STAIRCRAFT®

Stairs Pre-Start Site Guide

STAIRCRAFT®

Contents

STAIRCRAFT®

Who we are and what we do

Founded in 1984 Staircraft are now:

- Worlds largest manufacturer of Staircases with a capacity to supply 1400 new build homes every week
- Europes only stair, i joist and floor-kit manufacturer

Staircraft consists of two divisions

National Builder Division

Regional Builder Division

Our portfolio of products has expanded, resulting in Staircraft becoming the UK's first manufacturer of **fully integrated staircases and i-joist floor kits, including metalwork, decking sytems, door kits and MDF mouldings**.

We operate from 3 sites across the wider Coventry area, covering over 160,000 sq. ft. Our team are passionate about manufacturing products which improve site safety and provide hassle free installation.
Our investment in CNC technology is market leading, specifically designed to create innovative, time saving and safety solutions for tradespeople.

Site Safety

We are fully aware of the safety risks faced every day on building sites. Improvements have been made but our industry continues to see an unacceptable number of incidents.

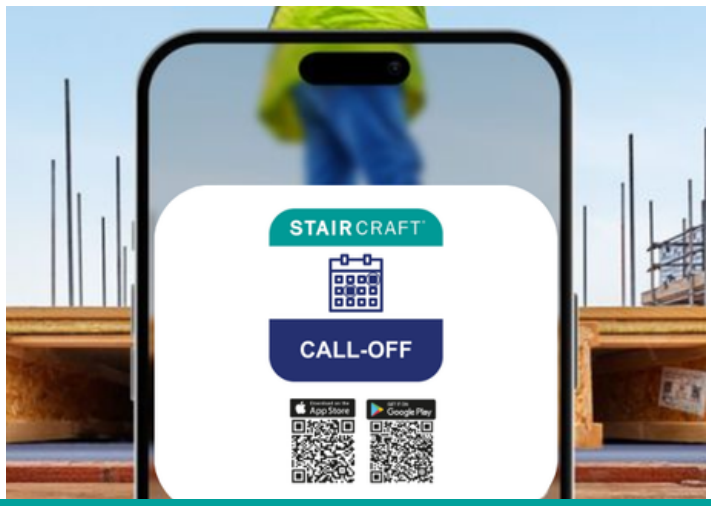
We all have a part to play and we believe the most important information in this document is around the safest way to handle our products. **Please Stay Safe.**

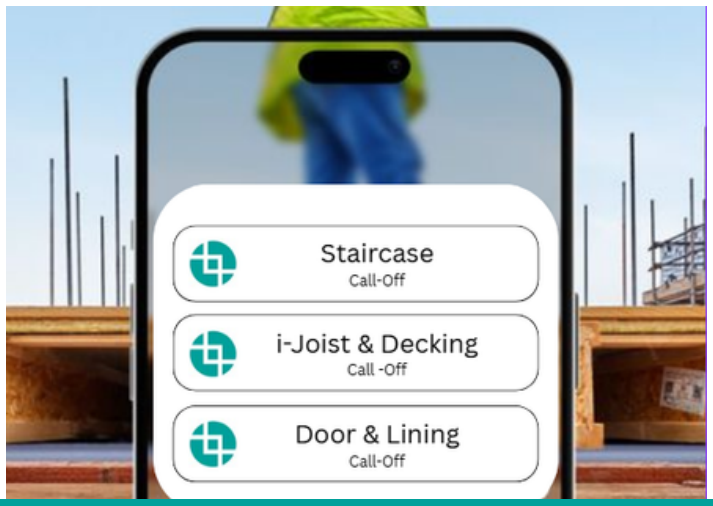
Important:

How to Call-Off our Products

Download the Staircraft Call-Off App to get preferential delivery. It eliminates the chaser calls and emails with the automated delivery updates.

