PRODUCT DATA SHEET

# STUD TIES

## FEATURES AND BENEFITS

EASY: A quick and effective connector between studs and wall plates.

VERSATILE: Available with built-in nails, holes for hand nails or dimples for machine nails.

STRONG: Nails are driven into the side grain to resist wind uplift in lateral shear.

### AS1684 COMPLIANT

- Designed and tested in accordance with Australian standards (AS1649)
- Meets the tie down requirements for AS1684 bracing units
- Minimum G300 Z275 Galvanised Steel

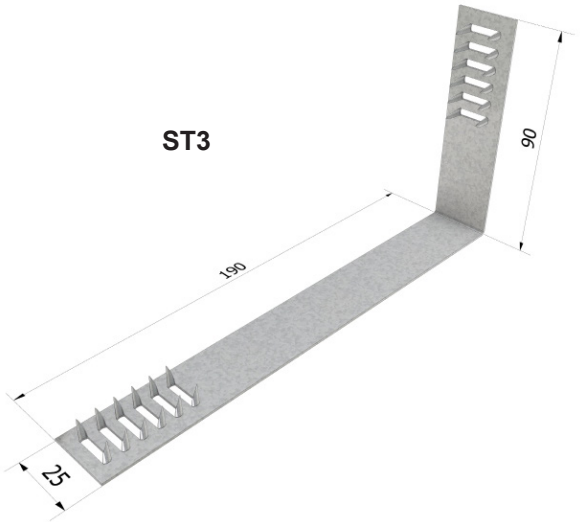
## SPECIFICATIONS

| | |
|---|---|
| **STEEL** | G300 |
| **THICKNESS** | 1.0mm |
| **CORROSION RESISTANCE** | Z275 |
| **FASTENERS** | Preformed nails are found included for all but the ST3 Stud Ties.<br>For the ST3 Stud Ties use Pryda 35 x 3.15mm Timber Connector Nails<br>OR<br>Pryda Painted hex head 12G x 35mm Screws<br>Ensure the corrosion resistance of the fastener matches the product, i.e. galvanised nails for a galvanized bracket, stainless nails for a stainless bracket. |

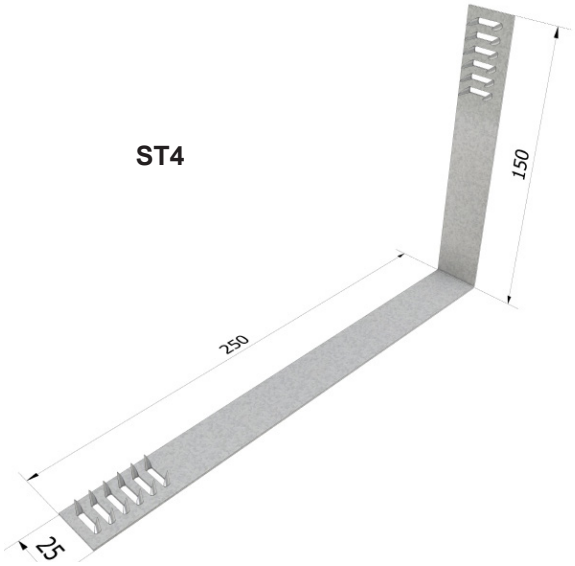
Stud ties connect top and bottom plates to studs to resist wind uplift.

