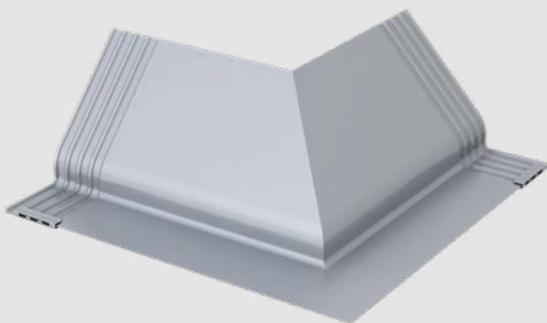


## **NCCT**

Non-combustible

Cavity Tray System - Technical Data Sheet



# Keyfix NCCT

## Product Properties

<b>Product Name</b>	Keyfix® Non-combustible Cavity Trays (NCCT).
<b>Manufacturer</b>	Keyfix Limited. Ballyreagh Industrial Estate, Sandholes Road Cookstown, BT80 9DG. (BS EN ISO 9001 and BS EN ISO 14001 certified).
<b>Material</b>	Austenitic Stainless Steel. Grade 1.4301 (AISI 304) Stainless Steel, as standard. Grade 1.4401 (AISI 316) Stainless Steel, if required. Keyfix NCCT and additional ancillary items are manufactured completely from A1 fire rated Stainless Steel, which is 100% recyclable.
<b>Material Thickness</b>	Non - Welded Components = 0.5mm Thick. Welded Components = 0.9mm Thick.
<b>Product Dimensions</b>	Designed to suit 102.5mm wall type as standard. Keyfix NCCT can be manufactured to suit bespoke brickwork dimensions.
<b>Cavity Widths Accommodated</b>	50mm and above.
<b>Lateral Adjustment</b>	Keyfix NCCT is manufactured to reflect brickwork setting out drawing and can be manufactured to suit bespoke brickwork dimensions as required. Keyfix NCCT designed to suit 102.5mm wall type as standard.
<b>Component Length</b>	200mm - 2500mm.
<b>Component Weight</b>	Up to Maximum of 2.5kg/m Component weight dependent on material thickness and type of cavity NCCT is spec'd to suit. Keyfix NCCT Component Weight Data Sheet available on request
<b>Effectiveness of Water Discharge</b>	BBA Test Method. Test Report: T164436. Keyfix NCCT including external and internal Corner Units sustained a flow of 0.45L per minute per linear meter for a period of one hour without leaking.
<b>Behaviour in relation to fire</b>	Keyfix NCCT manufactured from Stainless Steel have an A1 fire classification defined by Commission Decision 96/603/EC. No test required.
<b>Behaviour under load</b>	Keyfix NCCT will not adversely affect ability of the wall to sustain and transmit compressive load.
<b>Behaviour in mortar</b>	Keyfix NCCT is finished with patented indents to provide a physical key into mortar. Alternative cavity tray systems, which perforate surfaces to key into mortar, do not prevent rising damp when installed at FGL or around inset balconies and therefore require additional non combustible DPC in these areas to eliminate risk of rising damp. Stainless Steel does not react to alkaline in cement/water, unlike Aluminium and Zinc, so zero threat of corrosion.
<b>Shear Strength</b>	BBA Test Method. Test Report: T164377. Tested in accordance with BS EN 1052-4:2000.
<b>Flexural Bond Strength</b>	BBA Test Method. Test Report: T164377. Tested in accordance with DD 86-1:1983.
<b>Product Durability</b>	Under normal service conditions, lifespan is 125+ years.
<b>Product Handling</b>	Follow safe lifting and manual handling procedure when using product. Wear Cut Level 5 Safety Gloves when handling product to avoid cuts or abrasions.
<b>Additional Sundries required</b>	Keyfix NCCT is the only Cavity Tray on market which creates a mechanical dry seal at joints. By eliminating the use of any sealants at joints we have removed the possibility of installation errors as a result of onsite conditions such as dust and moisture and therefore does not require any additional sundries such as tapes, sealants, mastics or fixings.

