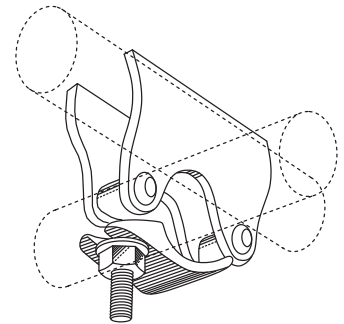


SCAFFOLDING PRODUCT  
TECHNICAL GUIDE

# Scaffold **Couplers**

General Technical and Application Manual



Genuine **Safety.**  
**Outstanding** Service.



## Scaffold Couplers

### Introduction

Scaffold couplers are essentially the fundamental component that is used to assemble tube-and-coupler scaffolding as encompassed by AS1576. Tube-and-coupler scaffolding is defined in AS1576.3 as 'a scaffold in which individual circular tubes serving as standards, ledgers, braces or ties are joined together by means of purpose designed couplers'.

This basic fitting that is designed to join two scaffold tubes can be used to create a diverse range of scaffolding structures or used as an accessory to prefabricated scaffolding systems.

This manual includes basic types of scaffold couplers which join two tubes together as well as special couplers used to connect scaffold tube to other components, equipment or structures.

### Working Load Limits

Working Load Limits (WLL's) are given for couplers that are covered by AS1576.2 and comply to that standard.

WLL's for couplers shown may be limited by components to which they are attached. Hence, load capacity of such components must be checked for suitability to support resultant loads.

### Important

The technical and application guidelines contained in this booklet are recommended methods to be used with scaffold couplers supplied by Acrow Formwork & Scaffolding Pty Ltd.

Recommendations and technical details must be accurately followed to obtain the correct performance of the product. Deviation from the recommended usage will require a separate engineering design and/or verification by Acrow Formwork & Scaffolding Pty Ltd.

The use and application of scaffold couplers must be in compliance with the requirements of Statutory Regulations and Australian Standards for Scaffolding (AS/NZS1576 'Scaffolding' and AS/NZS 4576 'Guidelines for Scaffolding') as applicable.

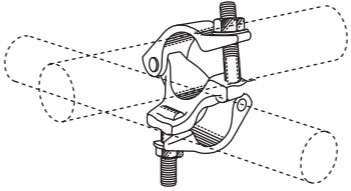
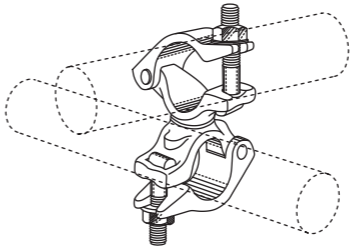
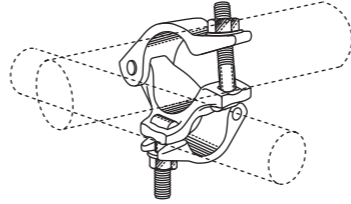
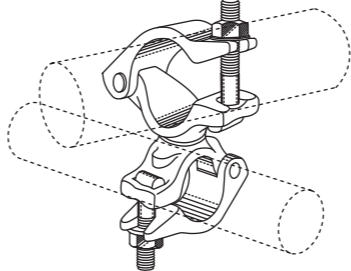
The illustrations of the assembly configurations are guidelines only.

Site specific Hazard and Risk assessments may need to be generated for specific projects.

As part of the risk management processes, we draw your attention to the requirement that scaffolders must, as part of their competency, be competent in manual lifting techniques. Therefore, scaffolders erecting, altering or dismantling scaffolding must follow the manual handling guidelines published by Regulatory Authorities or other guidelines and codes of practice recognised as being acceptable by such Regulatory Authorities.

Personnel who erect, alter or dismantle scaffolding over 4m in height must hold a current National, State or Territory Certificate in Scaffolding to the appropriate class.