# PRYDA STUD TIE RANGE

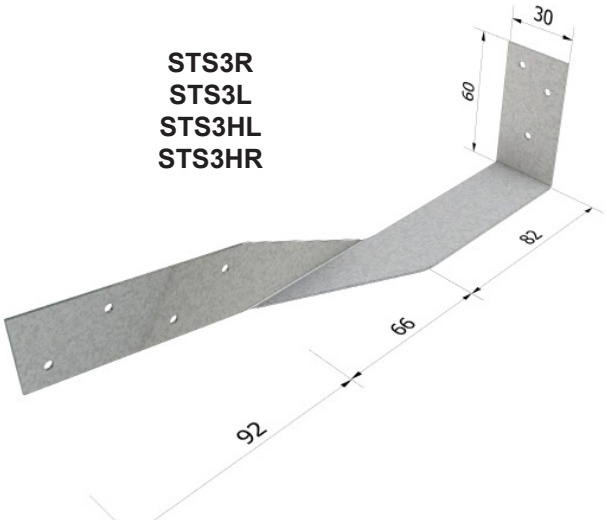
## ST3



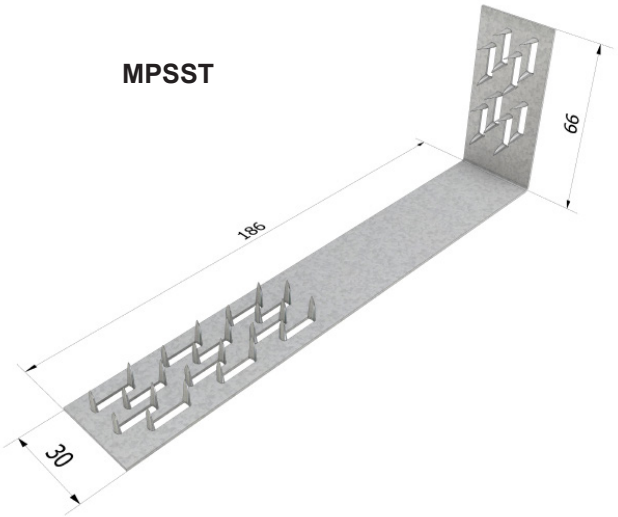

## ST4



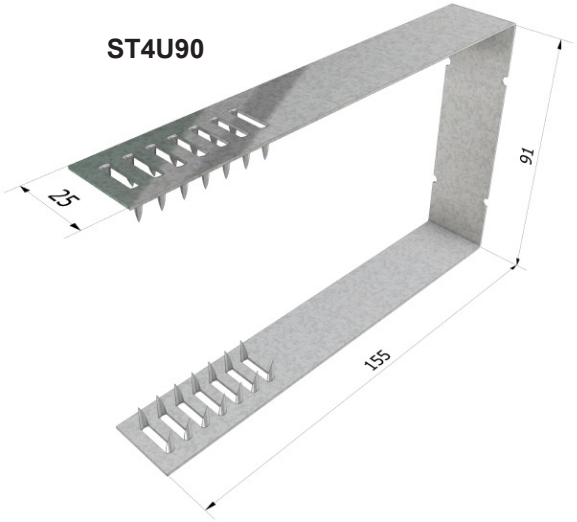

## STS3R
## STS3L
## STS3HL
## STS3HR




## MPSST




## ST4U90



# STUD TIES

| PRODUCT CODE | MATERIAL | TYPE | FASTENERS | QUANTITY |
|---|---|---|---|---|
| ST3 | G300 Z275 Galvanised Steel | Double | Pre-punched nails | 100 |
| ST4 | | | | 80 |
| ST4U90 | | | | |
| STS3R | | Single | Pryda Timber Connector Nails 35 x 3.15mm | 50 |
| STS3L | | | | |
| STS3HR | | | 9/32x2.3 mm galvanised, screw shank nails, machine driven | |
| STS3HL | | | | |
| MPSST | | | Pre-punched nails | |

# FEATURES

Pryda Stud Ties greatly improve the jointing of top and bottom plates to studs compared to the common nail fixing, ie:

