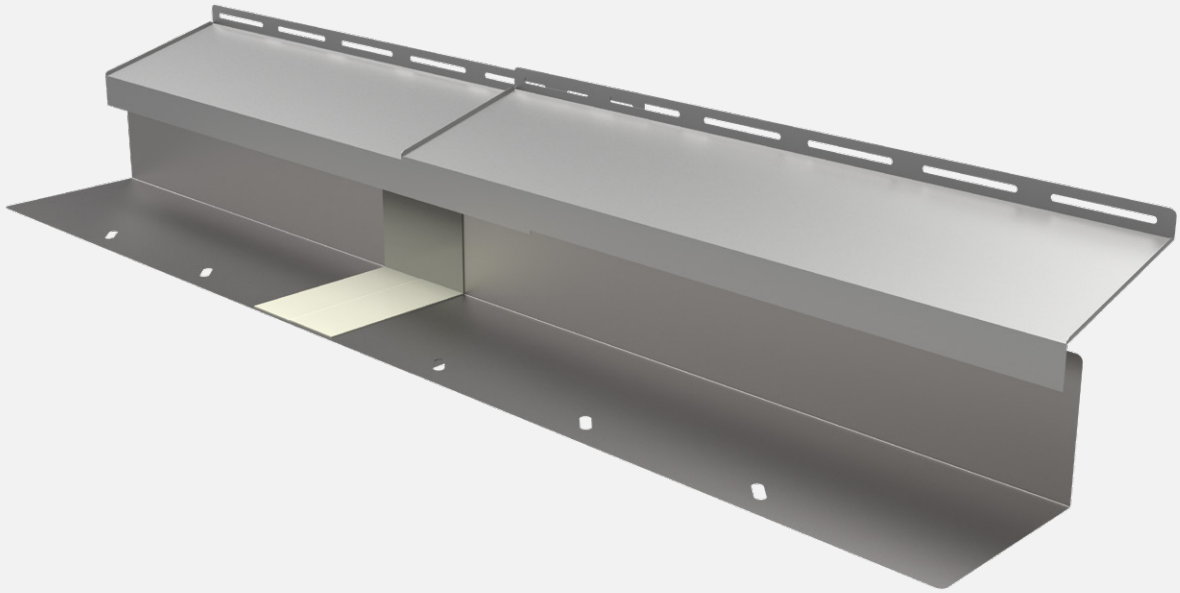
Technical Data Sheet

G-Tray™ – Stainless Steel Cavity Tray System



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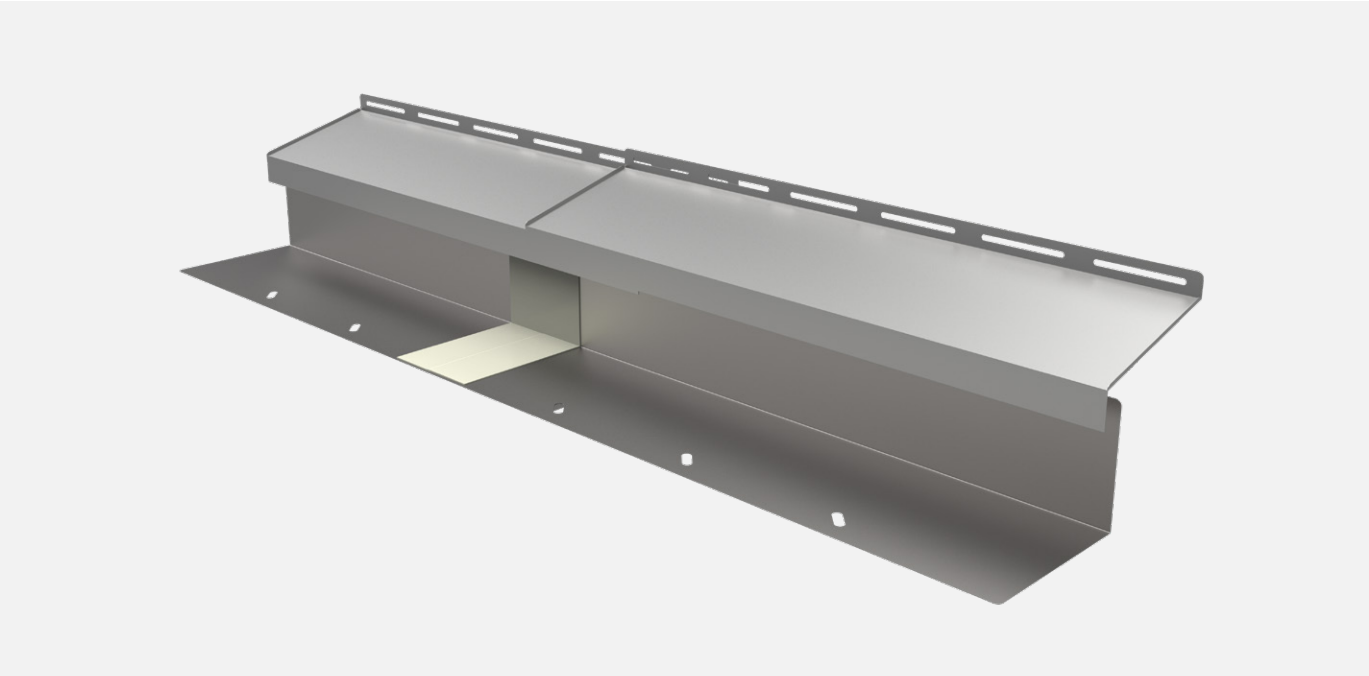