Download our Call-Off App. Available now

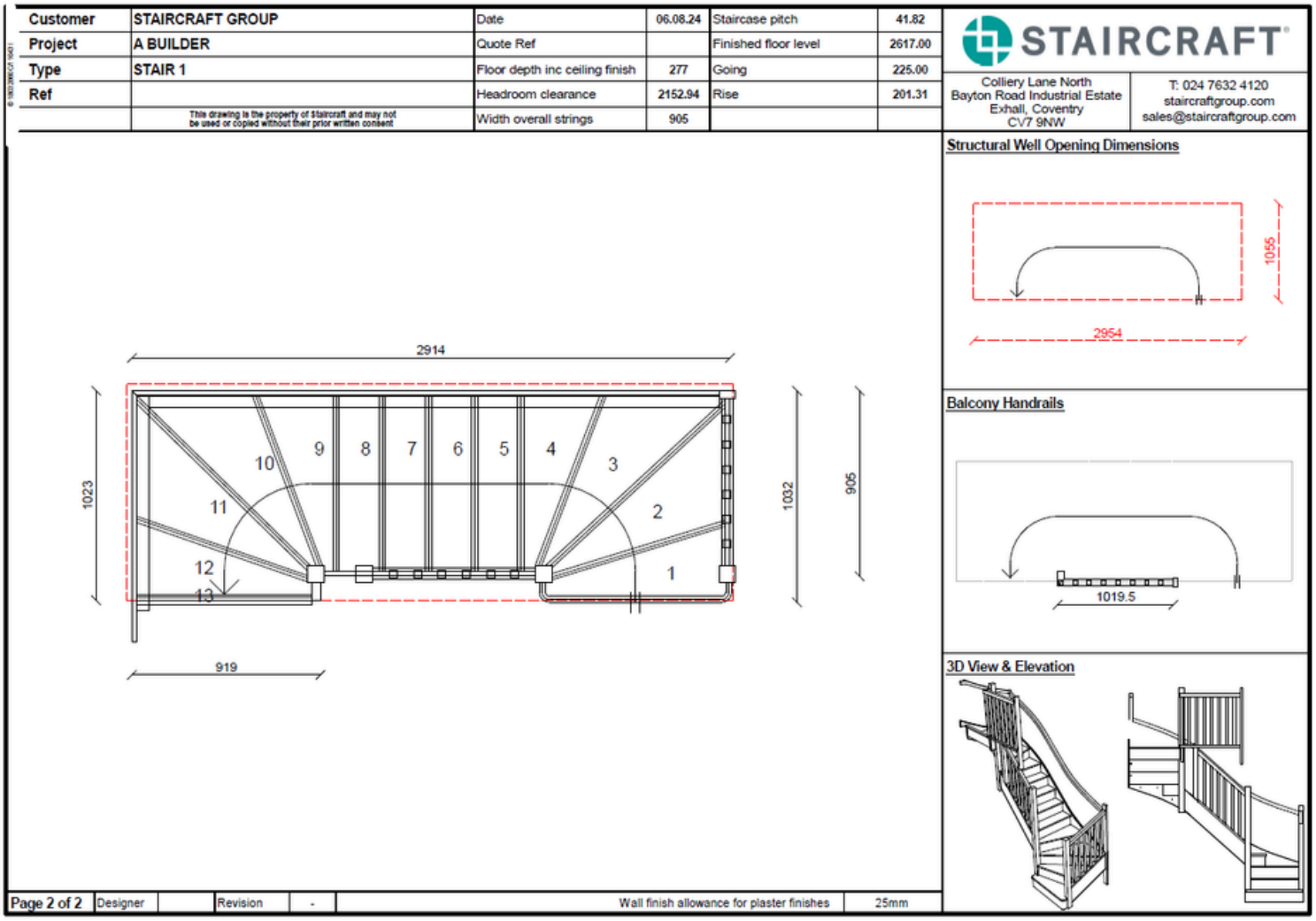




- FAST
- EASY
- ACCURATE
- INFORMATIVE

Typical Stair Graph

Here is a typical stair graph: a specific version for each house type is emailed to customers at call-off and can be updated onto your phone from a QR code on the label attached to each stair.



Customer	STAIRCRAFT GROUP	Date	06.08.24	Staircase pitch	41.82
Project	A BUILDER	Quote Ref		Finished floor level	2617.00
Type	STAIR 1	Floor depth inc ceiling finish	277	Going	225.00
Ref		Headroom clearance	2152.94	Rise	201.31
	This drawing is the property of Staircraft and may not be used or copied without their prior written consent	Width overall strings	905		

Page 2 of 2	Designer		Revision	-	Wall finish allowance for plaster finishes	25mm	

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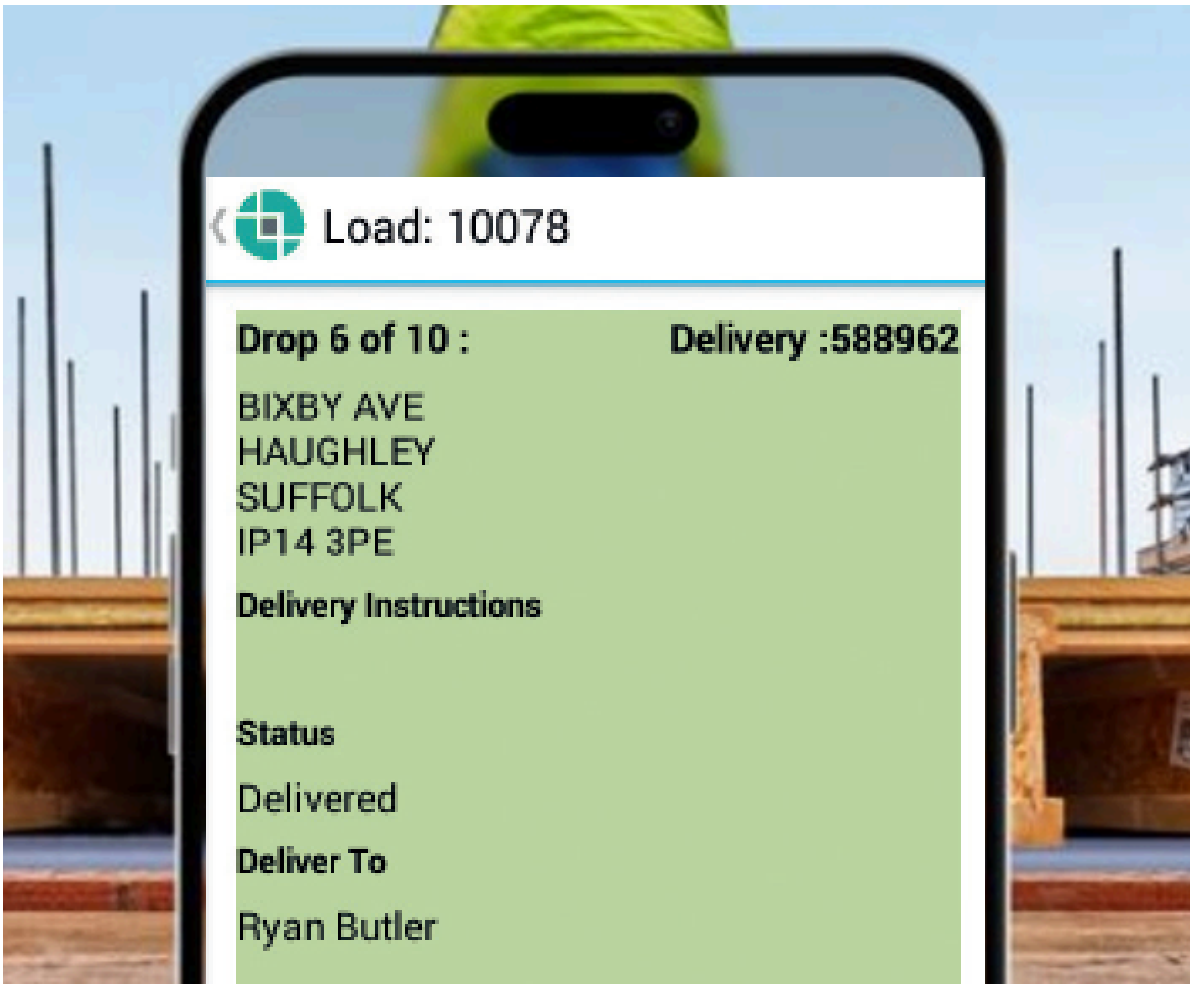
Delivery information, acceptance & storage

