



SF100/137 Column System

# Method statement

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## Column System

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### Introduction

Ischebeck Titan is renowned as one of the leading manufacturers and suppliers of equipment to the construction and civil engineering industries.

Our commitment to safety and site efficiency is evident in the design performance and quality of our products, which offer safe access and secure working platforms for an enormous variety of applications.

The enclosed method statement underlines our devotion to site safety by providing recommendations, based on tried and trusted methods, for the proper use and application of Ischebeck Titan support and formwork systems.

Please take time to read and understand the information presented before using the products covered. If you need further advice or assistance consult a suitably qualified person within your own company or contact Ischebeck Titan.

### Disclaimer

The methods presented in this document are solely for the use of Ischebeck Titan equipment and are intended for guidance only. When familiarity has been gained with the equipment preferred methods may be adopted, provided they do not contravene health and safety regulations or accepted safe working practices. The information is correct at time of publication, but Ischebeck Titan reserves the right to change, without prior notice, the specifications and methods mentioned. No responsibility whatsoever can be accepted for any errors or omissions in, or misrepresentation of, the contents. For specific information refer to Ischebeck Titan Limited.

## Site safety is your responsibility

The importance of site safety cannot be over emphasized. You have a responsibility to yourself, your colleagues, site visitors, family, friends and others to ensure you do not injure yourself or take actions, which put the lives and health of other people at risk.

Site safety rules will form part of every site's health and safety plan. You should familiarise yourself with these rules and make sure that you and fellow workers do not contravene their requirements. A prominent notice will identify personnel with overall responsibility for site safety.

You will have contractual and legal obligation to follow these rules and adhere to relevant legislation, such as the Health and Safety at Work Act, which place specific responsibilities on you and your employer to prevent accidents.

Site safety is the responsibility of everyone on site. If you have a reason to believe that safety is being compromised, you should report it to the appropriate personnel.

## Your responsibilities

Following are a few suggestions to help you work safely and contribute to safety on your site:

- Make sure you fully understand the safe and proper way to do any job.
- If in doubt, ask your supervisor – do not guess.
- Always conduct yourself in a responsible and safe manner.
- Do not expose others to danger through your actions.
- Always use the correct tools and equipment for the job.
- Always use the appropriate safety equipment and protective clothing.
- Report ALL defects in plant and equipment.
- Observe and comply with warning and hazard notices.
- Advise newcomers of safe working practices.
- Make sure you know where to go for first aid treatment.
- Report any injury and ensure it is entered in the accident book.
- Never indulge in horseplay or practical jokes at work.
- Never attempt to work whilst under the influence of alcohol or drugs.
- Make sure you have read and understood the sites health and safety requirements.
- Report any situation which might compromise site safety to the sites safety officer.

## Safe working practice

- Consider health and safety first. If you are not sure of procedures ask.
- Do not take shortcuts – use the access provided.
- Do not remove handrails or ladders from scaffolds unless instructed to do so and replace them as soon as possible.
- Play your part in keeping the site tidy and safe.
- Look out for hazard warning notices and obey them.
- Never attempt to operate machinery unless you have been trained and authorized to do so.
- Attempting to lift heavy objects or materials can cause injury – obtain assistance where necessary.
- Study your company's policy.
- Remember you have a legal duty to take reasonable care of your own health and safety and to avoid placing other people at risk. Such as those who work with you and members of the public.
- If in doubt about your job, ask your immediate supervisor for guidance.
- Your co-operation in discouraging children from entering the site will help to reduce the risk of accidents to them and others.
- Remember that entering an unsafe area could render you liable to prosecution. If it looks or feels unsafe, report it. If you are unsure, ask site supervision for advice.

## Personal protective Equipment

For your protection, always use the safety helmets, ear protectors, face masks, goggles, gloves, safety harness and other items of personal protective equipment appropriate to tasks you are undertaking.

When protective clothing and/or equipment is issued to you:-

- Wear or use the equipment when required and when there is any possibility of personal injury in the course of your work.
- Look after the equipment.
- If the equipment is on personal issue, store it carefully and ensure that it is available for use when needed.
- Make sure that equipment is properly maintained.
- Replace defective equipment immediately.
- If you have any doubts about the correct use, adjustment or maintenance of the equipment, ask your supervisor.

**Description**

Titan SF100/137 column system is for use on square and rectangular columns and is designed to cater for maximum concrete pressures.

The formwork is stripped and transferred in two halves giving reduced labour costs and comes complete with plumbing props, working platforms and lifting hooks.

By combining the two column arm sizes various combinations of column plan layouts can be achieved.

	<b>TITAN F100/100</b>	<b>TITAN SF100/137</b>
For square columns to max.(mm)	600 x 600	1000 x 1000
For rectangular columns to max.(mm)	800 x 500	1200 x 900

One Column Clamp set consists of:  
 4 number column arms  
 2 number corner tie assemblies  
 8 number M16 x 35 galvanised bolts and nuts.

Individual column arms can also be used in isolation as formwork soldiers on stop-end and foundation shutters.