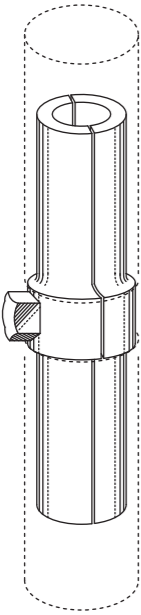
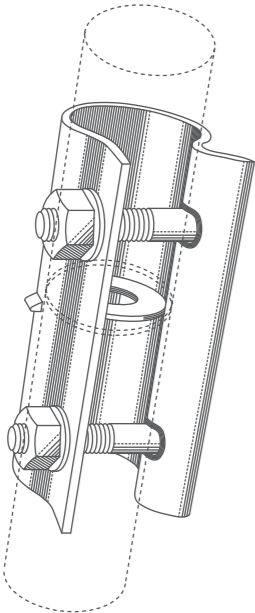
## General Technical and Application Manual

| Product   | Description   | Code No. | Mass kg (nom.) |
|---|---|----------|----------------|
|    | <p><b>Double Coupler</b></p> <ul style="list-style-type: none"> <li>Joins two scaffold tubes having outside diameter of 48.3mm at right angles.</li> <li>Tightening nuts suit standard Scaffold Spanner (23mm A/F).</li> <li>Replaceable 'T' bolts, nuts and washers.</li> <li>Robust design made from drop forged steel for durability and reliability.</li> <li>Hot dip galvanised finish for corrosion resistance.</li> <li>Complies with the requirements of AS1576.2.</li> <li>Typical working load limit of 6.25kN against slip at tightening torque of 54 Nm.</li> <li>Can be used to resist tension or compression loads.</li> </ul>  | DC       | 1.1            |
|   | <p><b>Swivel Coupler</b></p> <ul style="list-style-type: none"> <li>Joins scaffold tube having outside diameter of 48.3mm at any angle.</li> <li>Each half of the Coupler is interconnected with a swivel pin.</li> <li>Typically used for connecting bracing members. Also used for tension splicing of scaffold tubes.</li> <li>Tightening nuts suit standard Scaffold Spanner (23mm A/F).</li> <li>Replaceable 'T' bolts, nuts and washers.</li> <li>Robust design made from drop forged steel for durability and reliability.</li> <li>Hot dip galvanised finish for corrosion resistance.</li> <li>Complies with the requirements of AS1576.2.</li> <li>WLL = 6.25 kN against slip at tightening torque of 54 Nm.</li> <li>Can be used to resist tension or compression loads in bracing.</li> <li>Should not be used to support primary members. (Refer Clause 3.2.2 of AS1576.2-1991)</li> </ul> | SC       | 1.2            |
|  | <p><b>Reduction Double Coupler</b></p> <ul style="list-style-type: none"> <li>Similar to Double Coupler except that it connects 48 O.D. tube to 60 O.D.</li> </ul>  | RDC      | 1.80           |
|  | <p><b>Reduction Swivel Coupler</b></p> <ul style="list-style-type: none"> <li>Similar to Swivel Coupler except that it connects 48 O.D. tube to 60 O.D.</li> </ul>  | RSC      | 2.20           |

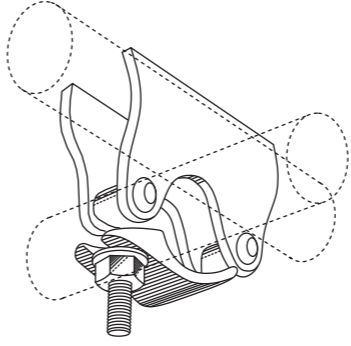
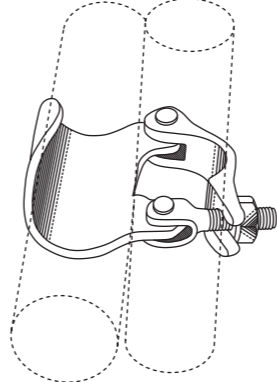
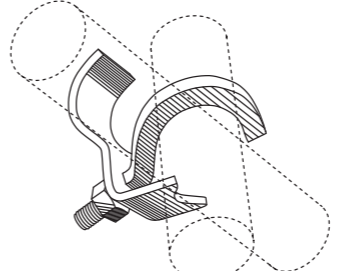
- 1 Photographs/illustrations shown within this brochure are intended as expressing the diversity and possible applications of the product and as such must not be used as assembly instructions.
- 2 In line with Acrow Formwork & Scaffolding Pty Ltd's commitment to continuous product development and improvement, the information contained in this brochure may be changed without notice.
- 3 Every effort has been made to give appropriate guidelines for the use of this product, however, Acrow Formwork & Scaffolding Pty Ltd accepts no responsibility for any loss or damage suffered by any person acting or refraining from action as a result of this information.

