

ARC T-BARRIER[®] TIMBER FRAME

Cavity fire barrier for timber frame party wall junctions

- » Up to **1 hour fire integrity**
- » **Seals edge** of party wall cavity
- » **Zero U-value** at party wall can be achieved
- » **Up to three times more effective** as an edge seal than conventional systems
- » Minimises **thermal bypass**
- » **Easy** to install
- » **Third-party certificated** by IFC



Third Party
Certificated



Exceeds Performance
Requirements



Fire
Product



Excellent Thermal
Properties



NBS Source
PARTNER

IFC Certification
✓✓✓

Application

ARC T-Barrier® enables the closing of an external cavity at a party wall junction where building regulations require the use of a mineral wool closer. Additionally, it provides an effective edge seal around the party wall cavity, helping to achieve a zero U-value.

Installation

The person installing the T-Barrier® Timber Frame should first familiar themselves with this datasheet, ensuring the correct product is being fitted into the cavity.

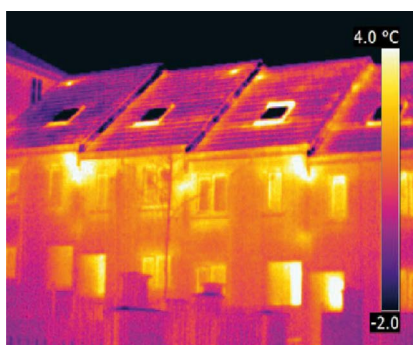
The ARC T-Barrier® Timber Frame is easily installed as the timber frame is erected. Polythene flanges are present to allow the barrier to be stapled back

to the timber while the brickwork progresses, when a compression fit ensures the barrier stays in place. For runs of more than 1.2m, lengths of T-Barrier® should be butted tightly together, with care taken to ensure there are no gaps.

Care should be taken when handling the product to ensure that the mineral wool isn't damaged.

The Problem: Thermal Bypass

Without effective edge sealing, the party wall cavity allows heat to escape. The image (below) highlights the areas of heat loss in a row of terraced houses. Of particular note is the heat loss at the top of the junction where the party wall cavity meets the external cavity.

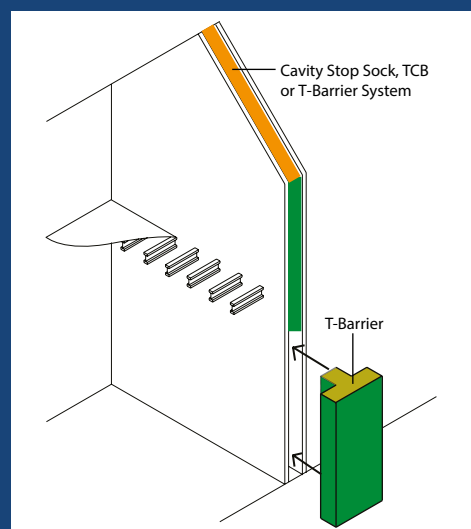


The Solution

ARC T-Barrier® creates an effective edge seal around the party wall cavity which, in conjunction with a fully filled party wall cavity, will allow a zero U-value to be achieved.

ARC T-Barrier® should be installed vertically where party wall cavity meets the external cavity, while an ARC Cavity Stop Sock or TCB should be used to top out the party wall cavity.

If compliance with NHBC (2016) Chapter 7.2.16 is required, ARC T-Barrier® System should be fitted, this providing fire stopping between the party wall blockwork and the roof as well as within the soffit. For more information on ARC T-Barrier® System, visit our website www.arcbuildingsolutions.co.uk.



Party Wall Construction	U-value (W W/m2K)
Solid	0.0
Unfilled cavity with no effective edge sealing	0.5
Unfilled cavity with ARC T-Barrier® installed around all exposed edges and inline with insulation layers in abutting elements	0.2
A fully filled cavity with ARC T-Barrier® installed around all exposed edges and inline with insulation layers in abutting elements	0.0

Thermal Properties: Ψ -value

The ARC T-Barrier® can be used to improve upon the Accredited Construction Detail linear thermal transmittance (Ψ -value) of 0.060W/m.K. A Ψ -value of 0.047W/m.K can be achieved when using the ARC T-Barrier® in a junction with a 50mm party wall cavity and 0.052W/m.K with a 75mm party wall cavity.

Junction	Ψ (W/m.K)	f Rsi
Party Wall Accredited Construction Detail	0.060	-
Party Wall with ARC T-Barrier® (50mm PW cavity)	0.047	0.936
Party Wall with ARC T-Barrier® (75mm PW cavity)	0.052	0.936

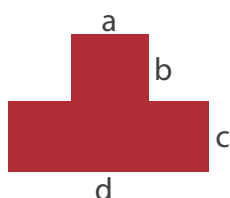
The Ψ -values stated in this table should be applied to each dwelling either side of a party wall.

Key Stats

Length supplied	1.2m
Third-party certification	IFC certificate number: IFCC 1728
Insulation	Non-combustible rockfibre mineral wool
Thermal conductivity	0.037W/mK
Fire Resistance (Insulation)	Up to 1 hour
Test standard	EN1366-4
Mass	Data available on request
Construction type	Timber frame

Dimensions explained

a/b x c/d x length



Fire Properties

ARC T-Barrier® Timber Frame has been fire tested in accordance with the principles given in EN 1366-4:2006 + A1 2010 and EN1366-4:2021, achieving up to one hour fire integrity within a timber frame construction.

ARC T-Barrier® Timber Frame is certificated by IFC Certification, a third-party accreditation scheme. IFC's product certifications are designed to give confidence to architects, specifiers, contractors, users, occupiers and owners that products have been thoroughly and independently evaluated and will continue to be manufactured to the same specification as originally tested.