Note:  
 Column forms are constructed L shaped and then crane handled and fixed in position by means of the corner tie assemblies. See the relevant Ischebeck Titan drawing for the spacing of Titan T.W. 150 beams and SF100/137 column clamp arms.

**Technical specification**

Permissible B.M of Column Arm = 12.54 kNm

Permissible B.M. of TW150 Titan Beam = 11.9 kNm

Safe Working Load of Corner Tie Assembly = 90 kN.

Maximum slip load on Titan T Bolt = 250 kg.

Maximum pull out load on Titan T Bolt = 650 kg.

Safe Working Load of Lifting Plate = 1000 kg.

A minimum of two number lifting plates required for lifting one half of column form.

**Weights**

SF 100 Column Arm = 19.2kg.

SF 137 Column Arm = 25kg.

Corner Tie Assembly = 2.2kg.

TW 150 Titan Beam = 5.63 kg/m

Plywood = 11 kg/m<sup>2</sup>

**Concrete Pressures**

Concrete pressures are calculated in accordance with CIRIA Report 108

**Wind Loading**

Where applicable wind loads are calculated in accordance with BS5973 and BS5975(CP3 Chapter V Part 2)

## Components

**Column Arms** – Galvanised steel components that come in 999mm and 1370mm lengths. Arms are bolted together by means of 4 No. M16 x 35 nuts and bolts.

**Corner Tie Assemblies** – Titan tie bar 650mm long x 15mm diameter with a SWL of 90kN. Tie bar comes complete with welded hex nut, locating tubes and loose tie nut.

**Titan T.W. 150 Beam** – Vertical aluminium waling beams that come in standard lengths up to 7.2m.

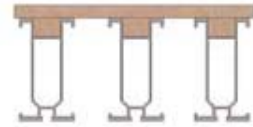
**Column Lifting Plates** – Steel lifting plates that are fixed to the vertical aluminium waling by means of 2 Number M16 x 90 bolts and nuts.

**Access Brackets** – Steel brackets that are fixed to the vertical aluminium beams by means of Titan clamps and give access for concrete operations.

**RSK Push Pull Props** – Steel props that are fixed to either the column arms or vertical aluminium beams to plumb and stabilise the column forms.

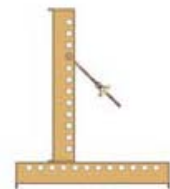
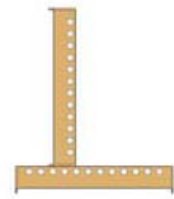
### Standard erection procedure

1. Assemble 4 No. form faces of column by screwing plywood to T.W.150 Titan Beams. Width of plywood required = width of column face + plywood thickness

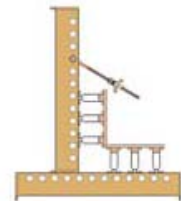


2. Bolt column clamp arms together by means of 4 No. M16 x 35mm galv. Bolts and nuts.

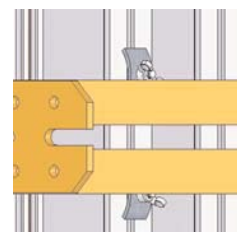
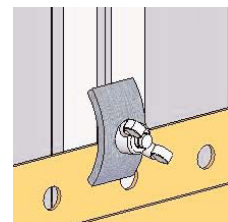
Note: We would recommend that a plywood template is used to assist in the positioning of the column arms, and corner ties. Template size would be width of column face + plywood thickness + 150mm



3. Fix corner tie assembly. See note above regarding plywood template.



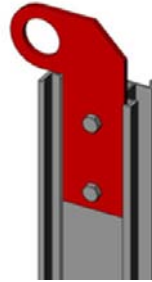
4. Fix 2 No. form faces of column by means of Titan clamps. 2 No. clamps required at each intersection between T.W. 150 beam and column clamp arms.



Note: top and bottom fixings at each intersection.

