

Type U

Undersill Tray

- Shaped DPC Cavitytray
- Integral sill alignment facility
- Removable front section
- Ensures consistent build detail
- Selection of profiles
- Traditional or timber frame construction

USE

To aid masonry sill formation. To protect sills from permeating dampness inwardly.

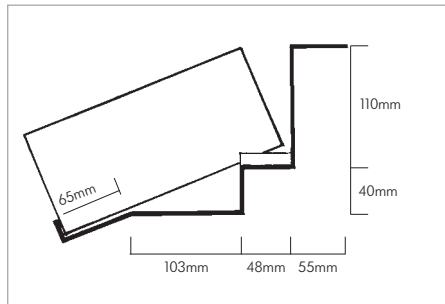
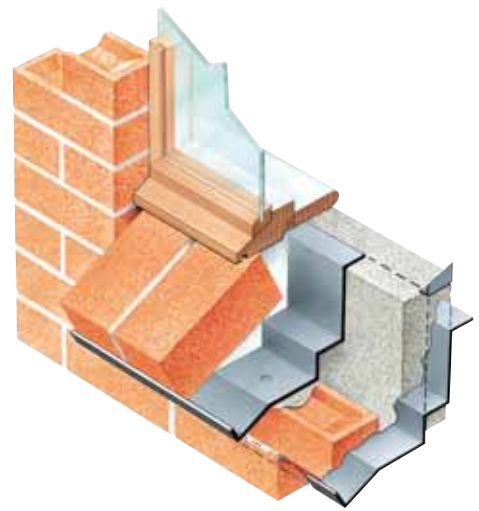
SOLUTION

The Type U Undersill Tray is a preformed DPC unit that acts as an alignment guide when constructing a sill in brick, tiles or stone and once built-in provides the protection demanded to arrest damp penetration.

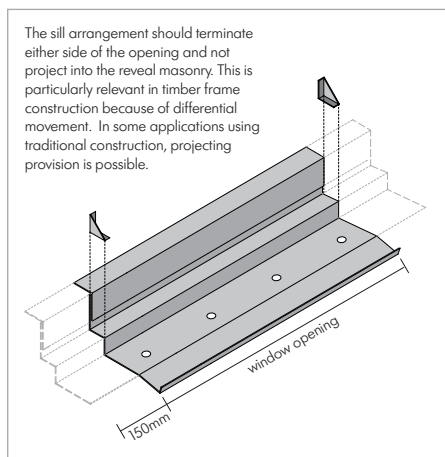
The Type U Tray is supplied moulded in a variety of profiles to suit the style and size of sill required. Once bedded in position, the sill bricks or tiles can be laid using the profiled tray as an integral guide that is enveloped within the construction. To the front of the tray is a projecting upturned lip to provide accurate tile or brick sill alignment. This lip is detachable once the completed sill mortar has set.

The Type U Tray is designed to permit transient drainage through apertures moulded within its base bedded in the exterior masonry skin. To each end of the tray moulded stopends prevent discharge into the cavity. The constructed sill can either match the structural opening dimension or it can project into the exterior masonry skin beyond the structural opening.

The Type U Tray can be supplied in lengths to suit either option and in both the presence of the vertical reveal closing is taken into account to provide a functional relationship. In all instances the tray design guards against dampness within it from permeating the inside skin and the reveals.



Trays are suitable for use in both traditional and timber frame construction. Sill design permits provision to accommodate differential movement between inner and outer skins in the form of a horizontal expansion gap as highlighted within NHBC Performance Standards (Such movement can be quite pronounced between masonry and timber frame). Being a link between both structural skins, sill rotation at this point (axis) can thus be addressed.



DESIGNERS' COMMENTS

A brick sill subjected to a 20°C temperature rise will expand by 0.10-0.16mm/m (millimetres per metre). Such thermal movement often results in small fissures or fractures within a sill mortar bonding joint. The benefit of the sill DPC arresting any rainwater which enters the sill detail is paramount. Permits easy compliance with NHBC 6.1 - S4(d) and 6.2 - D4(a) (Moisture control and insulation). Exposed site classification. The preformed rigid shape also avoids the common site problem of misplacement of conventional DPC material.