We understand the challenges of product storage and traceability on building sites, which is why we invested in a delivery app to enable the Staircraft Team to provide you with:

- Real time site delivery information
- Full traceability of goods delivered
- More detailed Proof of Delivery
- GPS for exact point of delivery
- Automated invoicing with full POD saving you £££'S in administration costs



Acceptance

Delivery Documentation & Packing Labels

Itemised delivery notes will accompany all deliveries and include product types, references, dwelling types, and plot numbers.

A more comprehensive schedule for each dwelling type will have already been emailed to your site office, providing detailed drawings, dimensions, handings, specifications, and compliance notices.

In addition, each delivery will be accompanied by an itemised packing label attached to the wall string. Every line item has been individually signed off by our Quality Control department, confirming that all components are present, correct, and meet our quality standards.

It is vital that your MHE driver is aware of the packing label and checks that all listed items are present and in good condition before signing the Proof of Delivery (POD).

The packing label is also available at individual plot level. By scanning the QR code on the traceability label, located on the first fixed riser of each staircase, site teams can access the corresponding plot-specific packing label.

This dual-level packing system allows products to be checked and verified twice:

- At delivery level, enabling your MHE driver to confirm that all items have been received before accepting the delivery.
- At plot level, allowing site teams to accurately check off components during load-out, ensuring each staircase is delivered to the correct plot efficiently, accurately, and with full traceability.

We supply each delivery with integrated forklift sleeves, allowing the load to be handled safely as a single pallet. This helps protect your products during loading, transportation, and offloading.

The skids are fully reusable. If retained on site, Staircraft will be pleased to collect them during subsequent deliveries for recycling and reuse.

Storage

Staircases and stair parts should be stored on a dry base and under cover. They should be fully supported on a flat level surface with ample ventilation to reduce the risk of absorbing moisture.

Conditioning

It is recommended that the staircase and parts thereof are allowed to remain in the fixing environment for approximately 24 hours before use. Staircases should not be fixed to damp surfaces and contact with other damp materials should be minimised.

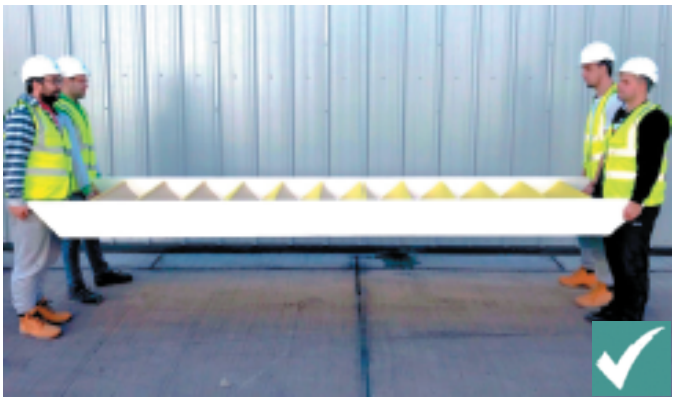
Decoration

Staircraft products are finished to an exceptionally high standard in preparation for site decoration. Due to the high quality nature of our priming and sealant to Oak products, a 240 grit sandpaper, or finer, should be used to provide a ‘key’ onto the surface. Professional advice should be sought to confirm the most suitable finishing substrate.

IMPORTANT: Staircraft will only consider claims for damage if notified at the time of delivery and contact is made with our office before the delivery vehicle has left site, or our delivery notes are noted accordingly. Shortages or incorrect deliveries must be notified to us within 3 working days of receipt of the products and any verbal notification must be confirmed by email. A request for additional items must be supported by an authorisation in the style of the originating order.

Manual Handling

Here are some tips for handling Stairs and Balustrades, for full guidance visit http://www.hse.gov.uk/msd/manualhandling.htm



Should it not be possible to position a staircase mechanically, it is recommended that a staircase is carried as shown above. The weight and size of the staircase needs to be taken into account in determining the number of operatives required to carry out the task.

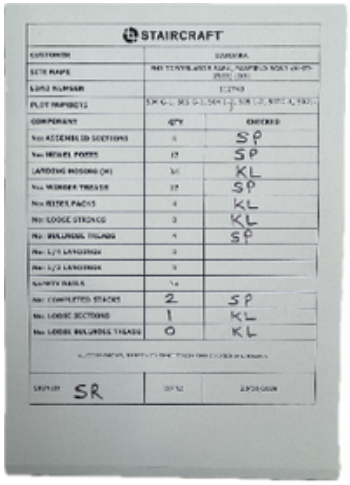
It may be necessary to turn the staircase upright to enter a property with limited access. Under these circumstances it is recommended the staircase is placed on bearers with the unexposed side of the staircase facing the bearer. The staircase can then be eased through the opening.

IMPORTANT
Under no circumstances should a staircase be lifted or carried by the string as shown above.

