.63 |
| 190x45    | 4.57                    | 4.37 | 4.21 | 4.07 | 3.75 | 3.51 |
| 240x45    | 6.10                    | 5.65 | 5.22 | 5.04 | 4.64 | 4.35 |

#### J-Frame 8 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.38                    | 1.39 | 1.39 | 1.39 | 1.37 | 1.32 |
| 140x45    | 2.82                    | 2.66 | 2.53 | 2.48 | 2.29 | 2.13 |
| 190x45    | 4.11                    | 3.83 | 3.51 | 3.38 | 3.09 | 2.88 |
| 240x45    | 5.39                    | 4.80 | 4.41 | 4.25 | 3.89 | 3.63 |

#### J-Frame 11 Rafters - Light Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.53                    | 1.54 | 1.54 | 1.54 | 1.54 | 1.54 |
| 140x45    | 3.53                    | 3.40 | 3.29 | 3.24 | 3.11 | 2.95 |
| 190x45    | 5.23                    | 4.99 | 4.64 | 4.49 | 4.13 | 3.87 |
| 240x45    | 6.66                    | 6.13 | 5.76 | 5.57 | 5.13 | 4.80 |

#### J-Frame 11 Rafters - Heavy Roof

| Size (mm) | Rafter Spacing (mm)     |      |      |      |      |      |
|-----------|-------------------------|------|------|------|------|------|
|           | 400                     | 600  | 800  | 900  | 1200 | 1500 |
|           | Maximum Single Span (m) |      |      |      |      |      |
| 90x45     | 1.54                    | 1.54 | 1.55 | 1.55 | 1.56 | 1.50 |
| 140x45    | 3.22                    | 3.03 | 2.88 | 2.79 | 2.54 | 2.37 |
| 190x45    | 4.68                    | 4.25 | 3.90 | 3.76 | 3.44 | 3.20 |
| 240x45    | 5.94                    | 5.32 | 4.89 | 4.72 | 4.32 | 4.03 |

### Roof Lintel Span Tables - Very High Wind Zone:

0.25kPa live load, 1.1kN live point load

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

Very High wind zone

Deflection limit: L/300 or 12mm under live or snow loading combinations, L/200 or 12mm under wind loading combinations

#### J-Frame 8 Roof Lintels - Light Roof

| Loaded dimension of lintel (m) | Maximum span for lintel sizes listed below (m) |          |          |          |
|--------------------------------|------------------------------------------------|----------|----------|----------|
|                                | 2/90x45                                        | 2/140x45 | 2/190x45 | 2/240x45 |
| 1                              | 1.66                                           | 2.56     | 3.32     | 3.96     |
| 2                              | 1.42                                           | 2.20     | 2.96     | 3.53     |
| 3                              | 1.27                                           | 1.98     | 2.68     | 3.26     |
| 4                              | 1.17                                           | 1.82     | 2.47     | 2.71*    |
| 5                              | 1.10                                           | 1.71     | 2.23*    | 2.23*    |
| 6                              | 1.01                                           | 1.58     | 1.90*    | 1.90*    |

#### J-Frame 8 Roof Lintels - Heavy Roof

| Loaded dimension of lintel (m) | Maximum span for lintel sizes listed below (m) |          |          |          |
|--------------------------------|------------------------------------------------|----------|----------|----------|
|                                | 2/90x45                                        | 2/140x45 | 2/190x45 | 2/240x45 |
| 1                              | 1.39                                           | 2.15     | 2.91     | 3.64     |
| 2                              | 1.18                                           | 1.83     | 2.48     | 3.13     |
| 3                              | 1.06                                           | 1.64     | 2.23     | 2.81     |
| 4                              | 0.97                                           | 1.51     | 2.05     | 2.59     |
| 5                              | 0.91                                           | 1.42     | 1.93     | 2.23*    |
| 6                              | 0.86                                           | 1.34     | 1.82     | 1.90*    |

#### J-Frame 11 Roof Lintels - Light Roof

| Loaded dimension of lintel (m) | Maximum span for lintel sizes listed below (m) |          |          |          |
|--------------------------------|------------------------------------------------|----------|----------|----------|
|                                | 2/90x45                                        | 2/140x45 | 2/190x45 | 2/240x45 |
| 1                              | 1.84                                           | 2.85     | 3.59     | 4.29     |
| 2                              | 1.57                                           | 2.44     | 3.20     | 3.82     |
| 3                              | 1.42                                           | 2.20     | 2.96     | 3.44*    |
| 4                              | 1.31                                           | 2.03     | 2.70*    | 2.71*    |
| 5                              | 1.22                                           | 1.90     | 2.23*    | 2.23*    |
| 6                              | 1.16                                           | 1.80     | 1.90*    | 1.90*    |