Product summary

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 21/5950

ACS Stainless Steel Fixings Ltd design, manufacture and supply the G–Tray™, a stainless steel cavity tray made from non-combustible material. This satisfies the latest regulations regarding fire safety and overcomes the problems that alternative products manufactured from combustible material pose.

G–Tray™ is manufactured at our state of the art facility from stainless steel sheet and provides a barrier to aid the passage of water from the internal structure/cavity of the building to the exterior leaf.

G-Tray™ – Stainless Steel Cavity Tray System

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Product highlights

A1 non-combustible	Conforms to BS EN 13501-1:2018
Austenitic stainless steel	Grade 304 (1.4301), 316 (1.4404)
Joints Tested at BBA	Single & Double-Sided Butyl Tape
BBA Certified	Certificate 21/5950

Design and testing

The ACS G–Tray™ has endured a full test procedure as part of the BBA certification process, ensuring that the product is independently certified as well as fit for purpose. This included a full test procedure involving water flow tests, accelerated ageing, and shear strength tests within a masonry panel. All of this resulted in the BBA being able to state that the tray will remain effective for the life of the building in which they are installed.

A1 classification

ACS G–Tray™ is a stainless steel product which satisfies the requirements for an A1 classification without testing as the below details outline. Referring to document 96/603/EC, the ACS G–Tray™ product is produced from stainless steel and shall on account of the material's low level of combustibility, be classified in Classes A ("No contribution to fire") without need for further testing.

The document shows all categories considered as non-combustible. For any further information please refer to the aforementioned standard.

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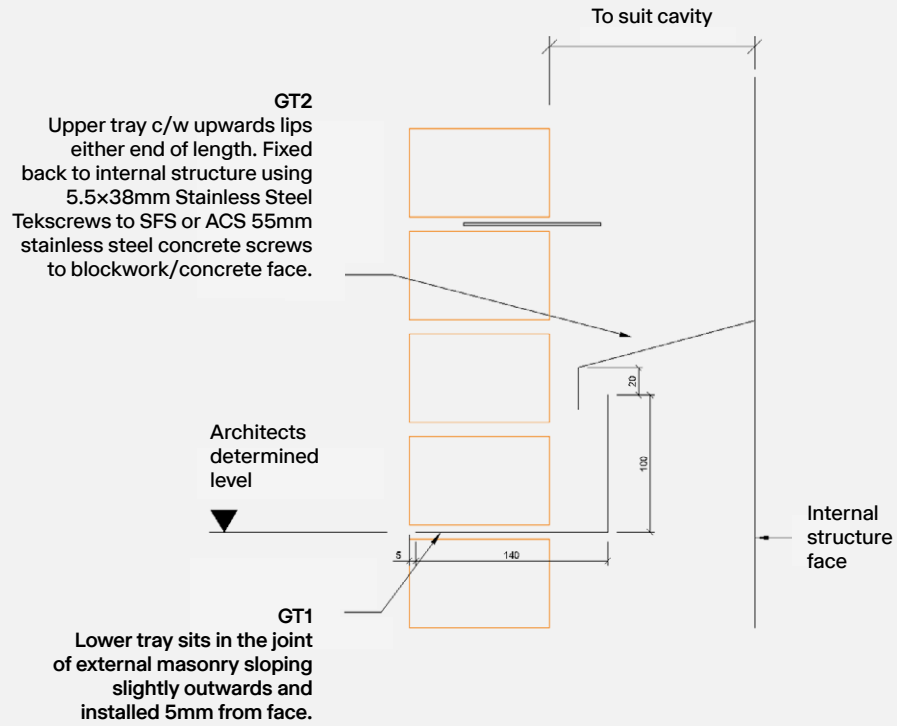
Technical data