Balustrades are generally less heavy than the flight, and it is recommended that those are carried in an upright position with one hand under the baserail as shown above. The length of the balustrade needs to be taken into account when determining the number of operatives required to carry out the task.

Product labels

The following labels are displayed on our products:



The labels give full traceability along with the site/plot details, handling and Installation guides, a complete packing list and important notices to carpet fitters.

COSHH (Control of Substances Hazardous To Health)

Staircraft's high standards of product preparation reduces the need to cut and/or machine wood and wood-based materials. However, there will be circumstances where cutting is unavoidable, potentially exposing the operative to limited wood dust emissions.

The evidence that softwood dust can cause cancer is less conclusive. It is not classified as a carcinogen in the UK. However, all wood dust can cause irritation and we draw your attention to the guidance given in the HSE Woodworking Sheet No 30 Toxic Woods. Under COSHH regulations, softwood dust has a maximum exposure limit (MEL) OF 5mg/m³ (8hour TWA). Exposure must be reduced as far as reasonably practical below this limit. When using portable or handheld tools, extraction equipment is often not practical, in which case a suitable dust mask must be worn.

Wood dust can cause skin disorders and asthma.

Hardwood dust in particular can very rarely cause nasal cancer and, as such, is classified as a carcinogen in Control of Substances Hazardous to Health (COSHH) Regulations.

MDF dust: When MDF is machined, very fine dust is produced. This is a potentially hazardous substance and must be controlled.

For full manual handling guidance **http://www.hse.gov.uk/coshh**

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Product Features

Our drive to create innovative, time-saving and safety solutions for tradespeople has resulted in multiple product features which no other manufacturer supplies as standard.

Our staircases feature:

- Market-leading innovation saving our customers time and labour
- Fully automated CNC machine production
- Newel-posts and strings are factory prepared to fit openings, as standard, saving labour on site
- Strings supplied pilot drilled for optimum fixing
- Newel-posts, strings, spindles/balusters and handrail, 3 part primed as standard
- FIRA tested pre-assembled balustrade for ease of installation
- FSC & PEFC certified

Quick-Fit Staircases

- **Factory-prepared bullnose and curtail steps** – All feature steps are fully machined and prepared in the factory, reducing site work, improving accuracy, and ensuring a precise fit.

- W**all strings pre-cut to fit trimmers** – Wall strings are factory machined to fit accurately over trimmers, eliminating the need for site modifications and speeding up installation.

- **Wall strings cut to finished floor levels** – Every wall string is manufactured to the specific floor-to-floor height of the individual plot, ensuring a quick, accurate installation with minimal on-site adjustment.

- **Pre-drilled wall string fixing points** – Wall strings are supplied with factory pre-drilled fixing points, providing consistent fixing locations, reducing installation time, and eliminating the need for on-site drilling.

- **Pre-assembled raking balustrades** – Raking balustrades are factory assembled to the correct length and pitch, ensuring an accurate fit while significantly reducing on-site assembly and adjustment.

- **Pre-assembled landing balustrades** – Landing balustrades are factory assembled and supplied overlength to allow for minor site adjustment, providing flexibility during installation while maintaining a high-quality finish.

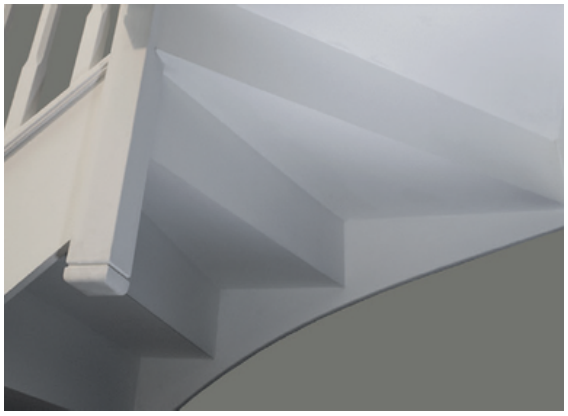
- **Designed for efficient installation** – Every staircase is manufactured to plot-specific dimensions and supplied with comprehensive documentation, enabling faster installation, improved traceability, and reduced risk of installation errors.

Slip-Resistant Stair Protection

- Removeable peel clean film for protection during build
- Provided as standard, improving site safety

Winder Support Bracket

- Removes the need for intermediate structural newel-posts
- Creates space to allow large items of furniture to be passed between floors
- CE marked
- Supplied as an **optional extra**, contact Staircraft with your requirements



Factory Prepared Staircase Bulkhead - Optional extra

- Factory prepared, reducing site costs of material and labour
- Bulkhead provides increased headroom
- Stair strings mitred, even and swept for improved appearance, reducing need to box-in underside of strings

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Important: Installation recommendations

Site fixing of stairs should be in accordance with Building Regulations, NHBC Standards and any referenced documents,(see appendix for useful links) with particular attention to the following:

Strings all wall strings are to be fixed through the pre-drilled holes using appropriate fixings. Wall strings may need to be cut at each end vertically, to suit skirting height and/or cut to not project into a passageway causing a trip hazard. Refer to the string fitting guidance in our Knowledge Hub on our website.

Tread and Winder Treads should be fixed by gluing with PVA and driving home supplied wedges.