## Roof Lintel Span Tables - Very High Wind Zone:

### J-Frame 11 Roof Lintels - Heavy Roof

| Loaded<br>dimension of<br>lintel (m) | Maximum span for lintel sizes listed below (m) |          |          |          |
|--------------------------------------|------------------------------------------------|----------|----------|----------|
|                                      | 2/90x45                                        | 2/140x45 | 2/190x45 | 2/240x45 |
| 1                                    | 1.54                                           | 2.39     | 3.23     | 3.94     |
| 2                                    | 1.31                                           | 2.04     | 2.76     | 3.47     |
| 3                                    | 1.18                                           | 1.83     | 2.48     | 3.12     |
| 4                                    | 1.08                                           | 1.68     | 2.28     | 2.71*    |
| 5                                    | 1.01                                           | 1.58     | 2.14     | 2.23*    |
| 6                                    | 0.96                                           | 1.49     | 1.9*     | 1.90*    |

\*These members are constrained by the 16kN loadbearing reaction limit in accordance with NZS3604 Cl. 2.3.9.6. If the support structure is being specifically engineered, these member spans may be increased. If this is the case, member design should be carried out by the project Engineer using the appropriate J-Frame® characteristic structural properties.

### Roof Lintel Span Tables - Extra High Wind Zone:

0.25kPa live load, 1.1kN live point load

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

Extra High wind zone

Deflection limit: L/300 or 12mm under live or snow loading combinations, L/200 or 12mm under wind loading combinations

#### J-Frame 8 Roof Lintels - Light Roof

| Loaded dimension of lintel (m) | Maximum span for lintel sizes listed below (m) |          |          |          |
|--------------------------------|------------------------------------------------|----------|----------|----------|
|                                | 2/90x45                                        | 2/140x45 | 2/190x45 | 2/240x45 |
| 1                              | 1.62                                           | 2.49     | 3.14     | 3.75     |
| 2                              | 1.39                                           | 2.17     | 2.80     | 3.34     |
| 3                              | 1.23                                           | 1.91     | 2.59     | 2.79*    |
| 4                              | 1.09                                           | 1.70     | 2.19*    | 2.20*    |
| 5                              | 0.99                                           | 1.54     | 1.81*    | 1.81*    |
| 6                              | 0.91                                           | 1.42     | 1.54*    | 1.54*    |

#### J-Frame 8 Roof Lintels - Heavy Roof

| Loaded dimension of lintel (m) | Maximum span for lintel sizes listed below (m) |          |          |          |
|--------------------------------|------------------------------------------------|----------|----------|----------|
|                                | 2/90x45                                        | 2/140x45 | 2/190x45 | 2/240x45 |
| 1                              | 1.39                                           | 2.15     | 2.91     | 3.64     |
| 2                              | 1.18                                           | 1.83     | 2.48     | 3.13     |
| 3                              | 1.06                                           | 1.64     | 2.23     | 2.81     |
| 4                              | 0.97                                           | 1.51     | 2.05     | 2.39*    |
| 5                              | 0.91                                           | 1.42     | 1.93     | 1.97*    |
| 6                              | 0.86                                           | 1.34     | 1.67*    | 1.68*    |

#### J-Frame 11 Roof Lintels - Light Roof

| Loaded dimension of lintel (m) | Maximum span for lintel sizes listed below (m) |          |          |          |
|--------------------------------|------------------------------------------------|----------|----------|----------|
|                                | 2/90x45                                        | 2/140x45 | 2/190x45 | 2/240x45 |
| 1                              | 1.80                                           | 2.70     | 3.40     | 4.06     |
| 2                              | 1.55                                           | 2.41     | 3.04     | 3.62     |
| 3                              | 1.40                                           | 2.18     | 2.78*    | 2.79*    |
| 4                              | 1.29                                           | 2.01     | 2.19*    | 2.20*    |
| 5                              | 1.21                                           | 1.81*    | 1.81*    | 1.81*    |
| 6                              | 1.15                                           | 1.54*    | 1.54*    | 1.54*    |

### Roof Lintel Span Tables - Extra High Wind Zone:

#### J-Frame 11 Roof Lintels - Heavy Roof

| Loaded<br>dimension of<br>lintel (m) | Maximum span for lintel sizes listed below (m) |          |          |          |
|--------------------------------------|------------------------------------------------|----------|----------|----------|
|                                      | 2/90x45                                        | 2/140x45 | 2/190x45 | 2/240x45 |
| 1                                    | 1.54                                           | 2.39     | 3.23     | 3.94     |
| 2                                    | 1.31                                           | 2.04     | 2.76     | 3.47     |
| 3                                    | 1.18                                           | 1.83     | 2.48     | 3.03*    |
| 4                                    | 1.08                                           | 1.68     | 2.28     | 2.39*    |
| 5                                    | 1.01                                           | 1.58     | 1.97*    | 1.97*    |
| 6                                    | 0.96                                           | 1.49     | 1.67*    | 1.68*    |

\*These members are constrained by the 16kN loadbearing reaction limit in accordance with NZS3604 Cl. 2.3.9.6. If the support structure is being specifically engineered, these member spans may be increased. If this is the case, member design should be carried out by the project Engineer using the appropriate J-Frame® characteristic structural properties.