Should the users require any further information or guidance, they are encouraged to contact their local Acrow Formwork & Scaffolding Pty Ltd outlet.

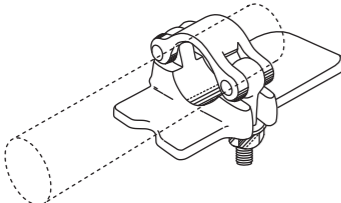
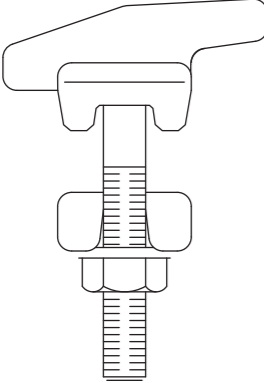
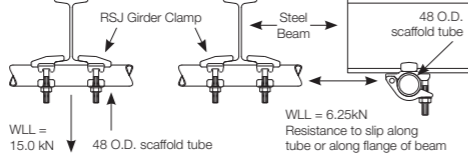
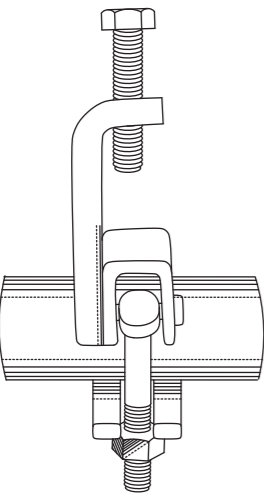
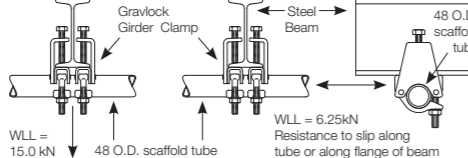
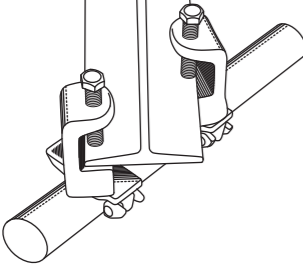
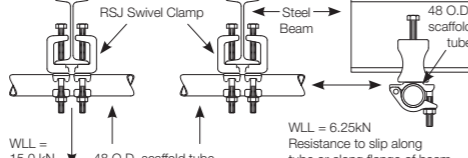
## Scaffold Couplers

| Product   | Description   | Code No. | Mass kg (nom.) |
|---|---|----------|----------------|
|    | <p><b>Expanding Joint Pin</b></p> <ul style="list-style-type: none"> <li>• Joins 48 O.D. scaffold tube standards end to end internally.</li> <li>• Fits inside scaffold tubes.</li> <li>• Expands to fit internal diameter of scaffold tube when bolt tightened.</li> <li>• Tightening bolt suits standard Scaffold Spanner (23mm A/F).</li> <li>• Made from forged steel.</li> <li>• Hot dip galvanised finish.</li> <li>• Under compression loading this Joint Pin is capable of taking the full capacity of the scaffold tube.</li> <li>• Not to be used for tension loads. Under tension loading, it is necessary to splice the joint with another scaffold tube and Swivel Couplers (tension load check required).</li> <li>• Not to be used for end to end joining of tube ledgers. (Refer Clause 3.2.2 of AS/NZS1576.6-2000).</li> <li>• This Joint Pin must only be used to join scaffold tube with the same internal diameter, ie, the same wall thickness.</li> <li>• Typical scaffold tube sizes are: <ul style="list-style-type: none"> <li>– 48.3mm O.D. x 40.3mm I.D. (4.00mm wall thickness tube) or</li> <li>– 48.3mm O.D. x 38.5mm I.D. (4.88mm wall thickness tube).</li> </ul> </li> </ul> | EJCP     | 1.4            |
|  | <p><b>External Sleeve Coupler</b></p> <ul style="list-style-type: none"> <li>• Joins 48 O.D. scaffold tubes end to end externally.</li> <li>• Used for end to end joining of scaffold tube standards.</li> <li>• Locates on outside diameter of scaffold tube members.</li> <li>• Tightening bolt suits standard Scaffold Spanner.</li> <li>• Made from high quality pressed steel.</li> <li>• Hot dip galvanised finish.</li> <li>• Under compression loading this Coupler is capable of taking the full capacity of the scaffold tube.</li> <li>• Not to be used for tension loads. Under tension loading, it is necessary to splice the joint with another scaffold tube and Swivel Couplers (tension load check required).</li> <li>• Can be used for end to end joining of tube ledgers. (Refer Clause 3.2.2 of AS/NZS1576.6-2000).</li> <li>• This Coupler must only be used to join scaffold tube with the same external diameter.</li> <li>• Typical scaffold tube sizes are: <ul style="list-style-type: none"> <li>– 48.3mm O.D. x 40.3mm I.D. (4.00mm wall thickness tube) or</li> <li>– 48.3mm O.D. x 38.5mm I.D. (4.88mm wall thickness tube).</li> </ul> </li> </ul>                            | ESCG     | 1.20           |