PRODUCT NAME - GROUP

Type U

CAVITY WIDTHS ACCOMMODATED

From 50mm up to 200mm

DIMENSIONS

To suit to up 2440mm max in one length
Glove lap to form longer runs.
See examples of most popular profiles

BESPOKE OPTIONS

Yes designs / profile tailored to suit project

TRADITIONAL CONSTRUCTION COMPATIBLE

Yes

TIMBER FRAME CONSTRUCTION COMPATIBLE

Yes

NEW WORK APPLICATIONS

Yes

RETROFIT APPLICATIONS

Possible with reconstruction

MASONRY SKIN STYLES

No known limitation

UNDULATING MASONRY FACES

Compatible

CURVED WALL ON PLAN APPLICATIONS

Yes – see Curved Wall entries

JOINTING METHOD

Glove lap 150mm if over 2400mm

CONGRUENT WITH OTHER WALL ELEMENTS

No identified incompatibility

ARRESTED WATER EVACUATION

Integral transient drainage apertures

MATERIAL - THERMAL INSULATION

Inskorfoan polystyrene BS 3836. 0.033

MATERIAL - SILL

Polypropylene DPC

COLOUR

Black

EXTRUDES / COMPRESSES UNDER LOAD

No

PACK SIZE

Available individually

CFC

CFC Free

ODP

Zero

REGULATION COMPLIANCE

Yes can be used to satisfy arrestment

MAY BE USED IF CAVITY INSULATION PRESENT?

Does not affect tray placement position

CAD DOWNLOADS

Yes

DESIGN CONSIDERATIONS

Overcomes common failure of sill DPC installation not rising the full height to match sill dimension.



Type U (continued)

Undersill Tray

- Shaped DPC cavity tray
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PRECAST AND SOLID SILLS

Modified Type U Trays can be provided where solid concrete, reconstructed and natural stone sills are used. In such applications trays usually terminate in a course below the sill bedding course and there is an option to incorporate discreet Caviweeps.

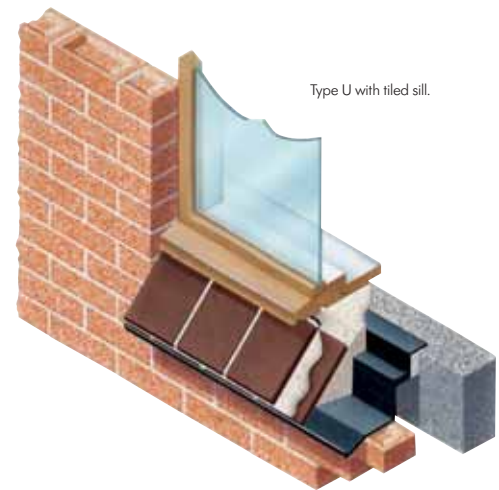
Trays arrest inward moisture movement and with a bonded thermal insulation layer (recommended) the usual damp control and insulation arrangement associated with this type of detail can be greatly improved. BS 5628 identifies the need for impervious or jointed sills to have DPC for full width and length of sill.



HOW TO ORDER

Popular profiles – State profile, whether sill matches masonry opening width or extends, cavity width, insulation option and lengths required.

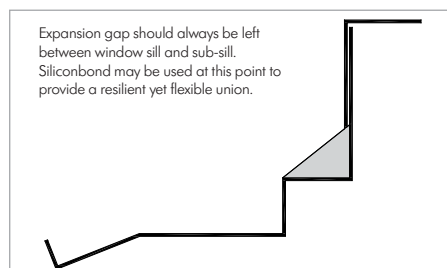
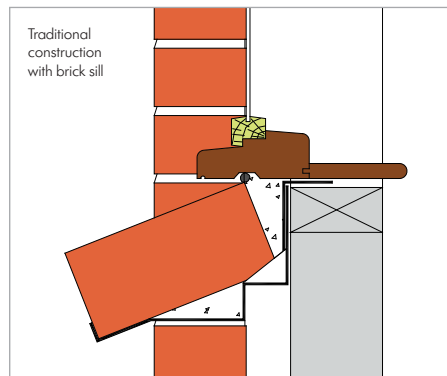
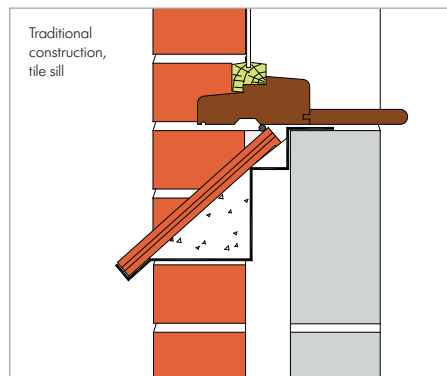
Bespoke – make available drawings for appraisal / scheduling.



Type U with tiled sill.