# Keyfix NCCT

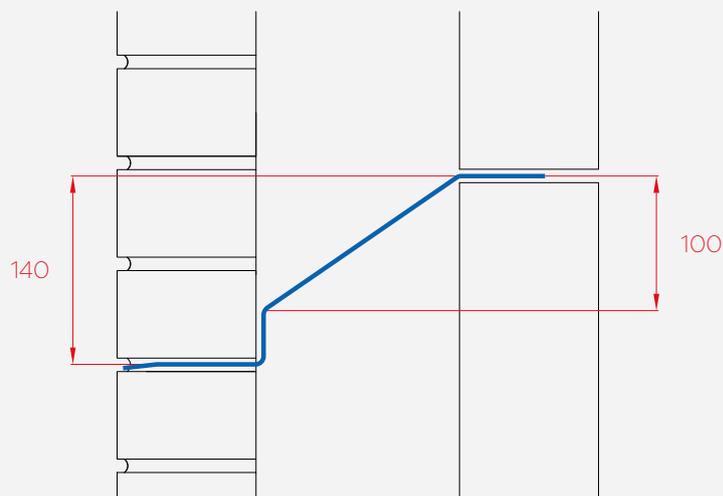
## Typical Section Detail

As shown below the minimum geometry requirement stipulated by NHBC and Premier Guarantee, is a Cavity Tray must:

- a) Have a 140mm minimum upstand from the inside face of the outer leaf to the outside of the inner leaf.
- b) Be shaped to provide 100mm minimum vertical protection above points where mortar droppings can collect.

Keyfix NCCT system is manufactured as standard to project 140mm horizontally and 190mm vertically which surpasses the minimum geometry requirements of a Cavity Tray.

### Minimum Geometry Requirements of a Cavity Tray



Keyfix NCCT is required to span the nominal 50mm, “clear cavity” and project into the cavity insulation.

It is considered good practice and required by some warranty providers for membrane to span from the external face of the inner skin to the top of the Keyfix NCCT. This is to help direct any moisture that may have been absorbed during construction process of building.

To meet the high degree of variation of cavity widths used within a building, the Keyfix NCCT is available to suit from 50mm cavities\*.

Product Type	Typical Wall Section Detail	NCCT Geometry
NCCT-140		
NCCT-100		
NCCT-50		

\*Warranty provider approval required

Sections illustrated above have some details removed for clarity

## Keyfix NCCT

### Product Approvals & Certification

Keyfix NCCT has completed third-party certification to ensure it is fit for purpose and inspected by various independent bodies.

The BBA have completed the following tests to ensure the mechanical dry seal at joint overlaps are sufficient and perform to the required structural performance within wall:

- ✓ Characteristic shear strength to BS EN 1052-4:2000.
- ✓ Characteristic flexural bond strength to DD86-1:1983.
- ✓ Effectiveness of water discharge test (0.45 Litres per minute per linear meter) carried out on a sample installation including external and internal corner detail.

Keyfix NCCT is also fully approved for major projects by both Premier Guarantee and LABC.

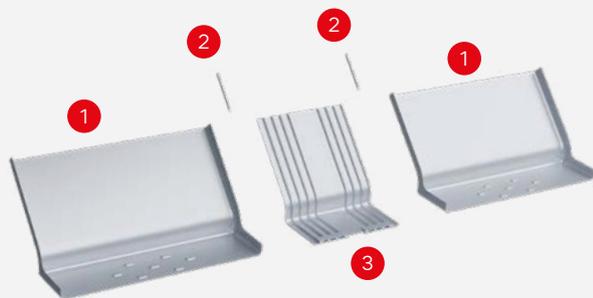


# Keyfix NCCT

## Product Range

### Brick Trays

Brick Trays are modular units which are fabricated to suit brick coursing. Keyfix manufacture trays in half brick increments from a 1 Brick Tray to a 10 Brick Tray to suit any brick size or bond pattern. Brick Trays are specified depending on the run of brickwork, taking into account the additional adjustability available when overlapping Corner Units. Each Brick Tray is formed with an integral Stop End at each end, which prevents moisture travelling horizontally and ensures it can only escape tray via a weep. Each Brick Tray also incorporates a patented indented surface which provides a physical key within mortar, eliminating the risk of slip plane developing. Indented surface also removes any concern surrounding rising damp and removes the need for additional DPC associated with perforated Cavity Tray systems.



### Jointing Piece

A Jointing Piece is used to join together two abutting Brick Trays where Stop Ends abut each other, therefore allowing the NCCT system to remain continuous over a run of brickwork. By locating Brick Trays into the Lower Clip pre-fitted to the Jointing Piece, this provides an overlap that will drain any moisture present between the abutting Stop Ends. The perp joint between two abutting Brick Tray Stop Ends must be fully filled with mortar.