ACS G–Tray™ is as standard manufactured from Grade 1.4301 (304) or 1.4307 (304L) stainless steel. If required, G–Tray™ can also be produced from 1.4401 (316) stainless steel.

Typical section



GT2

This is a single sloping planar metal sheet which acts to dissipate moisture away from the inner leaf of the cavity wall. Its shape ensures water flows from the cavity towards the horizontal GT1 component embedded in the outer leaf of masonry. To aid the stability of the G–Tray™, the upstand section is fixed to the internal leaf.

GT1

This is a single planar horizontal metal sheet with an angled upstand to the rear embedded into fresh mortar of the external masonry. This section collects water from the above mentioned GT2 section and drains it through the weep holes in the external masonry. The upward lip which is placed in the cavity space serves to prevent moisture from returning into the cavity.

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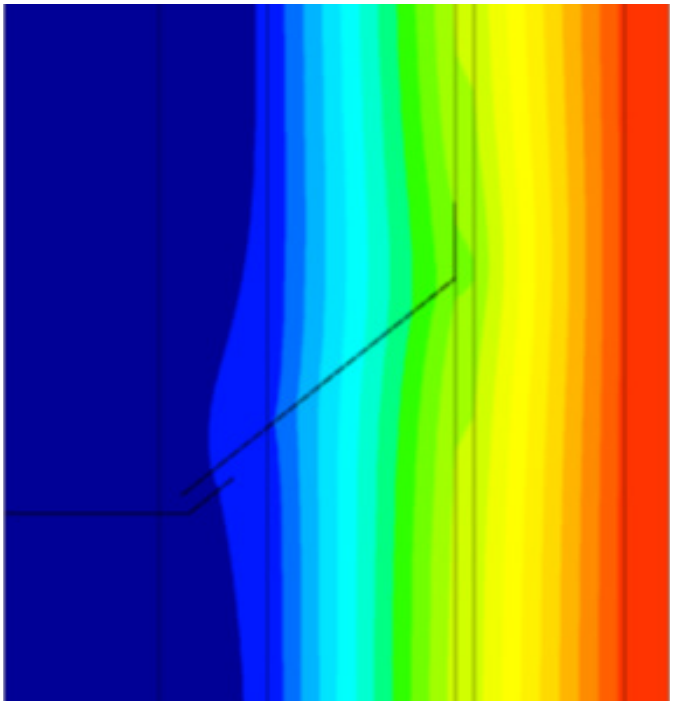
Two-piece design

ACS G–Tray™ is designed in two components for a number of reasons. Firstly to provide flexibility to overcome site tolerances. This allows any cavity fluctuations away from the design width to be taken up in the system tolerance.

It is also produced from two components to minimise the potential thermal bridging across the cavity. The system has been independently modelled by BRE giving a calculated ψ-value, of 0.009W/mK. The image opposite is an extract from the report showing the transfer of heat through the cavity.

The disconnection between GT1 and GT2 components also allows movement of the parts in different directions without compromising the waterproofing function. The top GT2 tray follows the vibrations, small movements, deflections, and thermal expansions of the main structure, whereas the bottom GT1 tray follows the brickwork behaviour.



Jointing components

To create a continuous impervious barrier against moisture it is important that components are jointed in the correct manner. For the top GT2 tray, components are provided with lips on each end to ensure that water cannot track horizontally between units. Each of these components should be overlapped by a minimum of 50mm.

For the bottom GT1 tray, components require jointing with Butyl tape. This jointing methodology has been subjected to a full test regime by BBA. Each joint requires both a double sided strip between trays as well as a single sided strip on top of the joint, whilst also maintaining the 50mm minimum overlap stated for the GT2 components.