### Floor Lintel Span Tables - Very High Wind Zone:

Roof loads: 0.25kPa live load, 1.1kN live point load

Floor loads: 1.5kPa live load, 1.8kN live point load

Floor Span: 6m (loaded dimension of 3m), roof loaded dimension as below

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

Light, medium, or heavy wall cladding

Very High wind zone

Deflection limit: L/300 or 12mm under live or snow loading combinations, L/200 or 12mm under wind loading combinations

#### J-Frame 8 Floor Lintels

|             | Loaded dimension<br>of lintel (m) | Maximum span for lintel sizes (m) |          |          |          |
|-------------|-----------------------------------|-----------------------------------|----------|----------|----------|
|             |                                   | 2/90x45                           | 2/140x45 | 2/190x45 | 2/240x45 |
| Light Roof  | 1                                 | 1.05                              | 1.63     | 2.22     | 2.80     |
|             | 2                                 | 1.02                              | 1.58     | 2.14     | 2.66*    |
|             | 3                                 | 0.99                              | 1.53     | 2.08     | 2.46*    |
| Light Wall  | 4                                 | 0.96                              | 1.49     | 2.03     | 2.29*    |
|             | 5                                 | 0.93                              | 1.46     | 1.97     | 2.14*    |
|             | 6                                 | 0.91                              | 1.42     | 1.91*    | 1.90*    |
| Light Roof  | 1                                 | 0.99                              | 1.54     | 2.09     | 2.62*    |
|             | 2                                 | 0.96                              | 1.50     | 2.03     | 2.43*    |
|             | 3                                 | 0.94                              | 1.46     | 1.98     | 2.26*    |
| Medium Wall | 4                                 | 0.91                              | 1.42     | 1.93     | 2.11*    |
|             | 5                                 | 0.89                              | 1.39     | 1.89     | 1.99*    |
|             | 6                                 | 0.88                              | 1.36     | 1.78*    | 1.78*    |
| Light Roof  | 1                                 | 0.85                              | 1.32     | 1.79     | 1.97*    |
|             | 2                                 | 0.83                              | 1.29     | 1.76     | 1.86*    |
|             | 3                                 | 0.82                              | 1.27     | 1.73     | 1.76*    |
| Heavy Wall  | 4                                 | 0.80                              | 1.25     | 1.67*    | 1.67*    |
|             | 5                                 | 0.79                              | 1.23     | 1.59*    | 1.59*    |
|             | 6                                 | 0.78                              | 1.22     | 1.45*    | 1.45*    |
| Heavy Roof  | 1                                 | 0.99                              | 1.55     | 2.10     | 2.64*    |
|             | 2                                 | 0.94                              | 1.46     | 1.98     | 2.33*    |
|             | 3                                 | 0.89                              | 1.39     | 1.89     | 2.08*    |
| Light Wall  | 4                                 | 0.85                              | 1.33     | 1.81     | 1.87*    |
|             | 5                                 | 0.82                              | 1.28     | 1.71*    | 1.71*    |
|             | 6                                 | 0.80                              | 1.24     | 1.51*    | 1.5*     |
| Heavy Roof  | 1                                 | 0.94                              | 1.47     | 1.99     | 2.41*    |
|             | 2                                 | 0.90                              | 1.40     | 1.89     | 2.14*    |
|             | 3                                 | 0.86                              | 1.34     | 1.81     | 1.93*    |
| Medium Wall | 4                                 | 0.83                              | 1.29     | 1.75     | 1.76*    |
|             | 5                                 | 0.80                              | 1.24     | 1.61*    | 1.61*    |
|             | 6                                 | 0.77                              | 1.20     | 1.43*    | 1.43*    |
| Heavy Roof  | 1                                 | 0.82                              | 1.28     | 1.74     | 1.85*    |
|             | 2                                 | 0.79                              | 1.24     | 1.68     | 1.69*    |
|             | 3                                 | 0.77                              | 1.20     | 1.55*    | 1.55*    |
| Heavy Wall  | 4                                 | 0.75                              | 1.17     | 1.44*    | 1.44*    |
|             | 5                                 | 0.73                              | 1.14     | 1.34*    | 1.34*    |
|             | 6                                 | 0.71                              | 1.11     | 1.21*    | 1.21*    |