- **Greater tie-down strength:** Stud Tie nails are driven into the side grain of the stud to resist wind uplift in lateral shear. This is far stronger than relying on the withdrawal strength of common nails in end grain. For example, two 90x3.05 dia glue-coated machine driven skew nails through 45 mm thick wall plates into the ends of dry pine studs (as required by AS 1684) have a capacity of only 0.40 kN while Stud Ties could provide as much as 6.2 kN. (refer to Design Capacities next page)
- **No splitting of the timber:** With Stud Ties, the careful location of the nails away from timber ends and edges avoids splitting which can occur in common nails only joints, especially in some timbers and particularly with skew nailing. This is not only unsightly, but it reduces the strength of the joint substantially.
- **Convenience:** As ST3, ST4 and the new MPSST Stud Ties have in-built nails, there is no need for other nails. Stud Ties are quick and easy to apply; the in-built nails are readily driven home with a conventional hammer. ST4U90 Stud Ties have two bends for easy installation on 70 mm and 90 mm wall frames respectively.
- **Single sided Stud Ties** are specially designed for factory production. They avoid the need to reach under the frame on the framing table. Note: The STS3 stud ties have either dimples for easy fixing with power driven nails or holes for fixing with 35x3.15 mm galvanised Pryda Timber Connector Nails.
- **Like the STS3, the new Ezi Stud Tie (MPSST)** is also designed for both factory and site installation. But the SST has the added advantage of a greater tie-down capacity.
- **Complies with AS1684 Bracing Units rules:** All types of Stud Ties meet the tie-down requirements of the code when installed as specified.

# PRYDA TIMBER CONNECTOR NAILS

| PRODUCT CODE | MATERIAL | TYPE | SIZE | PACK CONFIGURATION | QUANTITY |
|---|---|---|---|---|---|
| OSNGB | Galvanised Steel | Flat Head | 35 x 3.15mm | 500g cardboard packs x 10 | 5kg |
| OSNG | | | | 1kg cardboard packs x 10 | 10kg |
| TPOSNG | | | | 5kg Trade pack x 1 | 5kg |

**IMPORTANT:**

READ THIS DATASHEET IN CONJUNCTION WITH PRYDA CONNECTORS & TIE-DOWN CONNECTORS DESIGN GUIDE AND REFER TO ESSENTIAL NOTES AND GENERAL NOTES.

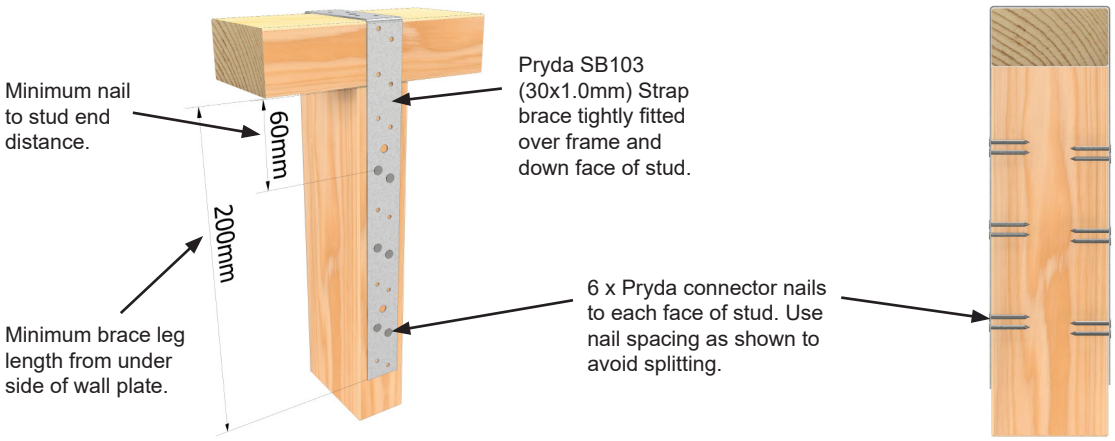
# DESIGN CAPACITIES

| STUD TIES | DESIGN CAPACITY ΦNJ (KN) PER STUD TIE FOR TIMBER JOINT GROUP | | |
|---|---|---|---|
| | JD5 | JD4 | JD3 |
| ST3 | 5.3 | 6.3 | 7 |
| ST4 | 6.2 | 6.9 | 7 |
| MPSST (Note 5) | 5.5 | 5.5 | 5.5 |
| STS3 (Note 1) | 3.4 | 4.1 | 5.7 |
| SB103 (Note 4) | 8.8 | 10.5 | 13.6 |