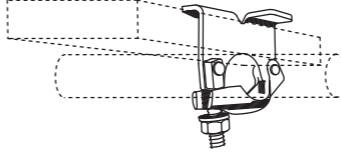
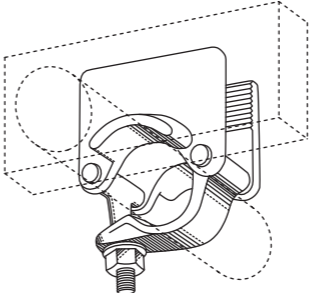
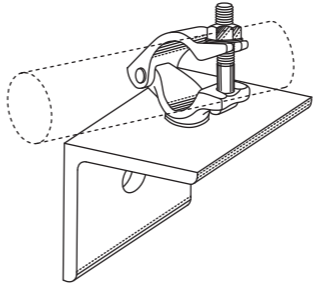
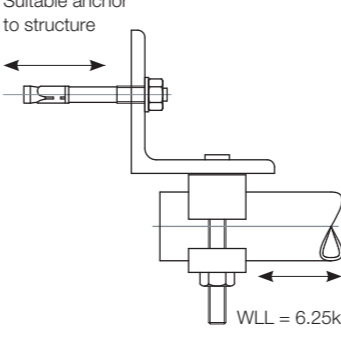
## General Technical and Application Manual