## Floor Lintel Span Tables - Very High Wind Zone:

### J-Frame 11 Floor Lintels

|             | Loaded dimension<br>of lintel (m) | Maximum span for lintel sizes (m) |          |          |          |
|-------------|-----------------------------------|-----------------------------------|----------|----------|----------|
|             |                                   | 2/90x45                           | 2/140x45 | 2/190x45 | 2/240x45 |
| Light Roof  | 1                                 | 1.17                              | 1.82     | 2.46     | 2.89*    |
|             | 2                                 | 1.13                              | 1.76     | 2.38     | 2.66*    |
|             | 3                                 | 1.10                              | 1.71     | 2.31     | 2.46*    |
| Light Wall  | 4                                 | 1.07                              | 1.66     | 2.25     | 2.29*    |
|             | 5                                 | 1.04                              | 1.62     | 2.14*    | 2.14*    |
|             | 6                                 | 1.02                              | 1.58     | 1.90*    | 1.90*    |
| Light Roof  | 1                                 | 1.10                              | 1.71     | 2.32     | 2.62*    |
|             | 2                                 | 1.07                              | 1.66     | 2.26     | 2.42*    |
|             | 3                                 | 1.04                              | 1.62     | 2.20     | 2.26*    |
| Medium Wall | 4                                 | 1.02                              | 1.58     | 2.12*    | 2.11*    |
|             | 5                                 | 0.99                              | 1.55     | 1.99*    | 1.98*    |
|             | 6                                 | 0.97                              | 1.52     | 1.78*    | 1.78*    |
| Light Roof  | 1                                 | 0.94                              | 1.47     | 1.97*    | 1.97*    |
|             | 2                                 | 0.92                              | 1.44     | 1.86*    | 1.86*    |
|             | 3                                 | 0.91                              | 1.42     | 1.76*    | 1.76*    |
| Heavy Wall  | 4                                 | 0.89                              | 1.39     | 1.67*    | 1.67*    |
|             | 5                                 | 0.88                              | 1.37     | 1.59*    | 1.58*    |
|             | 6                                 | 0.87                              | 1.35     | 1.45*    | 1.45*    |
| Heavy Roof  | 1                                 | 1.10                              | 1.72     | 2.33     | 2.64*    |
|             | 2                                 | 1.04                              | 1.62     | 2.20     | 2.32*    |
|             | 3                                 | 0.99                              | 1.54     | 2.08*    | 2.08*    |
| Light Wall  | 4                                 | 0.95                              | 1.48     | 1.88*    | 1.87*    |
|             | 5                                 | 0.92                              | 1.43     | 1.71*    | 1.71*    |
|             | 6                                 | 0.88                              | 1.38     | 1.51*    | 1.5*     |
| Heavy Roof  | 1                                 | 1.05                              | 1.63     | 2.21     | 2.41*    |
|             | 2                                 | 1.00                              | 1.55     | 2.11     | 2.14*    |
|             | 3                                 | 0.95                              | 1.49     | 1.93*    | 1.93*    |
| Medium Wall | 4                                 | 0.92                              | 1.43     | 1.76*    | 1.76*    |
|             | 5                                 | 0.89                              | 1.38     | 1.61*    | 1.61*    |
|             | 6                                 | 0.86                              | 1.34     | 1.43*    | 1.43*    |
| Heavy Roof  | 1                                 | 0.91                              | 1.42     | 1.85*    | 1.85*    |
|             | 2                                 | 0.88                              | 1.37     | 1.69*    | 1.69*    |
|             | 3                                 | 0.86                              | 1.33     | 1.55*    | 1.55*    |
| Heavy Wall  | 4                                 | 0.83                              | 1.30     | 1.44*    | 1.44*    |
|             | 5                                 | 0.81                              | 1.26     | 1.34*    | 1.34*    |
|             | 6                                 | 0.79                              | 1.21*    | 1.21*    | 1.21*    |

\*These members are constrained by the 16kN loadbearing reaction limit in accordance with NZS3604 Cl. 2.3.9.6. If the support structure is being specifically engineered, these member spans may be increased. If this is the case, member design should be carried out by the project Engineer using the appropriate J-Frame® characteristic structural properties.

