

Pryda Timber Connectors Post Anchors Guide



A complete guide to the design, specification and installation of Pryda Post Anchors

March 2014

INTRODUCTION

The information in this Product Guide is provided for use in Australia by architects, engineers, building designers, builders and others. It is based upon the following criteria:

- 1. **No Substitution**: The products covered by or recommended in this guide must not be substituted with other products.
- 2. Design Capacity Basis: See Codes & Standards following
- 3. **Supporting Constructions**: Constructions using Pryda products must be built in accordance with the BCA or an appropriate Australian standard. *Note: This includes appropriate corrosion protection- See Corrosion Protection following*
- 4. **Correct Installation**: Installation of Pryda products must be strictly in accordance with the instructions in this guide
- 5. Current Guide Version Used: The current version of this guide, including any amendments or additions, must be used. Users are advised to check with Pryda for updates at least every three months by telephone, the web site: www.pryda.com.au or by email to: info@pryda.com.au.

CODES & STANDARDS

Product design capacities in this guide have been derived from:

- (a) results of laboratory tests carried out by or for Pryda Australia(b) engineering computations in accordance with the relevant
- Australian standards, ie:
 - * AS1720.1-2010 Timber Structures. Part 1: Design Methods
 - * AS/NZS1170 series : 2002 Structural Design Actions
 - * AS4055 -2006 Wind Loads for Housing

Design capacities tabulated in this guide apply directly for **Category 1** joints. For all other joints, reduce design capacities by using the factors as specified in *General Notes* (if applicable). Design capacities are related to the **Joint Group** of the timber as defined in AS1720 and AS1684. If the joint group of timber members joined together varies, the lower group must be assumed for design, eg: JD5 is lower than JD4.

DEFINITIONS

Special terms used in this guide are as defined in Australian standards, including:

Design Capacity: the maximum Limit State Design load (aka "action") which the product can safely support under the specified load condition, eg: 1.2G + 1.5Q (dead+roof live). See General Notes for details (if applicable)

Joint Group: classification of a timber according to its fastenerholding capacity. See General Notes for details (if applicable)

CORROSION PROTECTION

Most Pryda products are manufactured using Z275 light-gauge steel, having zinc coating of 275 gsm (total weight). This protection is adequate only for INTERNAL applications in most corrosion environments, except areas that are classified as heavy industrial or those subject to high humidity (eg: enclosed swimming pools) etc. Under these circumstances, seek advice from experts as special protection will be required. *Note: INTERNAL areas are those within the building envelope that are kept permanently dry.*

AS1684.2-2010 and AS1684.3-2010- Australian Standards for Residential Timber Frame Construction stipulates a minimum Z275 steel for all sheet metal products used in an internal environment.

In areas outside the building envelope that are exposed to repeated wetting (EXTERNAL areas), Pryda's stainless steel products or equivalent should be considered. Some alternatives include hot dip galvanised or powder coated steel, which are not supplied by Pryda. For more detailed information, read Pryda's Technical Update on *Corrosion Resistance of Pryda Products* or contact a Pryda office.

PRODUCT CERTIFICATION

Pryda Australia warrants:

- * Products in this guide are free from defects in the material or manufacturing
- * Design capacities are in accordance with test results or current, relevant Australian standards and the Building Code of Australia.
- * Pryda products are structurally adequate provided they are designed, installed and used completely in accordance with this guide.

This warranty applies only to:

- * products in this guide
- * products used in the specified applications and not damaged after manufacture and supply
- * joints free from wood splitting, decay or other timber defects within the joint or within 150 mm of the joint.

INSTRUCTIONS FOR INSTALLATION

These notes are provided to ensure proper installation.

- 1. All fasteners used must be manufactured by reputable companies and be of structural quality.
- 2. Connectors must not be installed on timber which is split before or during installation. If the timber is likely to split as fasteners are driven, fastener holes must be pre-drilled.
- 3. Do not overload the joints- during construction or in service.
- 4. Bolt hole diameter must be 0.8 mm to 1.5 mm larger than the bolt diameter and the specified washers must be installed.
- 5. Use proper safety equipment and due care in installing these connectors
- 6. Any gaps in joints between the timber members must not exceed 3 mm
- 7. Do not over-tighten screws.