Detailed instructions can be found within the G–Tray™ installation guide.

System adjustment

The G–Tray™ system is designed to be adjustable in two directions to allow for tolerance.

— Lateral adjustment can be accommodated by adjusting the overlapping of each of the two components whilst always maintaining a minimum of 50mm overlap.

— Cavity adjustment can be accommodated up to ±12mm due to the system design.

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ACS Stainless Steel Fixings Ltd
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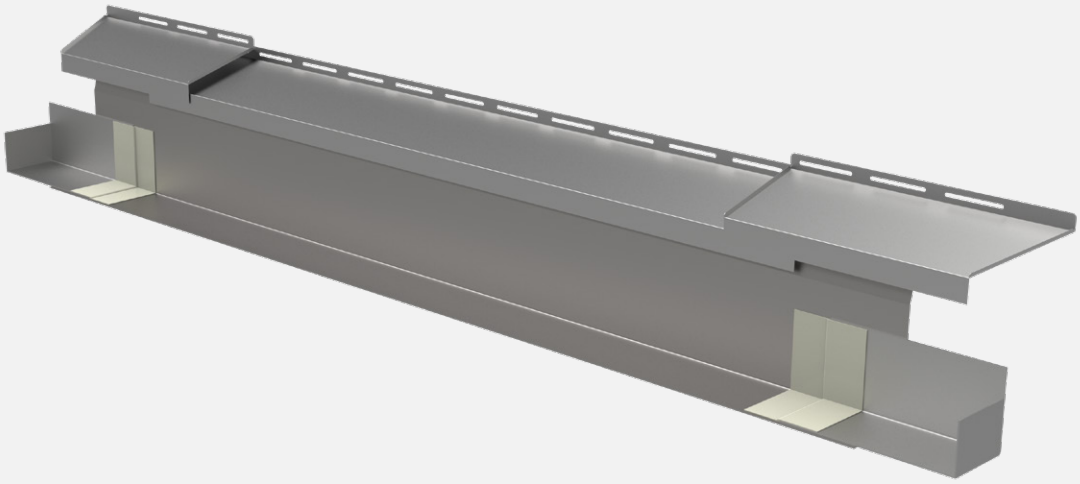

LGT – (Lintel G–Tray™)
ACS cavity trays over openings

LGT is a variation of the GT2 element of the G–Tray™ design. LGT can be combined with lintels as stated in PD 6697:2019 Table 2 regarding the "selection of ancillary components in relation to material/coating specification and situation". Lintels conforming to BS EN 845-2 with this material/coating reference have integral damp-proof systems and may be used without the need to provide a separate damp-proof course in buildings in a non-aggressive environment.

The ACS LGT is suitable for use with stainless steel 'L' type lintels only. If the lintel is not a stainless lintel, or it is of a 'C' type, then a separate GT1/GT2 G–Tray™ will be required in the next available brickwork course above.

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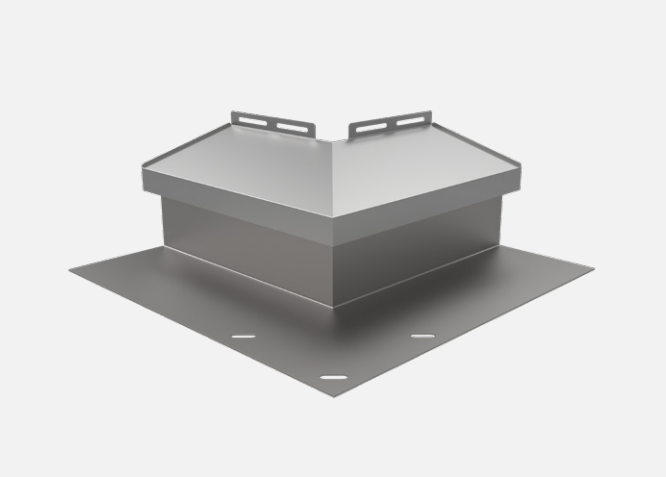

Ancillery components

External corners

When using G–Tray™ you will in general have the requirement for a corner piece.

ACS provide a single piece folded GT2 top tray and a welded GT1 bottom tray to ensure that you have full covering around the corner.

Detailed instructions on how to fit the corners can be found within the G–Tray™ installation guide.