### Floor Lintel Span Tables - Extra High Wind Zone:

Roof loads: 0.25kPa live load, 1.1kN live point load

Floor loads: 1.5kPa live load, 1.8kN live point load

Floor Span: 6m (loaded dimension of 3m), roof loaded dimension as below

Light or heavy roof, roof angle 0-45°, 1kPa ground snow load

Light, medium, or heavy wall cladding

Extra High wind zone

Deflection limit: L/300 or 12mm under live or snow loading combinations, L/200 or 12mm under wind loading combinations

#### J-Frame 8 Floor Lintels

|             | Loaded dimension<br>of lintel (m) | Maximum span for lintel sizes (m) |          |          |          |
|-------------|-----------------------------------|-----------------------------------|----------|----------|----------|
|             |                                   | 2/90x45                           | 2/140x45 | 2/190x45 | 2/240x45 |
| Light Roof  | 1                                 | 1.05                              | 1.63     | 2.22     | 2.80     |
|             | 2                                 | 1.02                              | 1.58     | 2.14     | 2.66*    |
|             | 3                                 | 0.99                              | 1.53     | 2.08     | 2.46*    |
| Light Wall  | 4                                 | 0.96                              | 1.49     | 2.03     | 2.23*    |
|             | 5                                 | 0.93                              | 1.46     | 1.95*    | 1.94*    |
|             | 6                                 | 0.91                              | 1.42     | 1.66*    | 1.66*    |
| Light Roof  | 1                                 | 0.99                              | 1.54     | 2.09     | 2.62*    |
|             | 2                                 | 0.96                              | 1.50     | 2.03     | 2.43*    |
|             | 3                                 | 0.94                              | 1.46     | 1.98     | 2.26*    |
| Medium Wall | 4                                 | 0.91                              | 1.42     | 1.93     | 2.06*    |
|             | 5                                 | 0.89                              | 1.39     | 1.82*    | 1.82*    |
|             | 6                                 | 0.88                              | 1.36     | 1.62*    | 1.62*    |
| Light Roof  | 1                                 | 0.85                              | 1.32     | 1.79     | 1.97*    |
|             | 2                                 | 0.83                              | 1.29     | 1.76     | 1.86*    |
|             | 3                                 | 0.82                              | 1.27     | 1.73     | 1.76*    |
| Heavy Wall  | 4                                 | 0.80                              | 1.25     | 1.64*    | 1.64*    |
|             | 5                                 | 0.79                              | 1.23     | 1.48*    | 1.48*    |
|             | 6                                 | 0.78                              | 1.22     | 1.35*    | 1.34*    |
| Heavy Roof  | 1                                 | 0.99                              | 1.55     | 2.10     | 2.64*    |
|             | 2                                 | 0.94                              | 1.46     | 1.98     | 2.33*    |
|             | 3                                 | 0.89                              | 1.39     | 1.89     | 2.08*    |
| Light Wall  | 4                                 | 0.85                              | 1.33     | 1.81     | 1.83*    |
|             | 5                                 | 0.82                              | 1.28     | 1.58*    | 1.58*    |
|             | 6                                 | 0.80                              | 1.24     | 1.39*    | 1.39*    |
| Heavy Roof  | 1                                 | 0.94                              | 1.47     | 1.99     | 2.41*    |
|             | 2                                 | 0.90                              | 1.40     | 1.89     | 2.14*    |
|             | 3                                 | 0.86                              | 1.34     | 1.81     | 1.93*    |
| Medium Wall | 4                                 | 0.83                              | 1.29     | 1.72*    | 1.72*    |
|             | 5                                 | 0.80                              | 1.24     | 1.50*    | 1.49*    |
|             | 6                                 | 0.77                              | 1.20     | 1.32*    | 1.32*    |
| Heavy Roof  | 1                                 | 0.82                              | 1.28     | 1.74     | 1.85*    |
|             | 2                                 | 0.79                              | 1.24     | 1.68     | 1.69*    |
|             | 3                                 | 0.77                              | 1.20     | 1.55*    | 1.55*    |
| Heavy Wall  | 4                                 | 0.75                              | 1.17     | 1.41*    | 1.41*    |
|             | 5                                 | 0.73                              | 1.14     | 1.26*    | 1.26*    |
|             | 6                                 | 0.71                              | 1.11     | 1.13*    | 1.13*    |