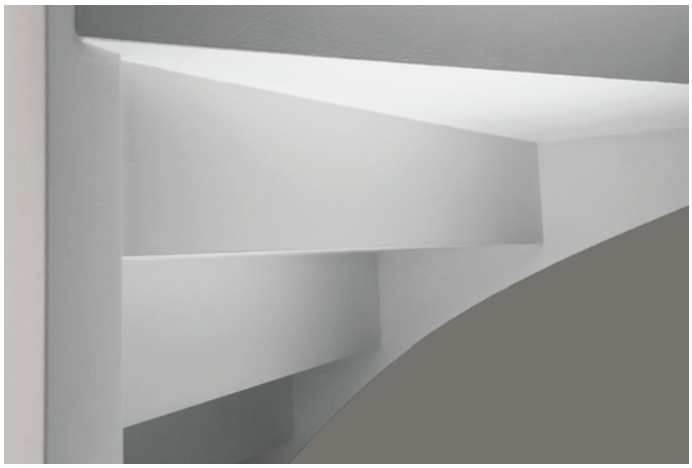
Risers are to be fixed by gluing with PVA and driving home supplied wedges. The lower edge of risers should be glued and fixed to treads using an appropriate fixing at centres not exceeding 230mm. The fixing should penetrate each tread by at least 23mm or 1.5 times the thickness of the risers, whichever is greater.

Newel-posts are mortised to receive a string tenon and should be fixed using dowels and a suitable adhesive.

Important: Newel-posts must be fixed square to the tread. DPC to be fitted under newel-posts/stringer on ground floor to avoid moisture intake.

Flight and Landing Nosings should be fixed to the wall string, newel-post and trimmer. Landing nosings should be fixed to the trimmer and not project more than 15mm from the finished face of trimmer.

Corner Glue Blocks (If fitted) should be in accordance with British Standards.



Bulkhead All winder staircases are suplied with a factory prepared, under stair, soffit detail which also allows for suitable dry lining to be fixed to the angled glue blocks, creating a stepped soffit detail. String trenchings are 'stopped' to provide a neat finish it and this solution increases available headroom. This system is optional and allows for staircases to be finished via traditional methods. Please see step by step guide to installing Bulkhead on page 20.

Adhesives The decorated finish of the product may determine the type of adhesive to be used. With a painted finish, Polyvinyl Acetate (PVA) will be suitable for joints. However, with a clear finish it may be necessary to use an alternative such as Cascamite. In all cases the adhesive supplier should be consulted for recommendations.

Fixings The material, packing distances, wall and well opening construction and load bearing requirements are to be taken into account when deciding on an appropriate fixing. In all cases the fixing supplier should be consulted for recommendations.

Fixings The material, packing distances, wall and well opening construction and load bearing requirements are to be taken into account when deciding on an appropriate fixing. In all cases the fixing supplier should be consulted for recommendations, taking into account the materials to be fixed.

IMPORTANT: Before attempling to install any staicase or staircase part, the following checks must be undertaken:

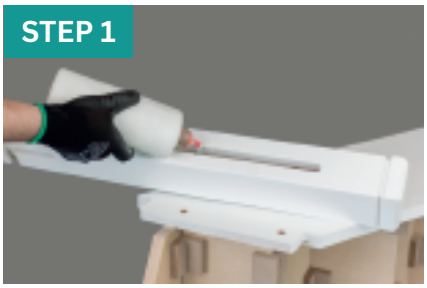
- ☑ The specification and standard of the product complies with the order
- ☑ The house type, handing, dwelling reference and floor level correspond accordingly
- ☑ The overall staircase finished floor to finished floor dimension must match the structural dimension to which the staircase is to be fitted
- ☑ All parts are present and correct to enable a full installation
- ☑ The overall width of the staircase provides for required flight and balustrade clearances
- ☑ All intermediate landings are installed correctly

Assembly instructions for staircases

Winder Flights

Before starting your winder flight assembly please check all parts are in the supplied pack and they are all in good condition

Fix Newel-post



Glue mortise with PVA and fit onto string.

Knock dowels into pre-drilled holes.

Check for square in both directions against tread.

Fix Winder Treads

Support end of newel-post to ensure it remains square during assembly.

Slide treads into pre-routed housing on string.

Apply PVA glue to wedges and fix in place ensuring a tight fit.

Fit treads into corresponding machined slots in newel-post.

Fix firmly in place by screwing to newel-post.

Fix Return String

Glue entire surface of mitre joint on return string with PVA and fit to main string using locating dowels provided.

Begin fitting treads, checking that the return string is square throughout the process

Screw through mitre joint to fix strings in corner.

Follow Steps 5 to 8 for fitting remaining winder treads.

For 4 tread winder boxes screw tread to newel-post.

Finally fix the treads to the string by screwing through the back of the return string.

Fix Small String to Newel-post

Glue mortice and fit small string to newel-post.

Finish by knocking dowels into pre-drilled holes.

Fix Newel-post to Small String

Glue mortise and fit newel-post to small string.

Finish by knocking dowels into pre-drilled holes.

Fit Top Nosing

Offer nosing into position and fix to newel-post and string.

Fix Risers

Glue back of tread with PVA and routed housing in tread above.

Fit riser.

Glue wedge housing in string and knock wedge tightly in place.

Fitting Glue Blocks

Mechanically fix risers to newel-post.

Mechanically fix risers to back edge of tread.

For glue blocks on inside angle, apply PVA glue to outside of block.

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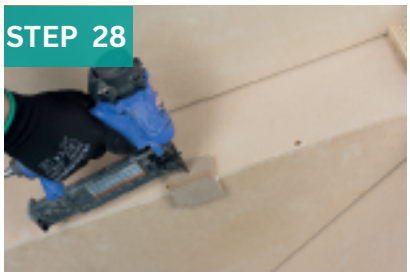
STEP 26

Position blocks and secure with mechanical fixings.

STEP 27

For glue blocks on oiutside angle, apply glue to inside of block.

STEP 28



Position black and secure with mechanial fixings.

Bullnose Treads

Fix Newel-post

STEP 1

Glue machined mortice in bottom newel-post with PVA.

STEP 2

Fit newel-post onto string.