Internal corners

Similarly to the external G–Tray™ corners, ACS also provide a solution for internal corners with the same arrangement of a single piece folded top tray, and a welded internal corner bottom tray.

Again, detailed instructions on how to fit the corners can be found within the G–Tray™ installation guide.

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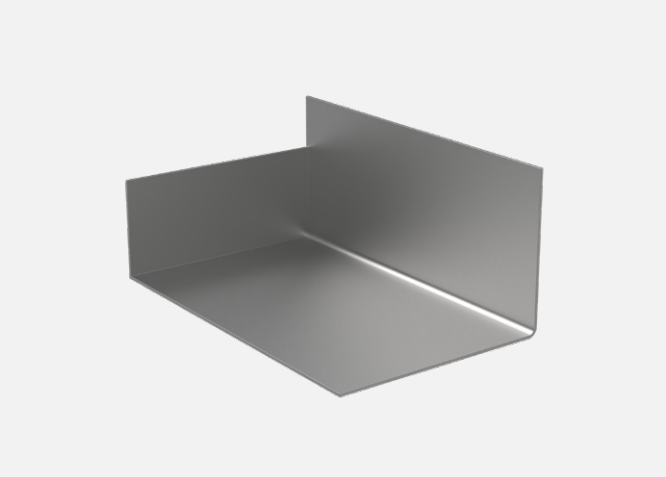
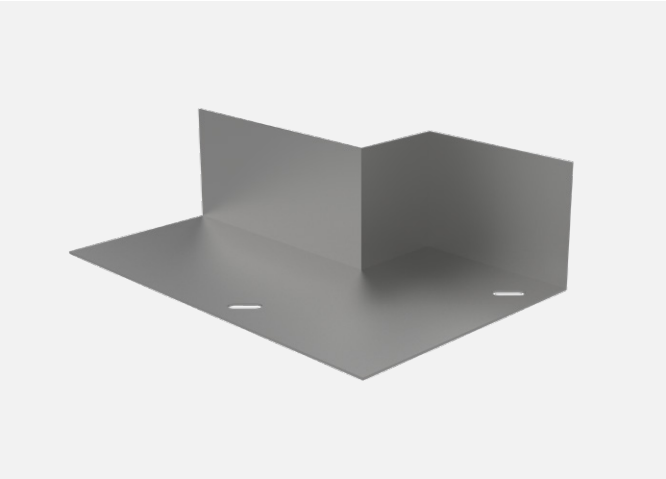


Stop end

In the case of an interruption in the G–Tray™ or when G–Tray™ terminates, it is necessary to use a STOPEND to stop water flowing laterally. ACS have designed a mobile STOPEND detail for use with the G–Tray™ system.

Mobile STOPENDs require the same installation procedure for a GT1 unit and can also be used with stainless steel lintels as the lintel section of this guide stipulates.



Brickwork reveal

In the case of brickwork reveals around windows it may be necessary to use a G–Tray™ reveal.

This tray has a welded plate behind the brickwork return to ensure that water does not return into the cavity.

The depth of the G–Tray™ reveal is based upon the brickwork reveal dimension and is supplied as standard for a full brick 215mm return.

Other sizes are available on request.

G-Tray™ – Stainless Steel Cavity Tray System

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Specification

Product name	ACS G-Tray™
Cavity widths accommodated	81-300mm (as standard). Other widths available on request
Dimensions	Variable to suit
Material	Austenitic stainless steel
Thickness	0.5mm (welded components 2.0mm)
Compatability with other materials	Avoid direct contact with dissimilar metals
GT2/LGT Fixings	Stainless steel Tek Screw or ACS stainless steel concrete screw
Lateral adjustment	To suit whilst maintaining 50mm min. overlap
Cavity tolerance	20mm increments ±12mm
Joint overlap	50mm minimum
Bespoke option	Yes
Brickwork size	Designed to suit all types when required (102.5mm minimum)
Jointing tape	Double-sided Butyl tape. Single-sided Butyl tape
Extrudes/compresses under load	No
Max length of straight components	1,200mm
Corners	90° equal cavity as standard. Bespoke solutions also available
Weep vents	Consideration must be taken for dissimilar materials (e.g. zinc)

ACS

Built on tradition. Driven by innovation.

Get in touch to learn more about how G-Tray™ can help you deliver your next project.

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