Pryda Post Anchors Guide

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| Fixing to Concrete Pryda Post Anchors can be either embedded into concrete or fixed to the top surface of reinforced concrete slabs or bases using concrete anchors | - 14 |

Product Information Updates

Information contained in this product guide is subject to change without notice. The latest updates are available from www.pryda.com.au.

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POST ANCHORS

Economical Timber Post Anchors



Advantages

Pryda Post Anchors are manufactured to a consistent quality. Advantages are:

- Compliance with building code requirements
- Hot dip galvanised coating after manufacture, to provide long term protection, suitable for severe external environments (as defined in the Building Code of Australia, HDG 300g/m²) which include sites within 1 km from the coast. (Excludes PSB anchors)
- Stems in stirrup anchors are sealed for termite protection
- Improved stability of the base with bolt holes close to the stem
- A large range of sizes to suit: (a) leg lengths from 65 mm to 600 mm (b) stirrup widths 90, 100, 115, 125 mm- and the Adjustable type to suit any post size (c) several configurations: Full Stirrup, Half Stirrup, Bolt Down, Centre Fix, Centre Pin, High Wind and Adjustable.

Installation

Fixing requirements are included in the Design Capacities table on page 6. To install **Pryda Post Anchors**:

- 1. Adopt commercial bolts of strength grade 4.6 conforming to AS1111. Use 10 mm (or 3/8") diameter galvanised bolts ,except for the High Wind type (PSQ) which requires 12 mm (or 1/2") diameter bolts. Where the bolt head or nut bears directly on the timber (Half Stirrup and Centre Fix types), a 45 mm diameter by 2.5 mm thick washer is required.
- 2. Use **galvanised coach screws** 50x10 mm into side grain and 75x10 mm into end grain.
- 3. Anchors and bolts embedded in wet concrete must extend at least 56 mm into the concrete to develop the uplift loads tabulated in this guide.
- 4. The distance from the top of the concrete to the underside of the post anchor saddle must not exceed 300 mm.

Specification

The general specification for Pryda Post Anchors is:

| Steel: | G250 - AS1397 Hot dip galvanised | | | | |
|-------------|--|--|--|--|--|
| Sizes: | To suit all widths of timber posts. A variety of leg lengths – see in the following: | | | | |
| Application | Wet or dry concrete fixing. | | | | |

The full range of these anchors is tabulated in Details following.

Design Capacities- Wind Uplift

Limit State Design capacities (ΦN_j) for **Pryda Standard Post Anchors** resisting wind uplift loads are as follows:

| Post Anchor | | Post | Uplift Capacities for varying joint groups | | | | | | |
|----------------------|--------------------------------|------------|--|------|------|----------|-------|------|------|
| | Fixing | (mm) | J4 | J3 | J2 | JD5 | JD4 | JD3 | JD2 |
| Adjustable PS | 4@ 50x10 mm coach screws | 90 min. | 4.6 | 7.4 | 9.2 | 5.8 | 8.4 | 11.9 | 12 |
| Bolt Down PSB | 2@ M10 bolts | Any | | | Re | fer to P | age 8 | | |
| Centre Fix PSCF | 2@ M10 bolts | 90 | 9.1 | 11.5 | 12.0 | 11.5 | 12.0 | 12.0 | 12.0 |
| Centre Pin PSCP | 2@ 75x10 mm coach screws | Any | 4.1 | 6.0 | 8.2 | 3.9 | 5.2 | 7.5 | 10.3 |
| 00 | 2@ M10 bolts | | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| | | 90 | 6.3 | 10.1 | 12.0 | 6.7 | 10.6 | 12.0 | 12.0 |
| | 4@ 50x10 | 100 | 6.1 | 9.6 | 12.0 | 6.5 | 10.3 | 12.0 | 12.0 |
| Full Stirrup | coach screws | 115 | 5.7 | 9.0 | 12.0 | 6.1 | 9.8 | 12.0 | 12.0 |
| PSFS | | 125 | 5.3 | 8.5 | 11.7 | 5.9 | 9.3 | 12.0 | 12.0 |
| Half Stirrup PSHS | 2@ M10 bolts | Any | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 |
| | 2@ 50x10 mm coach screws | | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 |
| High Wind PSQ | 2@ M12 bolts | Any | 33 | 41 | 45 | 36 | 41 | 50 |) |