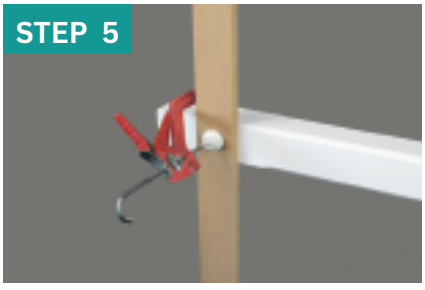
STEP 3

Knock dowels into pre-drilled holes.

STEP 4

Check for square in both directions.

STEP 5



Support end of newel-post to ensure it remains square during assembly.

Fix Bullnose Tread

Fit bullnose tread into position.

Apply PVA glue to housings in string and knock in wedges tight.

Screw riser and tread into newel-post.

Fix Risers & Glue Blocks

Glue back of tread and routed housing in tread above PVA.

Fit Riser.

Apply PVA glue to housings in string and knock in wedges tight.

Screw riser to back edge of tread.

Apply PVA glue to inner corner where tread and riser meet and attach glue block.

For soffit detail glue blocks need to be fitted to outer joint between tread and riser.

Important - Staircases must not be temporary fixed.
The stair must not be used as access between floors until all fixings are in place.
The birds mouth detail at the top of the trunk is non-structural and will not support the staircase.
A fixing specialist should be consulted with regard to specifying a suitable fixing taking into account the substrate.

Fitting Stair

STEP 1

Ensure newel posts are fixed square to the tread.

STEP 2

Position stair ensuring the treads are level.

STEP 3

Ensure a packer is fixed to the outer strings to create a gap against the structural wall for plaster finishes.

STEP 4

Use pre-drilled holes as a guide and drill for fixings.

STEP 5

Fix stairs to wall using fixings specified by the housebuilder (not supplied).

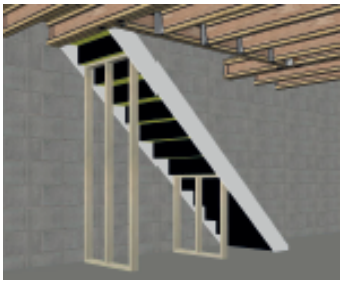
STEP 6

Fix nosing to trimmer.

STEP 7

Fix Newel-post to trimmer.

Straight flights between walls
If structural walls are not built when the stair is installed temporary supports are required.
Install temporary supports to the underside of the stair.
After structural walls are built fix the string to the wall through the pre-drilled holes in the string.
The temporary supports may now be removed.



Bulkhead Solution

Fitting Soffit

STEP 1

Cut plasterboard to required shape and fix to glue blocks on the underside of the tread.

STEP 2

Cut plasterboard to required shaped and fix to glue blocks on the back of the riser.

STEP 3

Caulk and fill joints and prepare for final decoration.

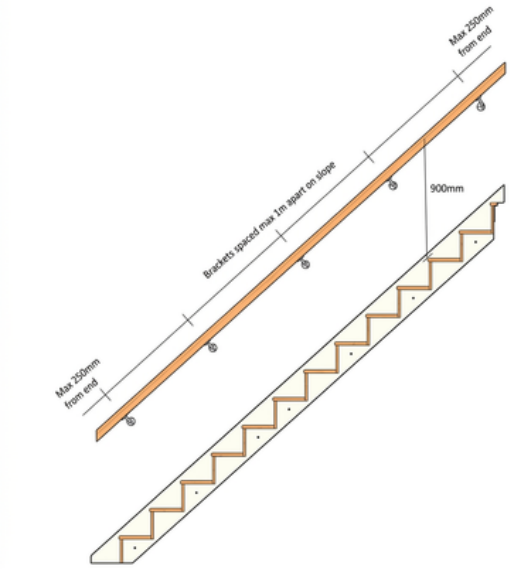
Wall Handrail Fixing Guidance

HDR or Mopstick profile handrails should be fixed to the wall using handrail brackets, in accordance with the fixing instructions below.

Pigs ear profile handrails should be fixed directly to the wall using min 4.2φ x 75mm long screws at max 1m spacing onto blockwork or at stud centres for timber fame.
Handrail ends should either be rounded or returned to the wall.

Bracket Positioning
First mount the handrail brackets on the rail using min. 2No. 3.5 x 30mm long screws.

The first and last brackets should be positioned no more then 250mm from the ends of the handrail, and intermediate brackets should be spaced no greater than 1m apart.



Bracket Fixing - Masonry Walls

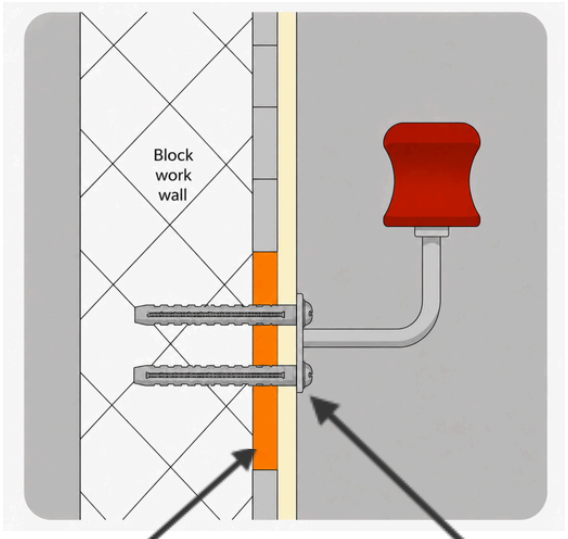
For blockwork walls fix a 300mm wide x 12mm thick plywood packer to the wall, following the rake of the stair at handrail height, prior to plasterboard installation.