## Standard erection procedure

5. Fix lifting plates by means of 2 No. M16 x 90 bolts and nuts. (1 No. lifting plate per side).



**Note:** Top of beams should be capped by means of plywood strip to prevent concrete spillage into beam profile.

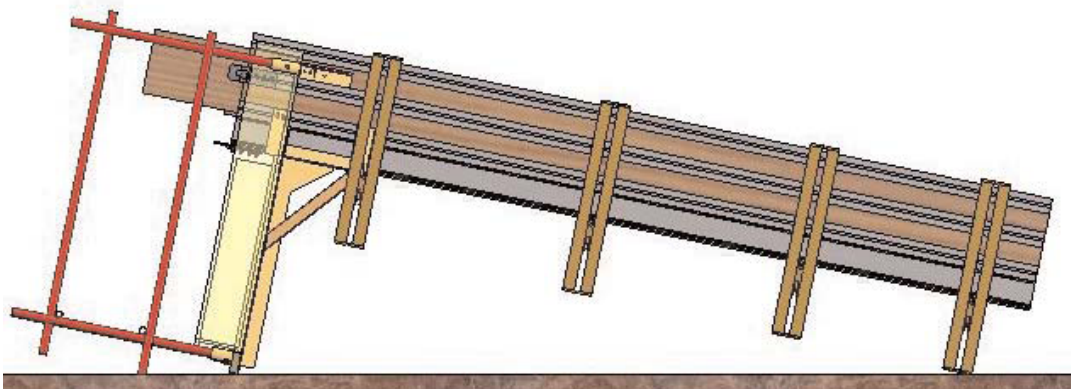
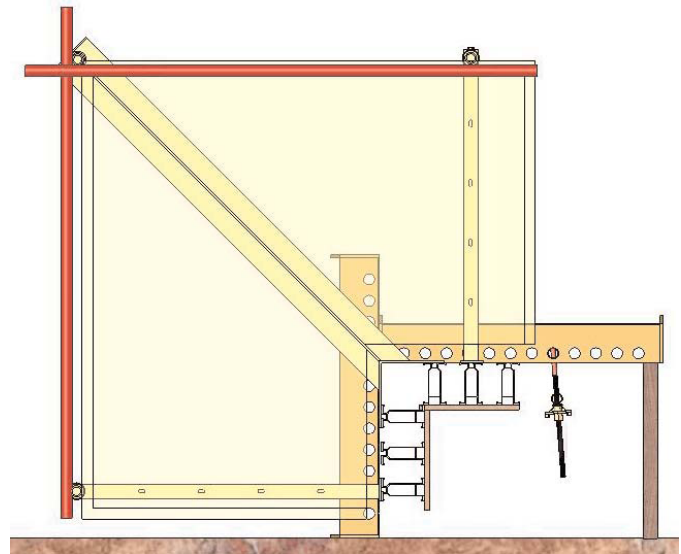
6. Lift and rotate column form for fixing of access brackets and handrails. Corner access bracket fixed with 6 No. Titan T bolts and nuts. Standard access bracket fixed with 3 No. Titan T bolts and nuts

If scaffold boards are fixed at this stage they must be bolted to the access brackets.

Push pull props can also be fixed at this stage. 1 No. per side. Repeat stages 2-5 and then lift, plumb and fix column forms in position.

Note: Scaffold tower can also be used as an alternative means of access.

**COLUMN FORM MUST NOT BE STORED WITH THE ACCESS BRACKET SUPPORTING THE SELF WEIGHT**



## Checklist

Ensure all fixings are secure.

Ensure system has been erected in accordance with the design drawing.

Ensure access brackets are spaced in accordance with the permissible board span.

Ensure suitable access is available for tightening of corner tie assemblies and also for access on to access platform.

Ensure corner tie assemblies are not over tightened.

Ensure system is plumb.

Ensure system is stabilised against over turning from either wind forces or horizontal loading due to construction loads.

Ensure maximum pour rate/pressure is not exceeded.

Ensure form weight does not exceed lifting plate/crane capacity.

## Standard striking procedure

Before striking introduce exclusion zone around area of work.

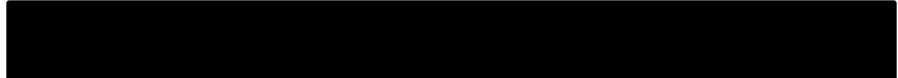
Strike forms in reverse of erection procedure.

Ensure form is suitably stabilised by push pull props or supported by crane before releasing corner tie assemblies.

Lift forms to next pour position or lay horizontally on ground and support with temporary prop as shown in erection procedure.

Do not store form with the access bracket supporting the self weight.

Dismantling of the form is the reverse of the erection procedure.



## Ischebeck Titan Group

Founded in Germany over 120 years ago Ischebeck is renowned internationally for its aluminium formwork and false work systems, trench support systems and ground engineering products.

## Ischebeck Titan Ltd

The company operates from headquarters centrally located in the heart of the UK.



## Product Availability

Substantial stocks of equipment are available ex-stock from the company's strategically located 4-acre distribution site, with most main product lines available nationwide on a 48-hour delivery. Products are available for both hire and outright purchase.

## Technical Support

We will participate in concept stage development. Providing input on applications, production rates, budget design, programming and costings. Active for on site support and training. We can provide guidance on industry special European and national standards.



### HEAD OFFICE

John Dean House  
Wellington Road  
Burton upon Trent  
Staffordshire DE14 2TG  
Tel: 01283 515677 Fax: 01283 516126  
[www.ischebeck-titan.co.uk](http://www.ischebeck-titan.co.uk)  
E-mail: [sales@ischebeck-titan.co.uk](mailto:sales@ischebeck-titan.co.uk)

### NORTHERN REGIONAL OFFICE & DESIGN OFFICE

Hollinwood Business Centre  
Albert Mills Albert Street  
Hollinwood Oldham OL8 3QP  
Tel: 0161 682 4732 Fax: 0161 684 3603  
E-mail: [technical@ischebeck-titan.co.uk](mailto:technical@ischebeck-titan.co.uk)

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