# Timber Properties in Used Span Table Calculations

## Dry Use

Characteristic Stresses and Elastic Moduli for Prolam (Glulam Grades)

| | | Characteristic Strengths (MPa) | | | | Elastic Moduli (MPa) | |
|---|---|---|---|---|---|---|---|
| | PL Grade | Bending | Tension parallel to grain | Shear in Beam | Compression parallel to grain | Short modulus of elasticity parallel to the grain | Short duration modulus of rigidity for beams |
| **Prolam** | PL 12 | 25 | 12.5 | 3.7 | 29 | 11500 | 770 |
| **Prolam** | PL 8 | 19 | 10 | 3.7 | 24 | 8000 | 530 |
| **Prolam** | PLX20 | 40†/45‡ | 4 | 3.7 | 18 | 20†/21‡ | 480 |

*† PLX20-24090*
*‡ PLX20-29090*

*Notes:*

*(1) PLX20 intended for use as a beam and not as a tension or compression member.*

*(2) PLX20 bending strength and MoE about the major axis have been determined from testing. Other properties are based on SG6 timber.*

*(3) For compression perpendicular to the grain, use 8.9 MPa dry and 5.3 MPa wet as per NZS 3603 for Radiata Pine for all PL grades.*

*(4) Higher grades (i.e. PL12, or PLX20) will give greater span and load carrying capability than PL8 for the same section size.*

## Wet Use – (H5 & H3.2 treated)

Characteristic Stresses and Elastic Moduli for Prolam (Glulam Grades)

| | Characteristic Strengths (MPa) | | | | Elastic Moduli (MPa) | |
|---|---|---|---|---|---|---|
| PL Grade | Bending | Tension parallel to grain | Shear in Beam | Compression parallel to grain | Short modulus of elasticity parallel to the grain | Short duration modulus of rigidity for beams |
| PL 12 | 20 | 10 | 2.5 | 23.2 | 9200 | 610 |
| PL 8 | 15.2 | 8.0 | 2.5 | 19.2 | 6400 | 420 |