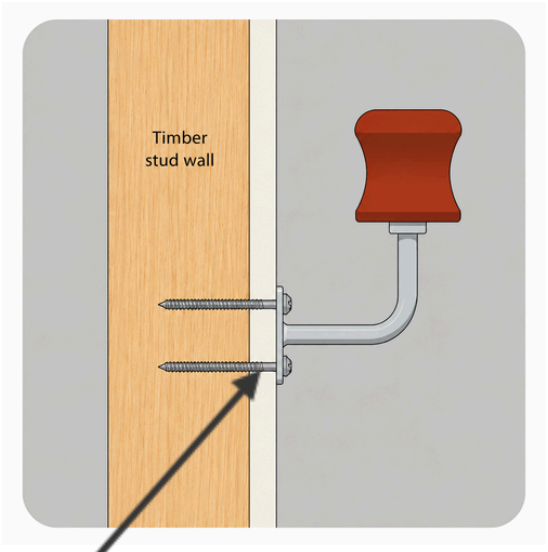
Hold the handrail in position on the wall and mark hole positions through the base of the bracket. Pilot drill holes, insert 50mm long wall plugs then fix the brackets using min. 3No 4.0 x 60mm long screws.

Bracket Fixing - Timber Stud Walls

Hold the handrail in position on the wall and mark hole positions at stud locations through the base of the bracket.

Pilot drill holes then fix the brackets using min. 3No 4.0 x 60mm long screws.





12mm x 300mm deep ply packer fixed to wall along handrail centreline prior to plasterboard installation

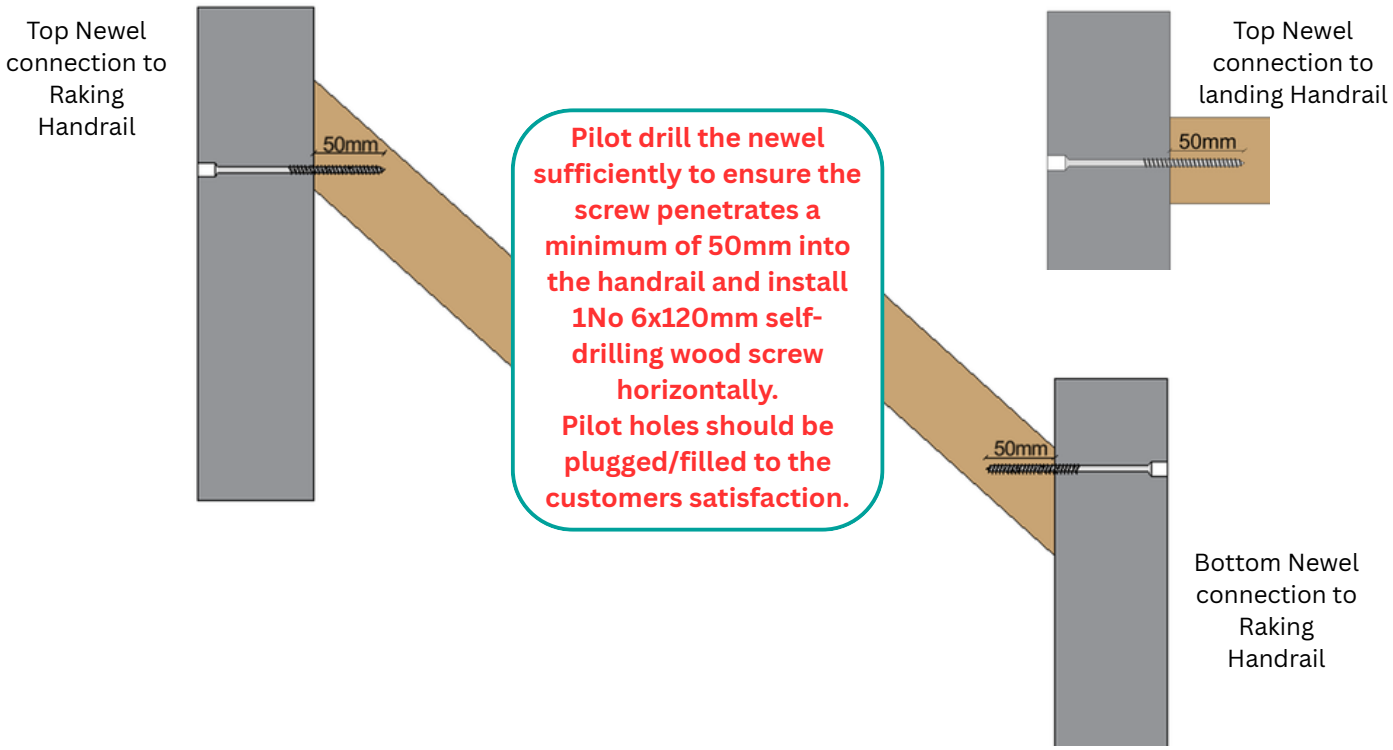
Fix handrail using min. 3No 4.0 x 60mm long screws

Newel/Handrail Fixing Installation Guide

Tests carried out by Staircraft have confirmed that a single 6x120mm long wood screw, with a minimum embedment of 50mm into the pointside member, is capable of safely supporting the horizontal loads recommended in BS6399-1 Table 4 and PD6688-1-1 Table 2 for stair balustrades acting as guarding in either residential or non-residential dwellings.