Notes:

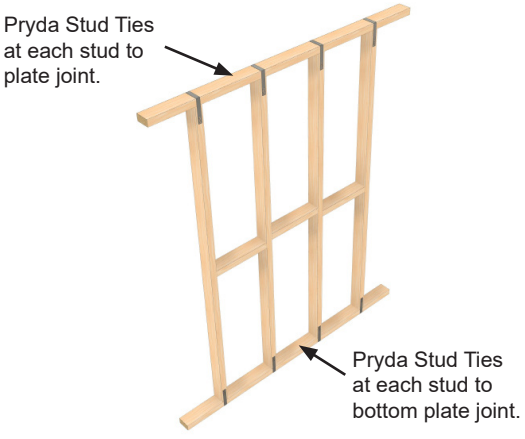
1. STS3 Stud Ties may also be used with 5 Pryda Timber Connector nails or 6 machine driven nails to the stud, and 3 or 4 nails to the top plate. In this case increase the design capacities by 25% above the values shown here.
2. The above values include the capacity of 2/skew nails.
3. Tie-down capacities are based AS1720.1:2010 using k1=1.14, for use in conjunction with AS/NZS1170:2002 loading code.
4. SB103 capacities are based on the fixings shown below, using SIX Pryda Timber Connector nails per leg.
5. The capacity of SST may be increased to 6.0kN if the connector is fixed into the side of the wall plate using a single 3.15 x 35 nail or equivalent, in addition to the in-built nails.

## PRYDA SB103 FIXING SPECIFICATION

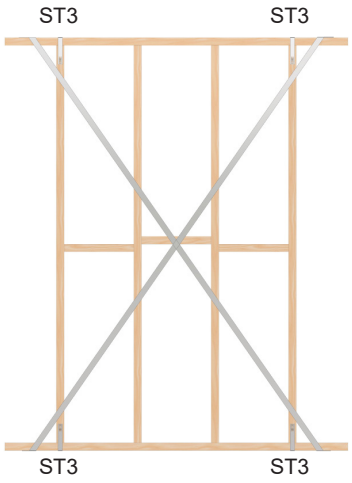



## APPLICATIONS

Pryda Stud Ties are used in wall bracing units (Types A and B) and other areas of walls for fixing of top and bottom wall plates to studs- as shown. Suitable overall, wall plate thicknesses are: ST3 - 50 mm; ST4 - 100 mm, STS3 - 80 mm and MPSST – 90 mm.




**General Use of Stud Ties**




**Wall Bracing Units**

# INSTALLATION

## EZI STUD TIE

### STEP 1

- Locate the Ezi Stud Tie on the external corner of the wall plate.
- Ensure Ezi Stud Tie is centrally located on the stud. While holding the tie in place at corner, systematically hammer in the claw-nail, starting from inner nail cluster to outer. Evenly hammer in all the claw-nails into stud.

### STEP 2

- Fasten the top of the Ezi Stud Tie into the top plate.
- In a similar manner, while holding the Ezi stud tie firmly against top plate corner, systematically hammer the claw-nails from inner clusters to outer claw-nail clusters. Avoid using excessive force and ensure Ezi stud tie is laying flat on both stud and top plate surfaces.

## DOUBLE SIDED STUD TIE

### U-SHAPED TIES

- Loop the U-shaped tie (ST4U) over top plate, ensuring the strap is centrally located to stud. While holding the ST4U firmly down on top and corners of top plate. Hammer in the claw-nails systematically and evenly from inner clusters to outer clusters until all claw-nails to both legs are fully embedded.

### SINGLE BEND TIES (STEP 1)

- For single bend ties ST4 or ST3. Locate stud tie central to stud and hammer fasten short leg to stud while firmly holding tie corner against top plate corner and long leg flat over top plate.