- 1 Brick Tray
- 2 Split Pin
- 3 Jointing Piece

## Corner Units

Corner Units are required on every project in order for the Non-combustible Cavity Tray System to continue around corners on a building or at a brick return reveal. The length of the Corner Units allow for adjoining Brick Trays to overlap by  $\frac{1}{2}$  Brick to  $1\frac{1}{2}$  Bricks, therefore accommodating varying brick coursing or cut brick dimensions. Keyfix provide a full range of prefabricated Corner Units to suit external and internal returns. Bespoke corner angles are also available to order at no additional cost compared to a standard Keyfix NCCT Corner Unit.



Keyfix External Corner



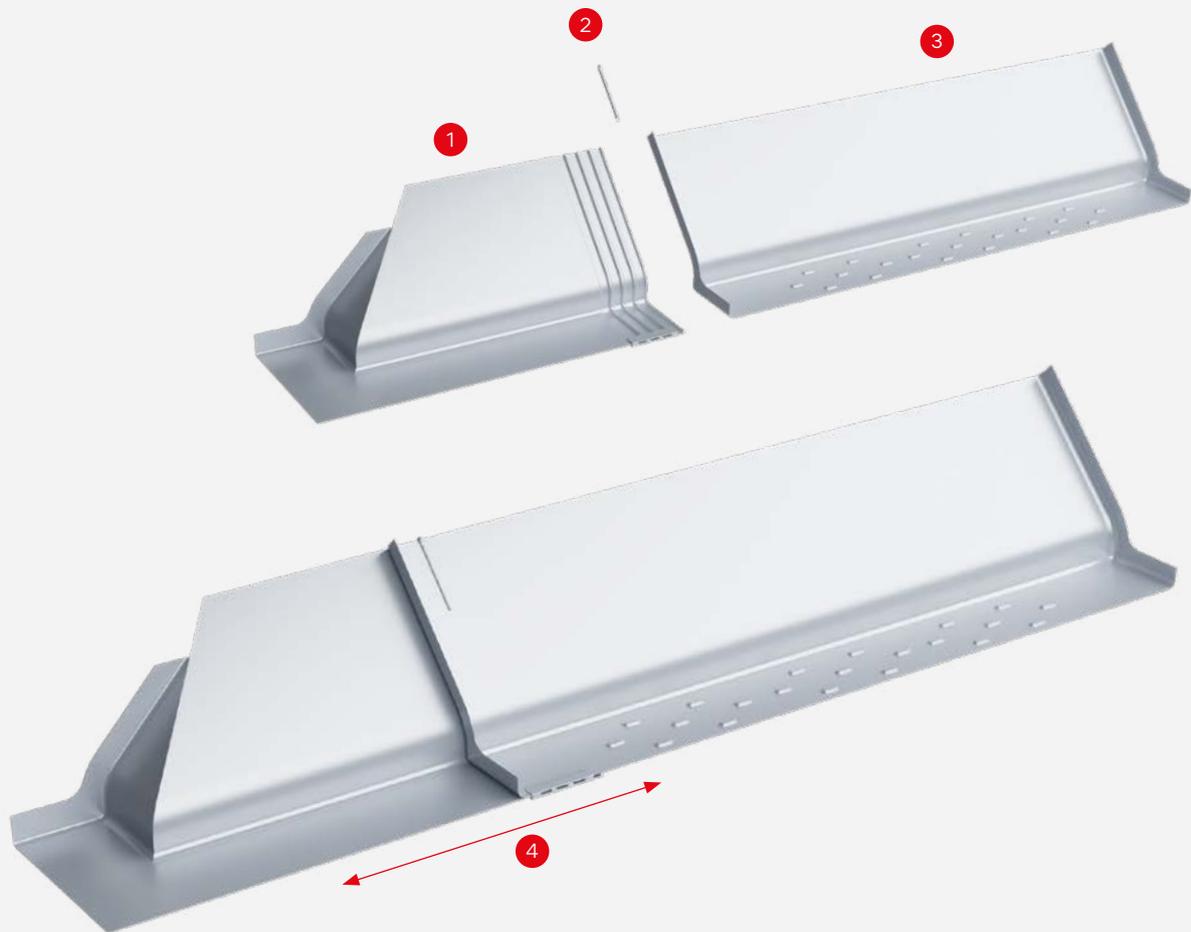
Keyfix Internal Corner



Keyfix LH Reveal Corner



Keyfix RH Reveal Corner



- 1 Keyfix LH Reveal Corner Unit with Ribbed Overlapping
- 2 Split Pin
- 3 Brick Tray
- 4 Brick Tray can be adjusted to achieve ½ Brick to 1½ Brick overlap