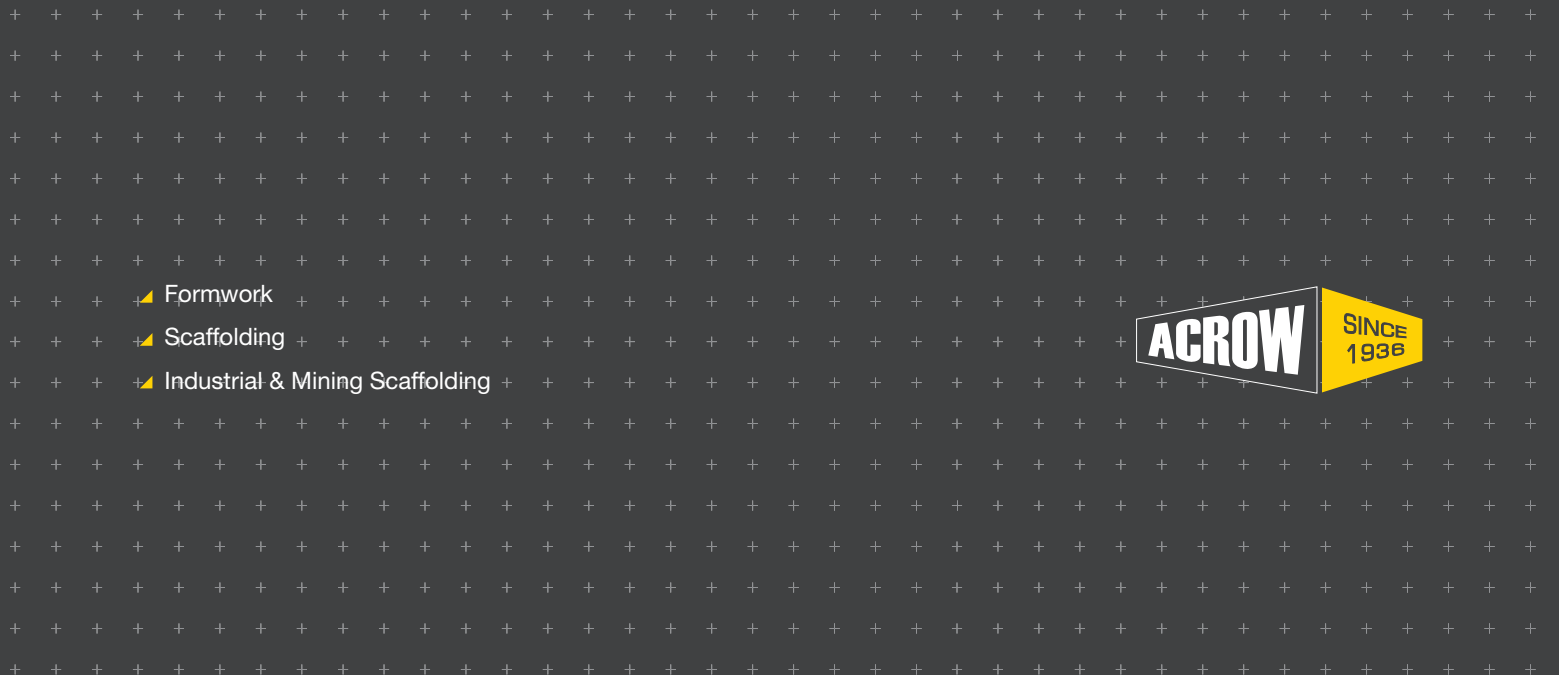
| Product   | Description  | Code No. | Mass kg (nom.) |
|---|--|----------|----------------|
|    | <p><b>Putlog Coupler</b><br/>(Standard Double Flap Type)</p> <ul style="list-style-type: none"> <li>• Joins 48 O.D. scaffold tubes at right angles.</li> <li>• Used for fixing putlog tubes onto ledger tubes.</li> <li>• Tightening nut suits standard Scaffold Spanner (23mm A/F).</li> <li>• Replaceable 'T' bolt, nut and washer.</li> <li>• Pressed steel flaps and drop forged steel cap.</li> <li>• Hot dip galvanised finish for corrosion resistance.</li> <li>• Complies with the requirements of AS1576.2.</li> <li>• Typically used for securing guardrails and midrails at right angles to standards. Other uses can distort the coupler so that tube retention is not effective and WLL does not apply.</li> <li>• Not to be used for connecting ledger tube in tube-and-coupler scaffolding. Only use Right Angle Couplers for this purpose.</li> <li>• Refer AS/NZS1576.6 for guidance on tube-and-coupler scaffolding.</li> <li>• WLL = 0.62 kN against slip of tube through flaps of coupler at tightening torque of 54 Nm.</li> </ul> | PC       | 1.0            |
|   | <p><b>Putlog Coupler - Wrapover</b><br/>(Standard Wrapover single type)</p> <ul style="list-style-type: none"> <li>• Joins 48 O.D. scaffold tubes at right angles.</li> <li>• Used for positioning putlog tubes onto ledger tubes.</li> <li>• Tightening nut suits standard Scaffold Spanner (23mm A/F).</li> <li>• Replaceable 'T' bolt, nut and washer.</li> <li>• Pressed steel body and drop forged steel cap.</li> <li>• Hot dip galvanised finish for corrosion resistance.</li> <li>• Complies with the requirements of AS1576.2.</li> <li>• Typically used for securing guardrails and midrails to standards at right angles. Other uses can distort the Coupler so that tube retention is not effective and WLL does not apply.</li> <li>• Not to be used for connecting ledger tube. Only use Right Angle Couplers for such purpose.</li> <li>• Refer AS/NZS1576.6 for guidance on tube-and-coupler scaffolding.</li> <li>• WLL = 0.62 kN against slip of tube through flaps of coupler at tightening torque of 54 Nm.</li> </ul>              | PCSW     | 0.7            |
|  | <p><b>Putlog Coupler - Hook Type</b></p> <p>Joins 48 O.D. scaffold tubes at right angles.</p> <p>Not recommended for fixing of putlog tubes to ledger tubes for working decks.</p>   | PCHT     | 0.4            |