## Floor Lintel Span Tables - Extra High Wind Zone:

### J-Frame 11 Floor Lintels

|             | Loaded dimension<br>of lintel (m) | Maximum span for lintel sizes (m) |          |          |          |
|-------------|-----------------------------------|-----------------------------------|----------|----------|----------|
|             |                                   | 2/90x45                           | 2/140x45 | 2/190x45 | 2/240x45 |
| Light Roof  | 1                                 | 1.17                              | 1.82     | 2.46     | 2.89*    |
|             | 2                                 | 1.13                              | 1.76     | 2.38     | 2.66*    |
|             | 3                                 | 1.10                              | 1.71     | 2.31     | 2.46*    |
| Light Wall  | 4                                 | 1.07                              | 1.66     | 2.23*    | 2.23*    |
|             | 5                                 | 1.04                              | 1.62     | 1.95*    | 1.94*    |
|             | 6                                 | 1.02                              | 1.58     | 1.66*    | 1.66*    |
| Light Roof  | 1                                 | 1.10                              | 1.71     | 2.32     | 2.62*    |
|             | 2                                 | 1.07                              | 1.66     | 2.26     | 2.42*    |
|             | 3                                 | 1.04                              | 1.62     | 2.20     | 2.26*    |
| Medium Wall | 4                                 | 1.02                              | 1.58     | 2.07*    | 2.06*    |
|             | 5                                 | 0.99                              | 1.55     | 1.82*    | 1.81*    |
|             | 6                                 | 0.97                              | 1.52     | 1.62*    | 1.62*    |
| Light Roof  | 1                                 | 0.94                              | 1.47     | 1.97*    | 1.97*    |
|             | 2                                 | 0.92                              | 1.44     | 1.86*    | 1.86*    |
|             | 3                                 | 0.91                              | 1.42     | 1.76*    | 1.76*    |
| Heavy Wall  | 4                                 | 0.89                              | 1.39     | 1.64*    | 1.63*    |
|             | 5                                 | 0.88                              | 1.37     | 1.48*    | 1.48*    |
|             | 6                                 | 0.87                              | 1.35     | 1.35*    | 1.34*    |
| Heavy Roof  | 1                                 | 1.10                              | 1.72     | 2.33     | 2.64*    |
|             | 2                                 | 1.04                              | 1.62     | 2.20     | 2.32*    |
|             | 3                                 | 0.99                              | 1.54     | 2.08*    | 2.07*    |
| Light Wall  | 4                                 | 0.95                              | 1.48     | 1.84*    | 1.83*    |
|             | 5                                 | 0.92                              | 1.43     | 1.58*    | 1.58*    |
|             | 6                                 | 0.88                              | 1.38     | 1.39*    | 1.39*    |
| Heavy Roof  | 1                                 | 1.05                              | 1.63     | 2.21     | 2.41*    |
|             | 2                                 | 1.00                              | 1.55     | 2.11     | 2.14*    |
|             | 3                                 | 0.95                              | 1.49     | 1.93*    | 1.93*    |
| Medium Wall | 4                                 | 0.92                              | 1.43     | 1.72*    | 1.72*    |
|             | 5                                 | 0.89                              | 1.38     | 1.50*    | 1.49*    |
|             | 6                                 | 0.86                              | 1.32     | 1.32*    | 1.32*    |
| Heavy Roof  | 1                                 | 0.91                              | 1.42     | 1.85*    | 1.85*    |
|             | 2                                 | 0.88                              | 1.37     | 1.69*    | 1.69*    |
|             | 3                                 | 0.86                              | 1.33     | 1.55*    | 1.55*    |
| Heavy Wall  | 4                                 | 0.83                              | 1.30     | 1.41*    | 1.41*    |
|             | 5                                 | 0.81                              | 1.26     | 1.26*    | 1.26*    |
|             | 6                                 | 0.79                              | 1.13*    | 1.13*    | 1.13*    |

\*These members are constrained by the 16kN loadbearing reaction limit in accordance with NZS3604 Cl. 2.3.9.6. If the support structure is being specifically engineered, these member spans may be increased. If this is the case, member design should be carried out by the project Engineer using the appropriate J-Frame® characteristic structural properties.

### Bearer Span Tables:

1.5kPa live load, 0.35kPa dead load

Vibration limits: frequency  $\geq 8\text{Hz}$  or **0.5mm deflection** under 1kN point load

Deflection limit:  $L/300$

Values assume that min. 140x45 SG8 joists are installed on top of bearers @ 600mm ctrs.