## Ribbed Overlapping Joints

The Keyfix NCCT system is the only Cavity Tray of its kind which does not rely on tapes, sealants or mastics and instead creates a mechanical, dry seal joint referred to as Ribbed Overlapping Joints.

This mechanical dry seal joint is created when ribs formed by downward pressed channels within the tray profile are completely overlapped by a Brick Tray.

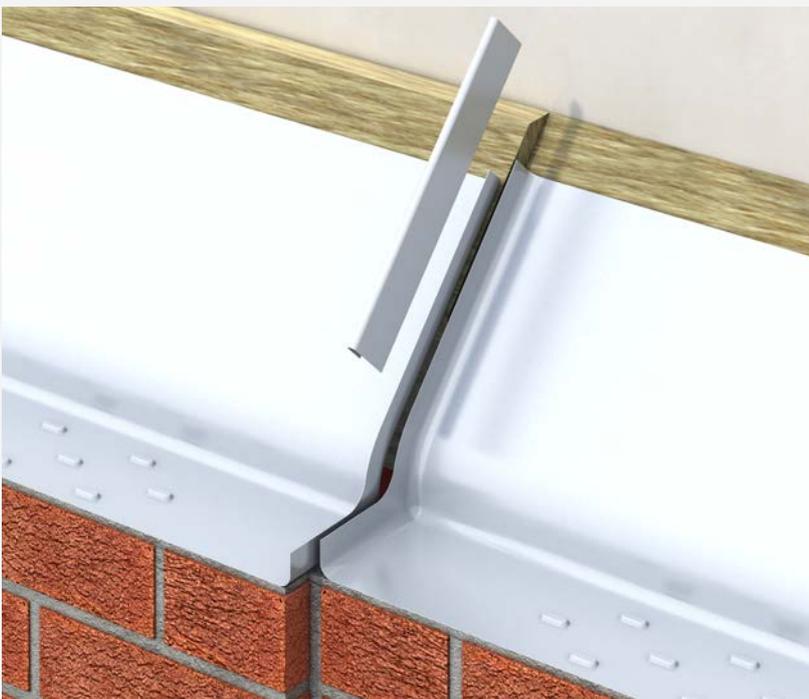
The use of tapes, sealants or mastics increases the possibility of onsite installation errors outside of the manufacturers control and therefore the warranty.

By eliminating the use of tapes, sealants or mastics at joints, the Ribbed Overlapping Joint gives unrivalled joint integrity lifespan and removes all installation errors associated with onsite conditions such as dust, moisture or low temperatures, which prevents “wet” joints performing, resulting in water ingress.

## Pier Units

Pier Units are fabricated bespoke depending on project requirements so one single Non-combustible Cavity Tray piece can be used in congested locations. Such as an 890mm pier between two openings.

Similarly to a Brick Tray, each Pier unit is finished with integral Stop Ends which ensures moisture is captured on top of tray and cannot escape unless via an intended weep. Pier Units also include an indented surface, therefore eliminating the risk of slip plane developing in the outer skin of masonry. Indented surface also removes any concern surrounding rising damp and removes the need for additional DPC associated with perforated Cavity Tray systems. Pier Units are available to suit from 440mm to 1790mm between two openings.



## Stepped Capping Piece

Stepped Capping Piece's are utilized when a Jointing Piece cannot be used because of a step in the panel of brickwork and negates the requirement for a Corner Unit to suit step in brickwork. By placing a Stepped Capping Piece over the top of the abutting Brick Tray Stop Ends, this allows the NCCT system to remain continuous over a run of brickwork while also accommodating the step in brickwork. It is critical that the perp joint between abutting Brick Tray Stop Ends must be fully filled between and on top of Stop Ends before placing Stepped Capping Piece over the top of Stop Ends. The maximum allowable step in brickwork which can be accommodated is 50mm.



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