*Refer to notes on next page

- Notes: 1. The design loads tabulated above require that: (a) the timber post <u>must bear</u> on the Post Anchor base and (b) all posts must be a minimum of 90x90 mm section.
 - 2. Select design capacity according to the standard used for determining the design loads.
 - 3. Specified capacities are for vertical load transfer only.
 - 4 The base concrete and fixings to the concrete must provide sufficient resistance to the uplift forces and dead +live loads when embedding in to concrete.
 - 5 Wind Uplift capacities are now based on the AS/NZS 1170:2002 code only, using k1=1.14.
 - 6 Post Anchors should NOT be assumed to contribute towards lateral bracing/ raking stability of a structure in decks or stumps in sub-structure, unless pre-approved by an Engineer.
 - 7 Post Anchors are not Intended to be used for cantilever posts and balustrades without pre-approval from an Engineer.

Bushfire Attack Resistance/ Termite Management

Most Pryda Post Anchors meet the requirements of the Building Code of Australia (NCC 2012), Volume 2. A minimum of 75 mm clearance between the underside of the Post Anchor saddle and the ground surface or paving level is recommended.



Adjustable Post Anchor

Convenient and fully adjustable for any practical post size. No checking of the post is required. Not recommended for post greater than 125mmx125mm. To be installed central to post.

Details

Pryda Post Anchors conform to AS3660.1 – 2000, Protection of Buildings from Termites. All joints are welded. Steel G250 AS1397 -2001

Adjustable Post Anchors - Hot Dipped Galvanised 4 mm Steel

| Product Code | Article & Size | Packed |
|-----------------|-------------------|--------|
| PS85 | 85 Leg Length | 10 |
| PS160 | 160 Leg Length | 10 |
| PS200 | 200 Leg Length | 10 |





Adjustable Post Anchor

Design Capacities- Steel Strength only

Ultimate Limit State Design capacities ($\Phi N_c \Phi N_t$) for **Pryda Standard Post**

| Product Code | Axial Compression ΦN₀ (kN) | Axial Tension ΦN _t (kN) |
|-----------------|-------------------------------|---------------------------------------|
| PS85 | 25 | |
| PS160 | 16 | 12 |
| PS200 | 20 | |

Design Capacities- Wind Uplift

Limit State Design capacities (ΦN_i) for **Pryda Standard Post Anchors** resisting wind uplift loads are as follows:

| Post Anchor | | Deat | Uplift Capacities for varying joint groups | | | | | | |
|---------------|-----------------------------|------------|--|-----|-----|-----|-----|------|-----|
| | Eixing | | | | | | | | |
| | Fixing | () | J4 | J3 | J2 | JD5 | JD4 | JD3 | JD2 |
| Adjustable PS | 4@ 50x10 mm coach screws | 90 min. | 4.6 | 7.4 | 9.2 | 5.8 | 8.4 | 11.9 | 12 |

Notes:

- 1. The design loads tabulated above require that: (a) the timber post <u>must bear</u> on the Post Anchor base and (b) all posts must be a minimum of 90x90 mm section.
- 2. Select design capacity according to the standard used for determining the design loads.
- 3. Specified capacities are for vertical load transfer only.
- The base concrete and fixings to the concrete must provide sufficient resistance to the uplift forces and 4 dead +live loads when embedding in to concrete.
- 5 Wind Uplift capacities are now based on the AS/NZS 1170:2002 code only, using k1=1.14.
- 6 Post Anchors should NOT be assumed to contribute towards lateral bracing/ raking stability of a structure in decks or stumps in sub-structure, unless pre-approved by an Engineer.
- 7 Post Anchors are not Intended to be used for cantilever posts and balustrades without pre-approval from an Engineer.

Bolt Down Post Anchor

With knockout 3 mm adjustable washer- to facilitate adjustment after bolt holes have been drilled. Used for locating posts onto existing concrete or decking. To be installed central to post.