#### J-Frame 8 Double-Span Bearers

| Size (mm) | Floor Load Width             |       |       |       |       |
|-----------|------------------------------|-------|-------|-------|-------|
|           | 1200                         | 1500  | 1800  | 2100  | 2400  |
|           | Maximum Continuous Span (mm) |       |       |       |       |
| 2/90x45   | 1.12                         | 1.12  | 1.12  | 1.12  | 1.12  |
| 2/140x45  | 1.73                         | 1.73  | 1.73  | 1.73  | 1.58* |
| 2/190x45  | 2.33                         | 2.33  | 2.09* | 1.79* | 1.57* |
| 2/240x45  | 2.91                         | 2.48* | 2.08* | 1.79* | 1.57* |

#### J-Frame 11 Double-Span Bearers

| Size (mm) | Floor Load Width             |       |       |       |       |
|-----------|------------------------------|-------|-------|-------|-------|
|           | 1200                         | 1500  | 1800  | 2100  | 2400  |
|           | Maximum Continuous Span (mm) |       |       |       |       |
| 2/90x45   | 1.25                         | 1.25  | 1.25  | 1.25  | 1.25  |
| 2/140x45  | 1.92                         | 1.92  | 1.92  | 1.8*  | 1.58* |
| 2/190x45  | 2.58                         | 2.49* | 2.08* | 1.79* | 1.57* |
| 2/240x45  | 3.08*                        | 2.48* | 2.07* | 1.78* | 1.56* |

\*These members are constrained by the 16kN loadbearing reaction limit in accordance with NZS3604 Cl. 2.3.9.6. If the support structure is being specifically engineered, these member spans may be increased. If this is the case, member design should be carried out by the project Engineer using the appropriate J-Frame® characteristic structural properties.

### Bearer Span Tables:

1.5kPa live load, 0.35kPa dead load

Vibration limits: frequency  $\geq 8\text{Hz}$  or **2mm deflection** under 1kN point load

Deflection limit:  $L/300$

Values assume that min. 140x45 SG8 joists are installed on top of bearers @ 600mm ctrs.

#### J-Frame 8 Double-Span Bearers

| Size (mm) | Floor Load Width             |       |       |       |       |
|-----------|------------------------------|-------|-------|-------|-------|
|           | 1200                         | 1500  | 1800  | 2100  | 2400  |
|           | Maximum Continuous Span (mm) |       |       |       |       |
| 2/90x45   | 1.78                         | 1.66  | 1.51  | 1.40  | 1.31  |
| 2/140x45  | 2.75                         | 2.51* | 2.10* | 1.80* | 1.58* |
| 2/190x45  | 3.11*                        | 2.50* | 2.09* | 1.79* | 1.57* |
| 2/240x45  | 3.08*                        | 2.48* | 2.08* | 1.79* | 1.57* |

#### J-Frame 11 Double-Span Bearers

| Size (mm) | Floor Load Width             |       |       |       |       |
|-----------|------------------------------|-------|-------|-------|-------|
|           | 1200                         | 1500  | 1800  | 2100  | 2400  |
|           | Maximum Continuous Span (mm) |       |       |       |       |
| 2/90x45   | 1.98                         | 1.98  | 1.97  | 1.81* | 1.58* |
| 2/140x45  | 3.00                         | 2.51* | 2.10* | 1.80* | 1.58* |
| 2/190x45  | 3.10*                        | 2.49* | 2.08* | 1.79* | 1.57* |
| 2/240x45  | 3.08*                        | 2.48* | 2.07* | 1.78* | 1.56* |

\*These members are constrained by the 16kN loadbearing reaction limit in accordance with NZS3604 Cl. 2.3.9.6. If the support structure is being specifically engineered, these member spans may be increased. If this is the case, member design should be carried out by the project Engineer using the appropriate J-Frame<sup>®</sup> characteristic structural properties.

### Joist Span Tables:

1.5kPa live load, 0.4kPa dead load

Vibration limits: frequency  $\geq 8\text{Hz}$  or **1mm deflection** under 1kN point load

Deflection limit:  $L/300$

Values assume that flooring as per NZS 3604 tables 7.3 or 7.4 are installed on top of joists

#### J-Frame 8 Single Span Joists

| Size (mm) | Joist Spacing (mm)       |      |      |
|-----------|--------------------------|------|------|
|           | 400                      | 450  | 600  |
|           | Maximum Single Span (mm) |      |      |
| 90x45     | 1.09                     | 1.07 | 1.06 |
| 140x45    | 1.72                     | 1.68 | 1.66 |
| 190x45    | 2.34                     | 2.29 | 2.26 |
| 240x45    | 2.95                     | 2.88 | 2.84 |

#### J-Frame 8 Double-Span Floor Joists

| Size (mm) | Joist Spacing (mm)          |      |      |
|-----------|-----------------------------|------|------|
|           | 400                         | 450  | 600  |
|           | Maximum Continuous Span (m) |      |      |
| 90x45     | 1.25                        | 1.22 | 1.20 |
| 140x45    | 2.00                        | 1.94 | 1.91 |
| 190x45    | 2.75                        | 2.67 | 2.62 |
| 240x45    | 3.49                        | 3.38 | 3.32 |

