

PROWOOD LIMITED



PROLAM COMPOSITE BEAM PLX20-250100

CHARACTERISTIC DESIGN STRENGTHS

Based on testing carried out by SCION with results dated 8 September 2020

Applies only to 240x90 with 40x8 steel insert top and bottom,

E <i>Lower bound Modulus of Elasticity</i> GPa	f'b <i>Bending</i> MPa	f's <i>Shear</i> MPa	f'c <i>Compression parallel to grain</i> MPa	f't <i>Tension</i> MPa	G <i>Modulus of Rigidity</i> MPa
20	40	3.7	18	4	480

Section properties for design:

$$\text{Moment of Inertia } I = 1.014 \times 10^{-4} \text{ m}^4$$

$$\text{Section Modulus } Z = 8.448 \times 10^{-4} \text{ m}^3$$

$$\text{Area } A = 0.02112 \text{ m}^2$$

NOTES:

- 1 Intended for use as a beam and not as tension or compression member
- 2 Bending strength and MoE have been determined from testing.
Other properties are based on SG6 timber
- 3 Beam design to be in accordance with NZS3603 assuming a timber member using appropriate factors. (eg $\phi=0.8$)
- 4 Provisional k2 factor for deflection = 1.5 - subject to confirmation
- 5 Joint group J5 for design of connections.

A handwritten signature in blue ink that reads 'David King'.

ME Civil CMEngNZ CPEng 145511 IntPE(NZ)

TASMAN CONSULTING ENGINEERS

1 October 2020

PROWOOD LIMITED



PROLAM COMPOSITE BEAM PLX20-300100

CHARACTERISTIC DESIGN STRENGTHS

Based on testing carried out by SCION with results dated 21 April 2021

Applies only to 290x90 with 40x10 steel insert top and bottom,

E <i>Lower bound Modulus of Elasticity</i> GPa	f'b <i>Bending</i> MPa	f's <i>Shear</i> MPa	f'c <i>Compression parallel to grain</i> MPa	f't <i>Tension</i> MPa	G <i>Modulus of Rigidity</i> MPa
21	45	3.7	18	4	480

Section properties for design:

$$\text{Moment of Inertia } I = \mathbf{1.79E-04} \text{ m}^4$$

$$\text{Section Modulus } Z = \mathbf{1.23E-03} \text{ m}^3$$

$$\text{Area } A = \mathbf{0.0255} \text{ m}^2$$

NOTES:

- 1 Intended for use as a beam and not as tension or compression member
- 2 Bending strength and MoE have been determined from testing.
Other properties are based on SG6 timber
- 3 Beam design to be in accordance with NZS3603 assuming a timber member using appropriate factors. (eg $\phi=0.8$)
- 4 Provisional k2 factor for deflection = 1.5 - subject to confirmation
- 5 Joint group as for Radiata Pine for design of connections.

A handwritten signature in blue ink that reads 'David King'.

ME Civil CMEngNZ CPEng 145511 IntPE(NZ)

TASMAN CONSULTING ENGINEERS

28 April 2021