Bolt Down Post Anchors – Galvabond & Hot Dipped Galvanised 2 mm Stirrup/ 3 mm Base



Design Capacities- Wind Uplift

Limit State Design capacities (ΦN_j) for **Pryda Standard Post Anchors** resisting wind uplift loads are as follows:

| | Sheet Roof (40kg/m ²) | Tile Roof (80kg/m ²) |
|------------|-----------------------------------|----------------------------------|
| Wind Speed | Maximum R | oof Area m ² |
| N2 | 5.8 | 9.9 |
| N3 | 3.5 | 4.6 |
| C1 | 2.4 | 3.0 |
| C2 | 1.6 | 1.7 |

Notes: 1. The design loads tabulated above require that: (a) the timber post <u>must bear</u> on the Post Anchor base and (b) all posts must be a minimum of 90x90 mm section.

- 2. Select design capacity according to the standard used for determining the design loads.
- 3. Specified capacities are for vertical load transfer only.
- 4 The base concrete and fixings to the concrete must provide sufficient resistance to the uplift forces and dead +live loads when embedding in to concrete.
- 5 Wind Uplift capacities are now based on the AS/NZS 1170:2002 code only, using k1=1.14.
- ⁶ Post Anchors should NOT be assumed to contribute towards lateral bracing/ raking stability of a structure in decks or stumps in sub-structure, unless pre-approved by an Engineer.
- 7 Post Anchors are not Intended to be used for cantilever posts and balustrades without pre-approval from an Engineer.

Centre Fix Post Anchor

Generally used to "hide" the post anchor. The post is slotted at the bottom and bolted through the post and anchor, leaving only the bolt heads, nuts and washers visible. Can be bolted to existing concrete or set into concrete. Recommended maximum post size 90mm. To be installed central to post.

Details

Pryda Post Anchors conform to AS3660.1 – 2000, Protection of Buildings from Termites. All joints are welded. Range dimensions are: Stem– 25 mm diameter x 2.0 mm thickness, Stirrup thickness = 4 mm. Steel G250 AS1397 -2001

Centre Fix Post Anchors - Hot Dipped Galvanised 4 mm Steel

| Product Code | Article & Size | Packed |
|-----------------|-------------------|--------|
| PSCF130 | 130 Leg Length | 10 |
| PSCF300 | 300 Leg Length | 10 |



Centre Fix Post Anchor



Design Capacities- Wind Uplift

Limit State Design capacities (ΦN_i) for **Pryda Standard Post Anchors** resisting wind uplift loads are as follows:

| Post Anchor | Pos Fixing (mr | | Deet | Uplift Capacities for varying joint groups | | | | | | os |
|-----------------|-------------------|-------------|------|--|------|------|------|------|------|----|
| | | Fixing (mm) | | Post | | | | | | |
| | | () | J4 | J3 | J2 | JD5 | JD4 | JD3 | JD2 | |
| Centre Fix PSCF | 2@ M10 bolts | 90 | 9.1 | 11.5 | 12.0 | 11.5 | 12.0 | 12.0 | 12.0 | |

Notes:

- The design loads tabulated above require that: (a) the timber post <u>must bear</u> on the Post Anchor base and (b) all posts must be a minimum of 90x90 mm section.
- 2. Select design capacity according to the standard used for determining the design loads.
- 3. Specified capacities are for vertical load transfer only.
- 4 The base concrete and fixings to the concrete must provide sufficient resistance to the uplift forces and dead +live loads when embedding in to concrete.
- 5 Wind Uplift capacities are now based on the AS/NZS 1170:2002 code only, using k1=1.14.
- 6 Post Anchors should NOT be assumed to contribute towards lateral bracing/ raking stability of a structure in decks or stumps in sub-structure, unless pre-approved by an Engineer.
- 7 Post Anchors are not Intended to be used for cantilever posts and balustrades without pre-approval from an Engineer.

Centre Pin Post Anchor

For use where the post anchor is NOT to be visible. Due to the fixing method, it is only suitable for small spans or where no roofing is used. Recommended maximum post size not to exceed 125mm. To be installed central to post.