#### J-Frame 11 Single Span Joist Span Tables

| Size (mm) | Joist Spacing (mm)       |      |      |
|-----------|--------------------------|------|------|
|           | 400                      | 450  | 600  |
|           | Maximum Single Span (mm) |      |      |
| 90x45     | 1.21                     | 1.19 | 1.18 |
| 140x45    | 1.92                     | 1.88 | 1.85 |
| 190x45    | 2.61                     | 2.55 | 2.51 |
| 240x45    | 3.27                     | 3.19 | 3.15 |

#### J-Frame 11 Double-Span Floor Joists

| Size (mm) | Joist Spacing (mm)          |      |      |
|-----------|-----------------------------|------|------|
|           | 400                         | 450  | 600  |
|           | Maximum Continuous Span (m) |      |      |
| 90x45     | 1.40                        | 1.37 | 1.35 |
| 140x45    | 2.24                        | 2.17 | 2.14 |
| 190x45    | 3.07                        | 2.98 | 2.92 |
| 240x45    | 3.88                        | 3.76 | 3.69 |

### Joist Span Tables:

1.5kPa live load, 0.4kPa dead load

Vibration limits: frequency  $\geq 8\text{Hz}$  or **2mm deflection** under 1kN point load

Deflection limit:  $L/300$

Values assume that flooring as per NZS 3604 tables 7.3 or 7.4 are installed on top of joists

#### J-Frame 8 Single Span Joists

| Size (mm) | Joist Spacing (mm)       |      |      |
|-----------|--------------------------|------|------|
|           | 400                      | 450  | 600  |
|           | Maximum Single Span (mm) |      |      |
| 90x45     | 1.44                     | 1.42 | 1.39 |
| 140x45    | 2.32                     | 2.25 | 2.21 |
| 190x45    | 3.16                     | 3.06 | 3.00 |
| 240x45    | 3.94                     | 3.82 | 3.75 |

#### J-Frame 8 Double-Span Floor Joists

| Size (mm) | Joist Spacing (mm)          |      |      |
|-----------|-----------------------------|------|------|
|           | 400                         | 450  | 600  |
|           | Maximum Continuous Span (m) |      |      |
| 90x45     | 1.71                        | 1.65 | 1.61 |
| 140x45    | 2.78                        | 2.65 | 2.59 |
| 190x45    | 3.74                        | 3.64 | 3.41 |
| 240x45    | 4.42                        | 4.31 | 4.04 |

#### J-Frame 11 Single Span Joist Span Tables

| Size (mm) | Joist Spacing (mm)       |      |      |
|-----------|--------------------------|------|------|
|           | 400                      | 450  | 600  |
|           | Maximum Single Span (mm) |      |      |
| 90x45     | 1.64                     | 1.59 | 1.56 |
| 140x45    | 2.60                     | 2.51 | 2.46 |
| 190x45    | 3.51                     | 3.39 | 3.33 |
| 240x45    | 4.34                     | 4.22 | 4.14 |

#### J-Frame 11 Double-Span Floor Joists

| Size (mm) | Joist Spacing (mm)          |      |      |
|-----------|-----------------------------|------|------|
|           | 400                         | 450  | 600  |
|           | Maximum Continuous Span (m) |      |      |
| 90x45     | 1.93                        | 1.85 | 1.81 |
| 140x45    | 3.12                        | 2.97 | 2.90 |
| 190x45    | 4.04                        | 3.94 | 3.69 |
| 240x45    | 4.78                        | 4.66 | 4.37 |

Christchurch, 28<sup>th</sup> of November, 2025

**Producer Statement: Juken New Zealand Ltd. – Beam Stud Tables**

PreStressed Timber Limited (PTL) has been engaged by Juken New Zealand Limited to provide structural engineering for the development of the J-Frame<sup>®</sup> 8 and J-Frame<sup>®</sup> 11 span tables. Span tables have been provided for rafters, roof lintels, floor lintels, bearers and joists for the use in residential self-contained dwellings and meeting the requirements and intent of NZS 3604.

The design has been carried out to the AS/NZS 1170.1 suite and NZS AS 1720.1:2022 and assuming loadings in line with the document “Engineering Basis of NZS 3604:2011”. The design used common and widely accepted engineering principles for LVL produced by Juken New Zealand Ltd.

I believe on reasonable grounds that the correct use of these tables for rafter, roof lintel, floor lintel, bearer and joist design will meet the requirements of clause B1/VM1 of the NZ Building Code.

It remains the sole responsibility of the individual design professional to ensure the tables are applied in accordance with their intended use.

On behalf of PTL:

Francesco Sarti PhD CMEngNZ CPEng



Technical Director  
CPEng no. 1024631  
PSA no. 125420