SPECIFICATION WORDING

Type U Undersill Tray by Cavity Trays of Yeovil Somerset BA22 8HU (01935 474769).
Bed to opening prior to forming sill.
Request liability/conformity document upon completion.



Expansion gap should always be left between window sill and sub-sill. Siliconbond may be used at this point to provide a resilient yet flexible union.

DESIGNERS' COMMENTS

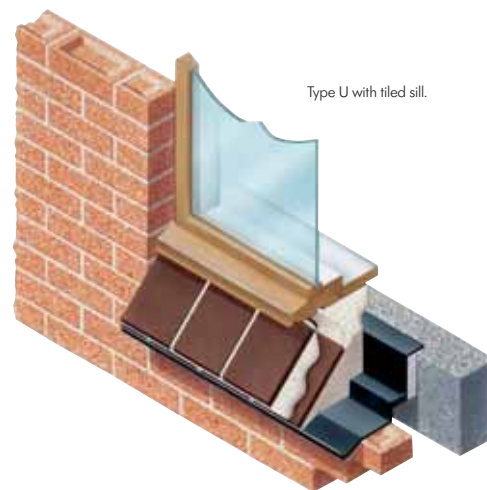
As external skin masonry dries out there is a tendency for it to slightly rise (2.5mm per storey of clay masonry) whereas an internal skin of timber will shrink and move downwards. Always anticipate and make provision for this differential movement. (UKTFA publication advice.)
It is recommended sills do not extend beyond the masonry opening. Terminating against the masonry opening will reduce the effects of differential movement. (NHBC - 6.2C)



Type U (continued)

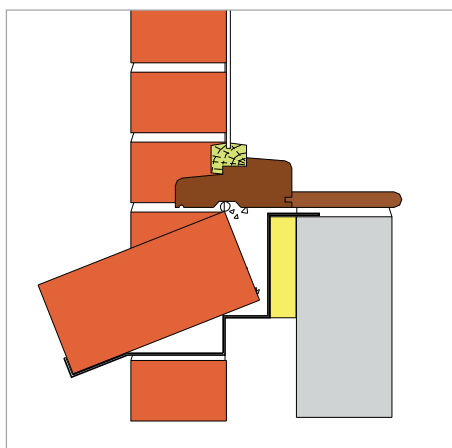
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The Type U Tray can be supplied with an optional thermal insulation layer where it rises within the cavity. As this option usually affects possible sill shape choices it should be considered at project design stage.

Variations to the profile and variations to the material thickness can be accommodated to suit the customer's requirements.



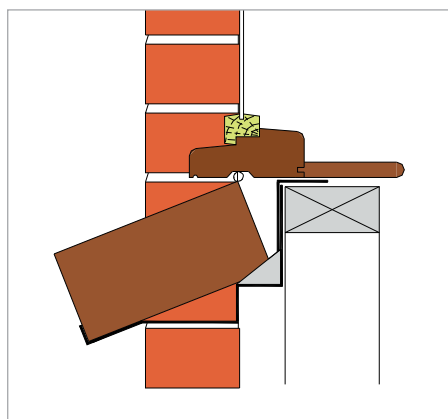
An expansion gap should be pointed in with Siliconbond to provide a weatherproof detail. See NHBC Design Performance Standards, 6.2 D6(c). (An expansion gap is applicable to all forms of construction but when timber frames are employed the movement factor is normally greater.) At all times the designer should ensure that the proposed sill design is sufficient to create a strong mass of construction in terms of strength, proportions and service.

The angle (shape) of any tile or brick sill is dictated by the height of the Type U inboard rise. The height can be selected when ordering, giving the specifier opportunity to choose the most appropriate angle to suit the intended appearance.

The inboard rise provides support for the back of the sill and then projects horizontally inwardly, rather than continuing parallel with the sill angle. This unique design permits mortar to infill under the laid sill at the back of the formation. Sill solidity and strength is increased considerably compared with arrangements that do not accommodate horizontal infilling. (Also anticipates trades may lean ladders against sills during lifetime of structure.)

TIMBER FRAME CONSTRUCTION

The two-part design for timber frame construction provides damp arrestment with the inner section of the tray dropping over the outer section. Thus movement is accommodated and water is directed forward rather than being directed into or under any lap in the two-part DPC arrangement. Type U Undersill Trays by Cavity Trays Ltd should not be confused with alternatives that do not afford this precaution.



The entire front section of the Type U which projects forward of the masonry line is fully detachable. An integral separating link permits this front portion of the tray to be removed, once the mortar has cured.

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