Details

Pryda Post Anchors conform to AS3660.1 – 2000, Protection of Buildings from Termites. All joints are welded. Range dimensions are: Stem– 25 mm diameter x 2.0 mm thickness, Stirrup thickness = 4 mm. Steel G250 AS1397 -2001

Centre Pin Post Anchors - Hot Dipped Galvanised 4 mm Steel

| Product Code | Article & Size | Packed |
|-----------------|-------------------|--------|
| PSCP130 | 130 Leg Length | 10 |
| PSCP300 | 300 Leg Length | 10 |



Centre Pin Post Anchor

Design Capacities- Wind Uplift

Notes:

Limit State Design capacities (ΦN_i) for **Pryda Standard Post Anchors** resisting wind uplift loads are as follows:

| Post Anchor | Anchor Fixing | | Deet | Up | lift Ca | oacities | s for va | rying joi | int group |)S |
|-----------------|-----------------------------|------|------|-----|---------|----------|----------|-----------|-----------|----|
| | | (mm) | | | | | | | | |
| | | | J4 | J3 | J2 | JD5 | JD4 | JD3 | JD2 | |
| Centre Pin PSCP | 2@ 75x10 mm coach screws | Any | 4.1 | 6.0 | 8.2 | 3.9 | 5.2 | 7.5 | 10.3 | |

 The design loads tabulated above require that: (a) the timber post <u>must bear</u> on the Post Anchor base and (b) all posts must be a minimum of 90x90 mm section.

- 2. Select design capacity according to the standard used for determining the design loads.
- 3. Specified capacities are for vertical load transfer only.
- 4 The base concrete and fixings to the concrete must provide sufficient resistance to the uplift forces and dead +live loads when embedding in to concrete.
- 5 Wind Uplift capacities are now based on the AS/NZS 1170:2002 code only, using k1=1.14.
- 6 Post Anchors should NOT be assumed to contribute towards lateral bracing/ raking stability of a structure in decks or stumps in sub-structure, unless pre-approved by an Engineer.
- 7 Post Anchors are not Intended to be used for cantilever posts and balustrades without pre-approval from an Engineer.

Full Stirrup Post Anchor (PSF)

Primarily used for bolting to existing concrete. Can also be used for setting to concrete having a maximum clearance. To be installed central to post.

Details

Pryda Post Anchors conform to AS3660.1 – 2000, Protection of Buildings from Termites. All joints are welded. Range dimensions are: Stem– 25 mm diameter x 2.0 mm thickness, Stirrup thickness = 4 mm. Steel G250 AS1397 -2001

Full Stirrup Post Anchors – Hot Dipped Galvanised 4 mm Steel

| Product Code | Article & Size | Packed | Standard Product Code | Article & Size | Packed |
|-----------------|---------------------------|--------|-----------------------------|---------------------------|--------|
| PSFS6590 | 65mm leg for 90 mm post | 10 | PSFS30090 | 300mm leg for 90 mm post | 10 |
| PSFS65100 | 65mm leg for 100 mm post | 10 | PSFS300100 | 300mm leg for 100 mm post | 10 |
| PSFS13090 | 130mm leg for 90 mm post | 10 | PSFS300115 | 300mm leg for 115 mm post | 10 |
| PSFS130100 | 130mm leg for 100 mm post | 10 | PSFS300125 | 300mm leg for 125 mm post | 10 |
| PSFS130115 | 130mm leg for 115 mm post | 10 | PSFS37590 | 375mm leg for 90 mm post | 10 |
| PSFS130125 | 130mm leg for 125 mm post | 10 | PSFS45090 | 450mm leg for 90 mm post | 10 |
| PSFS20090 | 200mm leg for 90 mm post | 10 | PSFS450100 | 450mm leg for 100 mm post | 10 |
| PSFS200100 | 200mm leg for 100 mm post | 10 | PSFS450115 | 450mm leg for 115 mm post | 10 |
| PSFS25090 | 250mm leg for 90 mm post | 10 | PSFS450125 | 450mm leg for 125 mm post | 10 |
| PSFS250100 | 250mm leg for 100 mm post | 10 | PSFS60090 | 600mm leg for 90 mm post | 10 |
| | | | PSFS600100 | 600mm leg for 100 mm post | 10 |





75mm min. Clearance 300mm max. from base support

Embedment depth to be designed by Structural Engineer for required Uplift capacity

Full Stirrup Post Anchor (PSF)