## Scaffold Couplers

| Product  | Description   | Code No.   | Mass kg (nom.)                    |
|--|---|--|-----------------------------------|
|  <p>Putlog Head</p> | <p><b>Putlog Head</b><br/>Used for single pole putlog scaffolding.<br/>Fits 48 O.D. scaffold tube.<br/>WLL = 6.25 kN (resistance to tube slip where nuts tightened to 54 Nm torque).<br/>WLL = 2.25 kN (bending of blade).</p>  | PH   | 1.3                               |
|                     | <p><b>RSJ Clamps</b><br/>Joins 48 O.D. scaffold tube to Tapered or Parallel Flange steel beams at 90°.<br/>Size 1 suitable for RSJ flange thickness up to 19mm.<br/>Size 2 suitable for RSJ flange thickness of 19-38mm.<br/>Size 3 suitable for RSJ flange thickness of 38-57mm.</p>  <p>WLL = 15.0 kN<br/>48 O.D. scaffold tube</p> <p>WLL = 6.25kN<br/>Resistance to slip along tube or along flange of beam</p> <p><b>Note:</b><br/>RSJ Clamps must be used in pairs each side of the flange. Minimum tightening torque = 54 Nm.</p> | <p>RSJ Clamp N°1<br/>RSJC1<br/>Hire Only</p> <p>RSJ Clamp N°2<br/>RSJC2<br/>Hire Only</p> <p>RSJ Clamp N°3<br/>RSJC3<br/>Hire Only</p> | <p>1.1</p> <p>1.1</p> <p>1.20</p> |
|                   | <p><b>Gravlock Girder Clamp</b><br/>Joins 48 O.D. scaffold tube to Tapered or Parallel Flange steel beams at 90°.<br/>Suitable for girder flange thickness up to 44mm.</p>  <p>WLL = 15.0 kN<br/>48 O.D. scaffold tube</p> <p>WLL = 6.25kN<br/>Resistance to slip along tube or along flange of beam</p> <p><b>Note:</b><br/>Gravlock Girder Clamps must be used in pairs each side of the flange. Minimum tightening torque = 54 Nm.</p>  | GGC  | 1.50                              |
|                   | <p><b>RSJ Swivel Clamp</b><br/>Joins 48 O.D. scaffold tube to Tapered or Parallel Flange steel beams at various angles.<br/>Suitable for girder flange thickness up to 44mm.</p>  <p>WLL = 15.0 kN<br/>48 O.D. scaffold tube</p> <p>WLL = 6.25kN<br/>Resistance to slip along tube or along flange of beam</p> <p><b>Note:</b><br/>RSJ Swivel Clamps must be used in pairs each side of the flange. Minimum tightening torque = 54 Nm.<br/>DO NOT EXCESSIVELY OVER TIGHTEN.</p>  | RSJSC<br>Hire Only   | 1.5                               |

## General Technical and Application Manual

| Product  | Description   | Code No.        | Mass kg (nom.) |
|--|---|-----------------|----------------|
|   | <p><b>Board Clamp</b><br/>Retains timber scaffold planks to 48 O.D. putlog/transom tubes.<br/>Suitable for plank thickness range of 35 to 38mm.</p>   | SBCP            | 0.60           |
|   | <p><b>Rafter Coupler</b><br/>Used for clamping scaffold tube to timber runners.<br/>Suitable for timbers 50mm wide.</p>   | RC<br>Hire Only | 1.5            |
|  | <p><b>Wall Tie Bracket</b><br/>Wall Tie Brackets are an alternative tying method and they are used where it is not possible or convenient to tie through windows or around columns.<br/>Wall Tie Brackets supplied by Acrow Formwork &amp; Scaffolding comprise a half Swivel Coupler attached to an angle section with a pin allowing it to rotate. The angle section contains an 18mm dia hole for a 16mm dia fastener or anchor for securing the bracket to the face of a building wall or similar structure. The swivel pin attachment enables the Half Coupler to rotate through 360°.</p>  <p>Suitable anchor to structure</p> <p>WLL = 6.25kN</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>The load capacity of the selected anchor and the structure to which the bracket is attached must be verified as having suitable capacity to sustain the Working Load Limit of the bracket.</li> <li>When determining anchor forces, prying forces must be considered where they may occur.</li> <li>Stated WLL is applicable where the following types of Swivel Coupler is used: <ul style="list-style-type: none"> <li>- Acrow/Euro</li> <li>- Acrow/Burton's</li> <li>- Acrow/SGB</li> <li>- Acrow.</li> </ul> </li> <li>Australian Standards for Scaffolding provide guidance on Anchorage and Tie Assemblies. In particular refer to Clause 2.8 of AS1576.1 and Clause 8.5 of AS4576.</li> </ul> | WTB             | 2.0            |



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## Contact

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development manager.  
[www.acrow.com.au](http://www.acrow.com.au)