



## STRUCTURAL DESIGN DATA – EZZY FIT FRP ADJUSTABLE PIER

Client: Ezzy Fit Pty Ltd  
Ref / Drawing: EZP-FRP-01  
Date:

### CERTIFICATION

The Ezzy Fit FRP Adjustable Pier System has been designed and assessed by a suitably qualified structural engineer and is certified as structurally adequate for use as a load-bearing support system for residential structures, including residential decking structures, when installed and used in accordance with this document and Drawing Ref: EZP-FRP-01.

### DESIGN BASIS

- AS/NZS 1170 – Structural Actions
- AS 3600 – Concrete Structures (footing interface)
- Limit State Design (ULS / SLS)
- FRP design based on manufacturer data and accepted international guidelines

### SYSTEM (4-PIECE FRP TELESCOPIC)

- Top Plate: 100×100×15 mm
- Upper Riser: 75×75×6 mm
- Lower Riser: 100×100×6 mm
- Base Plate: 200×200×20 mm
- Adjustment: M12 316 Stainless Steel bolts (site-drilled)

### MATERIAL (FRP)

- Elastic Modulus: 23 GPa
- Compressive Strength: 240 MPa
- Tensile Strength: 200–350 MPa
- Shear Strength: 30–40 MPa
- Density: 1800 kg/m<sup>3</sup>

### GEOMETRY LIMITS

- Height Range: 300–700 mm
- Minimum Overlap: 200 mm (maintained at all times)
- Effective Length Factor:  $K = 1.0$

### DESIGN CAPACITY

- Working Load: 30 kN per pier at 700 mm height, axial loading, with minimum overlap maintained
- Ultimate Capacity: 541 kN
- Buckling Capacity: 1,200 kN
- Capacities derived using limit state design with appropriate load and material factors applied

### BASE & FIXING

- Base Plate: 200×200×20 mm FRP
- Anchors: 4 × M12 mechanical anchors
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- Concrete Strength:  $\geq 25$  MPa
- Full bearing contact required

### INSTALLATION REQUIREMENTS

- Install plumb and level
- Fix to structural concrete footing
- Load must be axial and concentric
- Bearer must be mechanically fixed to top plate
- Installation must comply with manufacturer instructions

### LIMITATIONS

- Maximum height: 700 mm
- Load must remain axial at all times
- Pier must be laterally restrained by the supported structure
- Not designed for lateral, impact, or eccentric loads
- Footing design is site specific and not included
- Use outside these limits voids this certification

### LOAD PATH

Bearer → Pier → Base Plate → Concrete Footing

### CONCLUSION

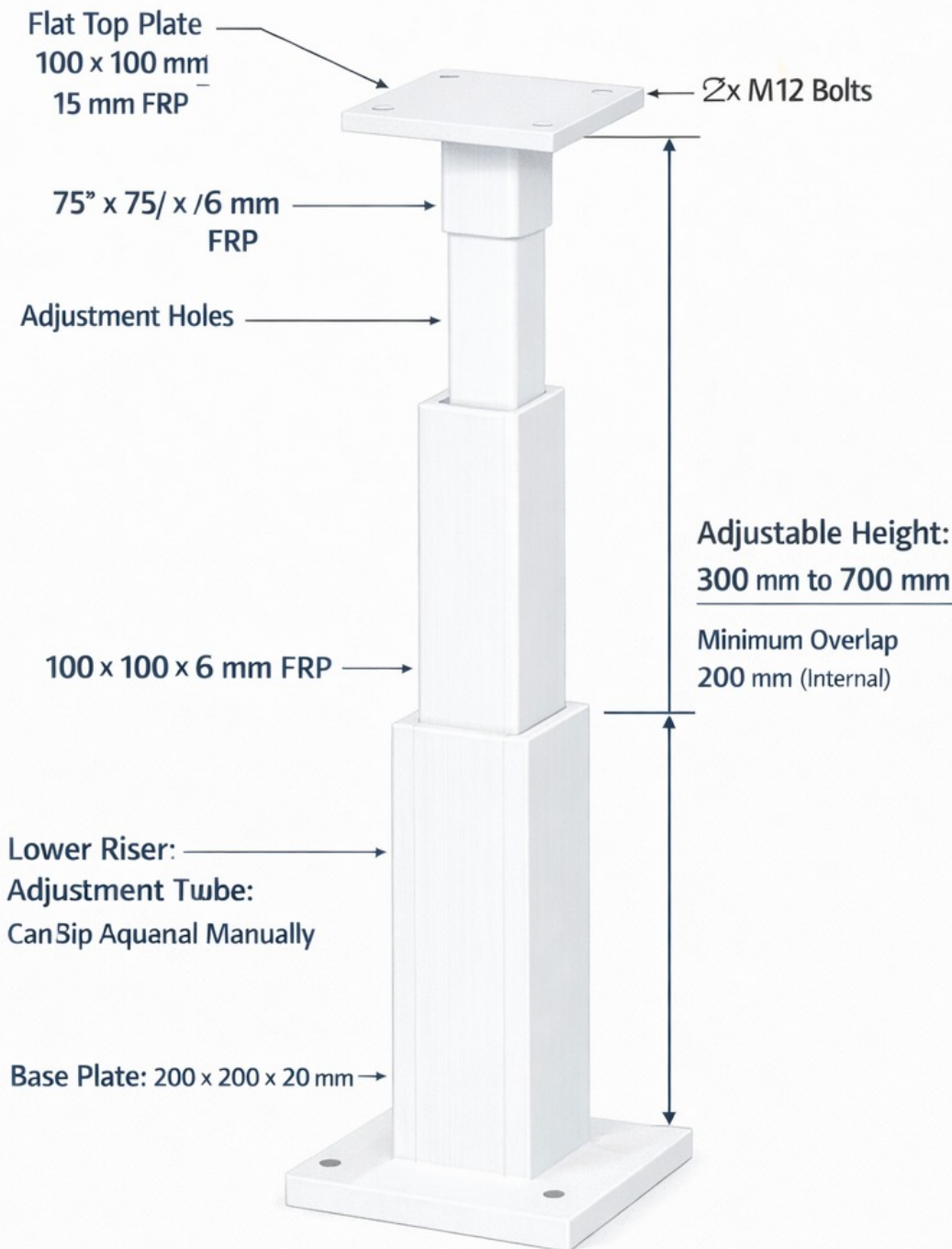
The Ezzy Fit FRP Adjustable Pier System is structurally adequate and fit for purpose for residential load-bearing applications within the stated limits.

**Note: A Form 15 Building Structural Design Certification Form is required by Building Services Authority Queensland to be completed to make the Works and Design valid. The Form 15 including Site Specific Plans must be signed and dated by the undersigned Engineer.**

Engineer: Kelvin John Howard-RPEQ 07619  
Company: Karkel Contracting Pty Ltd

Signature: \_\_\_\_\_

# EZZY FIT FRP ADJUSTABLE PIER



## **SPECIFICATIONS:**

- Max Height: 700 mm
- Min Height: 300 mm
- Working Load: 3–5 Tonnes
- Lower Section: 100 x 100 x 6 mm FRP
- Upper Section: 75 x 75 x 6 mm FRP
- Top Plate: 100 x 100 x 15 mm FRP

## **IMPORTANT NOTES:**

- Maximum Height: 700 mm
- Min Overlap: 200 mm
- Use on Structural Concrete Footing Only
- Do Not Exceed 5 Tonne Load
- Install Plumb & Level
- Final Design To Be Certified By Structural Engineer

**MAXIMUM HEIGHT: 700 mm**