Design Capacities- Wind Uplift

Limit State Design capacities (ΦN_i) for **Pryda Standard Post Anchors** resisting wind uplift loads are as follows:

| Post Anchor | | | Uplift Capacities for varying joint groups | | | | | | | | | |
|---|--|--|--|------|------|------|------------|------|------|--|--|--|
| | Fixing | Post | ost | | | | | | | | | |
| | , ixing | (mm) | J4 | J3 | J2 | JD5 | JD4 | JD3 | JD2 | | | |
| | 2@ M10 bolts | | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | | | |
| | | 90 | 6.3 | 10.1 | 12.0 | 6.7 | 10.6 | 12.0 | 12.0 | | | |
| Full Stirrup | 4@ 50x10 mm | 100 | 6.1 | 9.6 | 12.0 | 6.5 | 10.3 | 12.0 | 12.0 | | | |
| P3F3 | coach screws | 115 | 5.7 | 9.0 | 12.0 | 6.1 | 9.8 | 12.0 | 12.0 | | | |
| | | 125 | 5.3 | 8.5 | 11.7 | 5.9 | 9.3 | 12.0 | 12.0 | | | |
| Notes: 1. | The design loads tabulated above require that: (a) the timber post <u>must bear</u> on the Post Anchor base and (b) all posts must be a minimum of 90x90 mm section. Select design capacity according to the standard used for determining the design loads. | | | | | | | | | | | |
| 3. | Specified capacities are for vertical load transfer only. | | | | | | | | | | | |
| 4 I he base concrete and fixings to the concrete must provide sufficient resistance to the uplift forces and dead +live loads when embedding in to concrete. | | | | | | | es and | | | | | |
| 5 | 5 Wind Uplift capacities are now based on the AS/NZS 1170:2002 code only, using k1=1.14. | | | | | | | | | | | |
| 6 | Post Anchors s structure in de | Post Anchors should NOT be assumed to contribute towards lateral bracing/ raking stability of a structure in decks or stumps in sub-structure, unless pre-approved by an Engineer. | | | | | | | | | | |
| 7 | 7 Post Anchors are not Intended to be used for cantilever posts and balustrades without pre-appro | | | | | | pre-approv | | | | | |

from an Engineer.

Half Stirrup Post Anchor (PSH)

Ideally suited to uses where the post is located against a wall or step and can only be bolted from one side. Can be bolted to existing concrete or decking or set into concrete. Recommened maximum post size 90mm. To be installed central to post.

Details

Pryda Post Anchors conform to AS3660.1 – 2000, Protection of Buildings from Termites. All joints are welded. Range dimensions are: Stem– 25 mm diameter x 2.0 mm thickness, Stirrup thickness = 4 mm. Steel G250 AS1397 -2001

Half Stirrup Post Anchors – Hot Dipped Galvanised 4 mm Steel

| Product Code | Article & Size | Packed |
|-----------------|-------------------|--------|
| PSHS65 | 65 Leg Length | 10 |
| PSHS130 | 130 Leg Length | 10 |
| PSHS200 | 200 Leg Length | 10 |
| PSHS300 | 300 Leg Length | 10 |





Half Stirrup Post Anchor (PSH)

Design Capacities- Wind Uplift

Limit State Design capacities (ΦN_i) for **Pryda Standard Post Anchors** resisting wind uplift loads are as follows:

| Post Anchor | | Upl | ift Cap | acities | | | | | | |
|---|---|---|---------|---------|------|---------|-----------|----------|---------|-----------------------------|
| | Fixing | (mm) | | | | | | | | |
| | TIXING | () | J4 | J3 | J2 | JD5 | JD4 | JD3 | JD2 | |
| Half Stirrup PSHS | 2@ M10 bolts | 00 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | |
| | 2@ 50x10 mm coach screws | 90 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | |
| Notes: 1. 2. 3. 4 5 6 7 | The design load (b) all posts mu Select design ca Specified capa The base concre dead +live loads Wind Uplift capa Post Anchors s structure in de | The design loads tabulated above require that: (a) the timber post <u>must bear</u> on the Post Anchor base and (b) all posts must be a minimum of 90x90 mm section. Select design capacity according to the standard used for determining the design loads. Specified capacities are for vertical load transfer only. The base concrete and fixings to the concrete must provide sufficient resistance to the uplift forces and dead +live loads when embedding in to concrete. Wind Uplift capacities are now based on the AS/NZS 1170:2002 code only, using k1=1.14. Post Anchors should NOT be assumed to contribute towards lateral bracing/ raking stability of a structure in decks or stumps in sub-structure, unless pre-approved by an Engineer. | | | | | | | | |
| 7 | Fost Anchors a from an Engine | are not I eer. | ntendeo | d to be | used | tor can | tilever p | osts and | d balus | trades without pre-approval |

High Wind Post Anchor

Engineered for high wind areas, including tropical regions. The U shape base is designed for maximum hold-down in concrete. See AS1684:2010 Part 3- Table 9.20 (j) reinforcing rod install over anchor end. To be installed central to post.