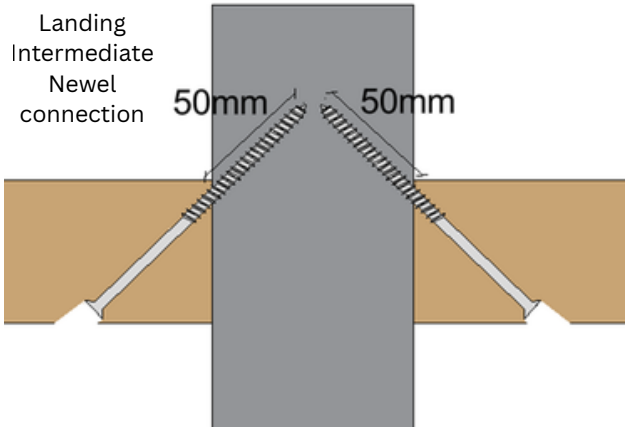
The following installation procedures are recommended for the various situations that might arise during balustrade construction:

Top/Bottom Newel to Rake Handrail, and Top Newel to Landing Balustrade Connection

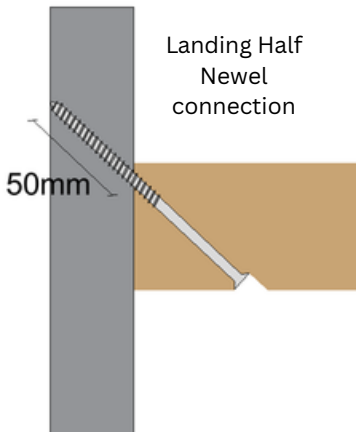


Landing Intermediate Newel and Half Newel Connection

Where a horizontal screw application from the newel post is impossible, as is the case with landing intermediate or half newels, angled screw connections are permissible.



Tosh screw 1No 6x120mm wood screw on each side of the newel, and from alternate faces of the handrail to avoid the risk of clashing.
The screws should be installed at 30-45 degrees vertically, and at the shallowest angle (to the line of the handrail) that the balusters will allow.
Pilot holes should be plugged/filled to the customers satisfaction.



Tosh screw 1No 6x120mm wood screw, at 45 degrees vertically and at the shallowest angle (to the line of the handrail) that the adjacent balusters will allow.
Pilot holes should be plugged/filled to the customers satisfaction.

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Final Checks Once Staircase Installed

IMPORTANT: Subsequent and final checks must conclude that:

- ☑ There is minimum 2000mm headroom clearance
- ☑ The staircase is level
- ☑ All newel-posts are plumb
- ☑ All joints are correctly fitted and fixed
- ☑ All supports and blocks are glued and correctly fixed
- ☑ The wall strings are firmly fixed
- ☑ The staircase does not flex or squeak

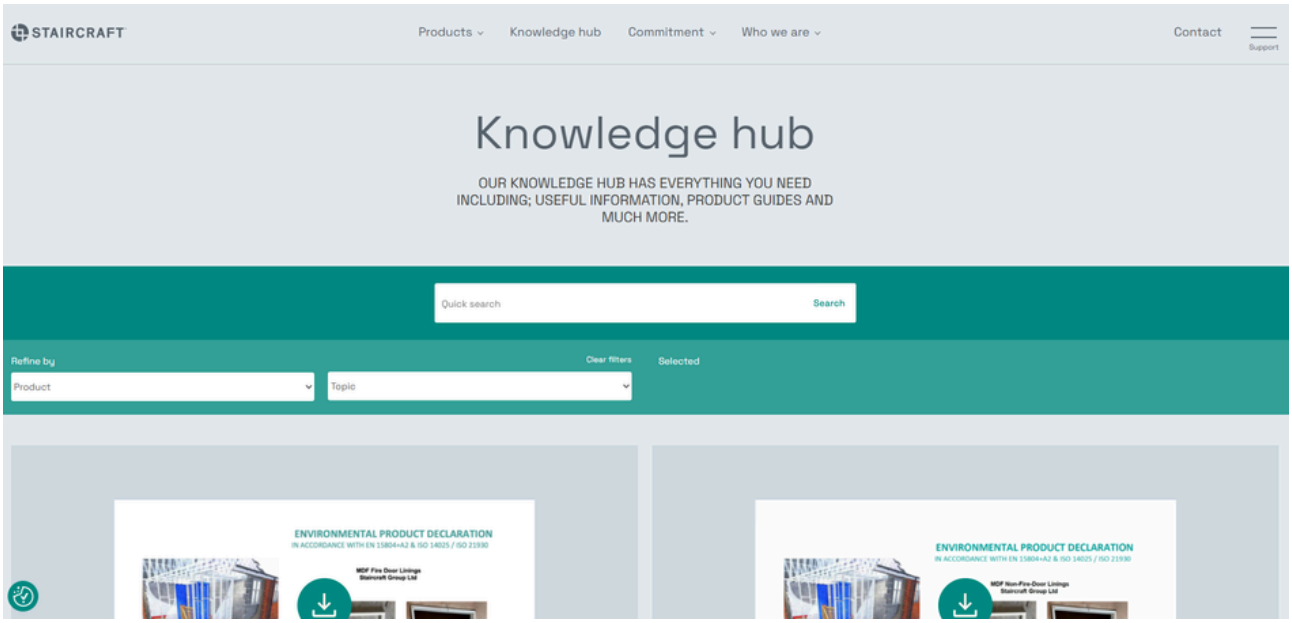
Site fixing of stairs should be in accordance with Building Regulations, NHBC Standards and any referenced documents, (see Appendix for infomation on useful documents).

APPENDIX

Useful building documentation:

1.Staircraft's documentation can be found on www.staircraftgroup.com on the knowledge Hub

- PEFC Certificate of Registration
- FSC Certificate of Registration
- ISO 9001 Certificate
- Environmental Product Declaration



2.NHBC Documentation can be found at NHBC Standards Chapter 6.6 Staircases

- www.nhbc.co.uk/builders/productsandservices/techzone

3. HM Government Park K and Part M building regulations

- www.gov.uk/government/collections/approved-documents
- gov.wales/building-regulations-approved-documents