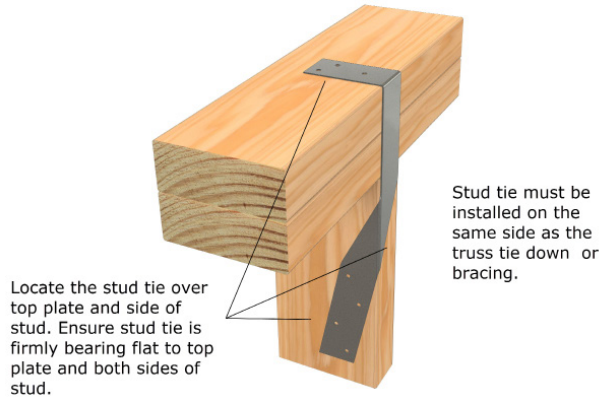
### SINGLE BEND TIES (STEP 2)

- While holding tie firmly down and flat on top plate, bend the leg over top plate edge. Gently bend the tie over the top plate corner with a hammer. While holding the tie flat over top plate and newly formed corner down, hammer in the claw-nails from inner cluster to outer cluster until all claw-nails are fully embedded.

# INSTALLATION

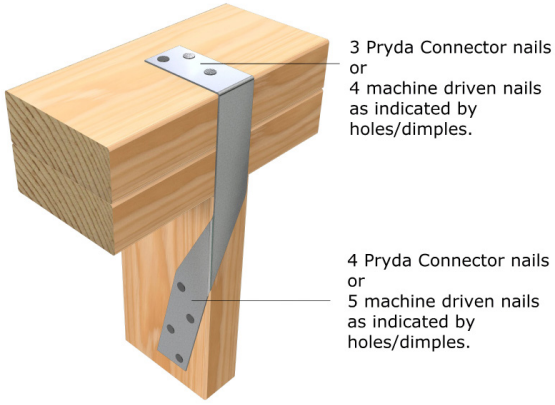
## SINGLE SIDED STUD TIE

### STEP 1




- Choose either left or right-handed sizes to suit your application.

### STEP 2




**STS3 with dimple**

- Power drive 9/32x2.3 mm galvanised, screw shank nails fully into the stud and top plate, i.e. 4 nails into top plate and 5 nails into stud, at locations indicated on the Tie.

**STS3 with holes**

- Fix 35x3.15 mm galvanised Pryda Timber Connector Nails, 3 into wall plate and 4 nails into stud

# FASTENING STUD TIES

## BUILD WITH CONFIDENCE

**WHERE POSSIBLE, HAND NAILING WITH PRYDA TIMBER CONNECTOR NAILS IS ALWAYS PREFERRED, WHY?**

- Pryda Timber Connector Nails are forged in one piece, unlike clouts that are two pieces soldered together, meaning the head can pop off
- Pryda Nails are the correct diameter, ensuring a tight fit in prepunched holes = a stronger connection
- Design values and testing have all been conducted using Pryda Timber Connector Nails
- Hand hammered nails ensure correct nail positioning and drive depth (not driven to shallow or too deep)

## USING PASLODE MACHINE DRIVEN NAILS WITH UN-PUNCHED QHS6U AND QHS9U

32x2.3 mm Duo-Fast C SHEG (ie: screw hardened electro galvanized) machine driven nails (code D40810) or equivalent may be used instead of the specified 35x3.15 mm Pryda Timber Connector Nails to fix selected Pryda connectors provided that the following requirements are strictly adhered to:

- Design capacities shall be reduced by 20% using the same number of nails as specified for the connectors and
- Nails shall be driven at nail spacings and edge distances closely following the dimple pattern on un-punched QHS6U and QHS9U.

Extreme care must be taken when using machine driven nails as the prevailing installation practices tend to inhibit compliance with the above requirements.

Screw hardened, electro galvanised Paslode nails that are appropriate include:

- Duo-Fast C SHEG 32 x 2.3 (D40810)
- Paslode 32 x 2.5 mm (B25110)
- Duo-Fast 32 x 2.5 mm (D41060)
- Pas Coil 32 x 2.5 SHEG 2 Pack (B25250)
- Impulse 32 x 2.5 SHEG (B40020)