Details

Pryda Post Anchors conform to AS3660.1 – 2000, Protection of Buildings from Termites. All joints are welded. Steel G250 AS1397 -2001

High Wind Post Anchors - Hot Dipped Galvanised 5 mm Steel

| Standard Product Code | Article & Size | Packed |
|-----------------------------|--------------------------|--------|
| PSQ30090/12 | 300 x 50 mm – 90 mm post | 6 |
| PSQ300100/12 | 300 x 50 mm- 100mm post | 6 |
| PSQ45090/12 | 450 x 50 mm- 90 mm post | 6 |
| PSQ450100/12 | 450 x 50 mm- 100mm post | 6 |
| PSQ60090/12 | 600 x 50 mm- 90 mm post | 6 |
| PSQ600100/12 | 600 x 50 mm- 100mm post | 6 |
| PSQ600125/12 | 600 x 50 mm- 125 mm post | 6 |
| PSQ600150/12 | 600 x 50 mm- 150 mm post | 6 |





High Wind Post Anchor

Design Capacities- Wind Uplift

Limit State Design capacities (ΦN_j) for **Pryda Standard Post Anchors** resisting wind uplift loads are as follows:

| Post Anchor | | Deet | Uplift Capacities for varying joint groups | | | | | | | | | |
|---------------|-----------------|------|--|----|----|-----|-----|-----|-----|--|--|--|
| | Eiving | (mm) | | | | | | | | | | |
| | Fixing | | J4 | J3 | J2 | JD5 | JD4 | JD3 | JD2 | | | |
| High Wind PSQ | 2@ M12 bolts | Any | 33 | 41 | 45 | 36 | 41 | 50 | 50 | | | |

Notes: 1. The design loads tabulated above require that: (a) the timber post <u>must bear</u> on the Post Anchor base and (b) all posts must be a minimum of 90x90 mm section.

- 2. Select design capacity according to the standard used for determining the design loads.
- 3. Specified capacities are for vertical load transfer only.
- 4 The base concrete and fixings to the concrete must provide sufficient resistance to the uplift forces and dead +live loads when embedding in to concrete.
- 5 Wind Uplift capacities are now based on the AS/NZS 1170:2002 code only, using k1=1.14.
- 6 Post Anchors should NOT be assumed to contribute towards lateral bracing/ raking stability of a structure in decks or stumps in sub-structure, unless pre-approved by an Engineer.
- 7 Post Anchors are not Intended to be used for cantilever posts and balustrades without pre-approval from an Engineer.

Fixing to Concrete

Pryda Post Anchors can be either embedded into concrete or fixed to the top surface of reinforced concrete slabs or bases using concrete anchors.

For this purpose, Pryda recommends M10 Hex Head Ramset[™] AnkaScrews[™], code AS10060H (available from Pryda) or AS10075H, which have properties as follows:

| AnkaScrew Code | AS10060H | AS10075H |
|------------------------------------|----------|----------|
| Diameter (mm) | 10 | 10 |
| Effective depth (mm) | 56 | 71 |
| Concrete depth min. (mm) | 75 | 100 |
| Concrete capacity (MPa) | 20 | 20 |
| Edge distance min. (mm) | 40 | 40 |
| Spacing (min.) (mm) | 60 | 60 |
| Design Capacity (kN) – two anchors | 18.5 | 25.8 |

For other use conditions, the above design capacity must be adjusted by the following factors:

| Concrete Strength (MPa) | 20 | 25 | 32 | 40 |
|-------------------------|-----------------|------|------|------------|
| Factor | 1.0 | 1.08 | 1.18 | 1.27 |
| | | | | |
| Edge distance (mm) | Less than 30 | 30 | 35 | 40 or more |
| Factor | NS | 0.83 | 0.91 | 1.0 |

Note: NS means not suitable.

Installation of AnkaScrews is quick and easy. They are self-tapping and non-expansive. See the Ramset installation instructions on their web site: www.ramset.com.au or contact Ramset.



Post Anchor Fixing to Concrete Slab Detail



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