



# PHAL Aluminium and M20 Wood Beams

## > PHAL ALUMINIUM BEAMS :

> The double web allows a perfect stability, a high torsion inertia and a great horizontal inertia.

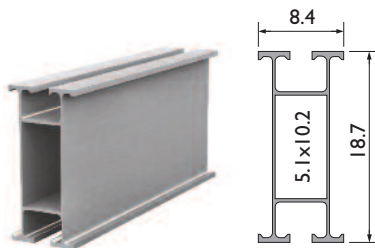
> The perfect profile symmetry of the MILLS PHAL simplifies its use. The fixation is done using bolts and beam clips.

### PI

- > Cross-section: 19 cm<sup>2</sup>
- > Moment of inertia: 946 cm<sup>4</sup>
- > Section modulus: 102.2 cm<sup>3</sup>
- > Young's modulus: 700 000 daN/cm<sup>2</sup>
- > **Allowable bending moment : 1 130 daN.m**
- > **Allowable shear force: 5 250 daN**
- > **Allowable reaction on support : 6 000 daN**
- > Weight (without furring channel): 5.31 daN/m
- > Weight (with furring channel 45x30): 6.10 daN/m

### > PHAL PI BEAM (Not equipped)

Dimension	Ref. number	Weight
1.30 m	079817-3	6.9
1.95 m	079818-1	10.3
2.60 m	079802-5	13.8
3.90 m	079805-8	20.7

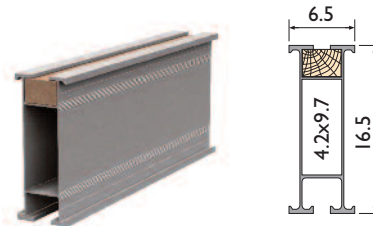


### P3

- > Cross-section: 12 cm<sup>2</sup>
- > Moment of inertia: 431 cm<sup>4</sup>
- > Section modulus: 52 cm<sup>3</sup>
- > Young's modulus: 700 000 daN/cm<sup>2</sup>
- > **Allowable bending moment : 688 daN.m**
- > **Allowable shear force : 2 641 daN**
- > **Allowable reaction on support : 2 944 daN**
- > Weight (without furring channel) : 3.25 daN/m
- > Weight (with furring channel 40x27) : 3.90 daN/m

### > PHAL P3 EQUIPPED BEAM

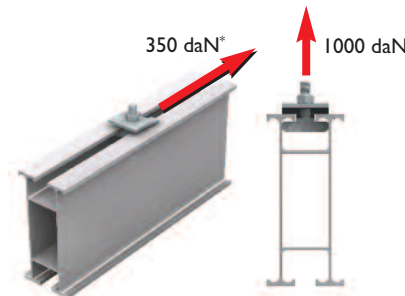
Dimension	Ref. number	Weight
3.60 m	079901-5	14.2



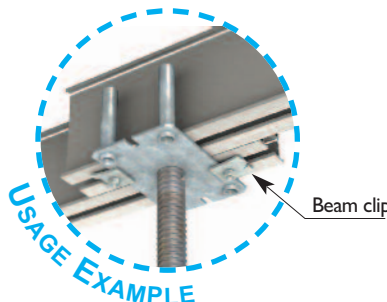
### > BEAM CLIP

Name	Ref. number	Weight
Phal steel beam clip	079508-8	0.13
Bolt TM PI M12x40	079513-8	0.1

Measures must be taken to insure the bolt does not experience a bending moment



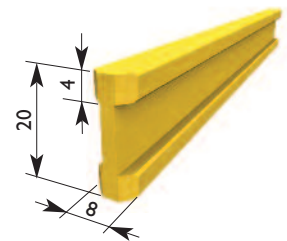
\*Values for a tightening torque of 50 N.m



## > M20 WOOD BEAMS :

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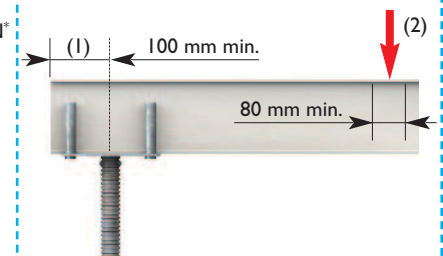
Dimension	Ref. number	Weight
1.95 m	072027-6	9.5
2.45 m	072024-3	1.2
2.90 m	072025-0	14.5
3.90 m	072039-1	19.5



### M20

- > Cross-section : 96.4 cm<sup>2</sup>
- > Moment of inertia : 4613 cm<sup>4</sup>
- > Section modulus: 461 cm<sup>3</sup>
- > Young's modulus: 100 000 daN/cm<sup>2</sup>
- > **Allowable bending moment : 500 daN.m**
- > **Allowable shear force : 1 100 daN**
- > **Allowable reaction on support : 2 000 daN**
- > Weight : 5 daN/m

## > RECOMMENDATIONS :



(1) The beam must extend at least 100 mm beyond the support.

(2) The load on the beam must be distributed over at least 80 mm.

All dimensions are in cm. Weights are in kg.