ARC T-Barrier® Timber Frame - IFC certificate number: IFCC 1728

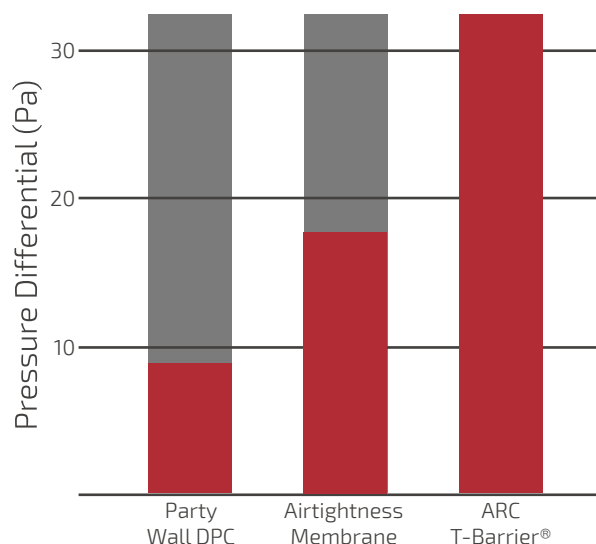
Test reports, third party certification and the material datasheet are all available upon request.

Edge Seal Effectiveness

The effectiveness of ARC T-Barrier® as an edge seal has been independently tested by Leeds Beckett University. The test replicated real life conditions by measuring the differentials between pressurised and non-pressurised cavities.

This ground-breaking test is the only effective test available currently to measure a product's effectiveness as an edge seal.

ARC T-Barrier® was found to provide three times the pressure differential compared to a conventional cavity barrier system, and nearly twice the pressure differential of the Airtightness Membrane employed by some house builders.



Results presented were obtained using a 100mm party wall cavity with a 100mm external cavity.



LEEDS
BECKETT
UNIVERSITY

Leeds Sustainability
Institute

Product & Packaging Specifications

Product Code	Maximum External Cavity Width		Masonry Fire Performance		Dimensions	Lengths per pack	Packs per pallet
	Party Wall	External Wall	Integrity	Insulation			
TBTF50/50	50mm	50mm	1hr	1hr	65/65 x 55/250 x 1200mm	12	10
TBTF50/75	50mm	75mm	1hr	1hr	65/65 x 80/250 x 1200mm	9	10
TBTF50/100	50mm	100mm	1hr	1hr	65/65 x 105/250 x 1200mm	6	10
TBTF70/50	70mm	50mm	1hr	1hr	85/65 x 55/250 x 1200mm	12	10
TBTF70/75	70mm	75mm	1hr	1hr	85/65 x 80/250 x 1200mm	9	10
TBTF70/100	70mm	100mm	1hr	1hr	85/65 x 105/250 x 1200mm	6	10
TBTF100/50	100mm	50mm	1hr	1hr	115/65 x 55/250 x 1200mm	12	10
TBTF100/75	100mm	75mm	1hr	1hr	115/65 x 80/250 x 1200mm	9	10
TBTF100/100	100mm	100mm	1hr	1hr	115/65 x 105/250 x 1200mm	6	10

All performance claims can be evidenced on IFC certificates IFC 1728.

For party wall cavities over 150mm, please get in touch with us to discuss your solution.

Can't find your external cavity size? ARC T-Barrier® Timber Frame can be manufactured to non-standard sizes available on request.

Call our technical experts on 0113 252 9428 to discuss your requirements.

0113 252 9428
arcbuildingsolutions.co.uk
sales@arcbuildingsolutions.co.uk

arc®
Protecting People.
Protecting Places.

Standards

ARC-T-Barrier® Timber Frame is manufactured using rockfibre mineral wool which achieves a fire classification of Euroclass A1 as defined in BS EN 13501-1.

ARC's rockfibre mineral wool insulation has a thermal conductivity of 0.037W/mK.

As required by building regulations, the mineral wool is encapsulated in polythene. This element is not noncombustible.

Non-Standard Applications

Where usage falls outside of the certificated scope, for example when used with external cladding, or with an internal metal frame system, performance of the fire barrier will depend heavily upon the structural integrity and fire performance of the surrounding construction.

Specifiers must ensure all construction elements that make up part of the internal or external leaf of the wall, including support systems, are suitable for use with a cavity fire barrier for the length of fire integrity and insulation required. Particular attention must be paid to any possible deflection or distortion which could cause gaps to form between the construction and any fire barrier installed.

In the event of a fire, ARC Building Solutions Ltd cannot accept liability for failure where usage is outside of the standard application, including but not limited to, where deflection or distortion has allowed gaps to form around the barrier, or where the barrier is not fitted in accordance with the manufacturer's guidelines.

Storage & Packaging

ARC T-Barrier® Timber Frame is supplied in polythene packs which are designed for transporting and protecting the products. It is not recommended that the packs are stored in direct sunlight. When storing the barriers for longer periods of time it is recommended that the product should be stored indoors, or under cover especially during inclement weather or overnight.

Health & Safety

At ARC Building Solutions, safety is a top priority, both in how we work and the products we supply.

We've carefully assessed the materials we use, and we're pleased to say our rockfibre mineral wool isn't classed as a possible carcinogen. This means that, in line with UK regulations, our products don't require a safety data sheet.

Our products have no hazardous classifications under UK REACH and GB CLP regulations when it comes to physical, health, or environmental risks.

As always, we recommend following the product instructions when handling and installing ARC products. If you'd like more information on our approach to health and safety as a whole, just ask us for a Safety Data Sheet (SDS).

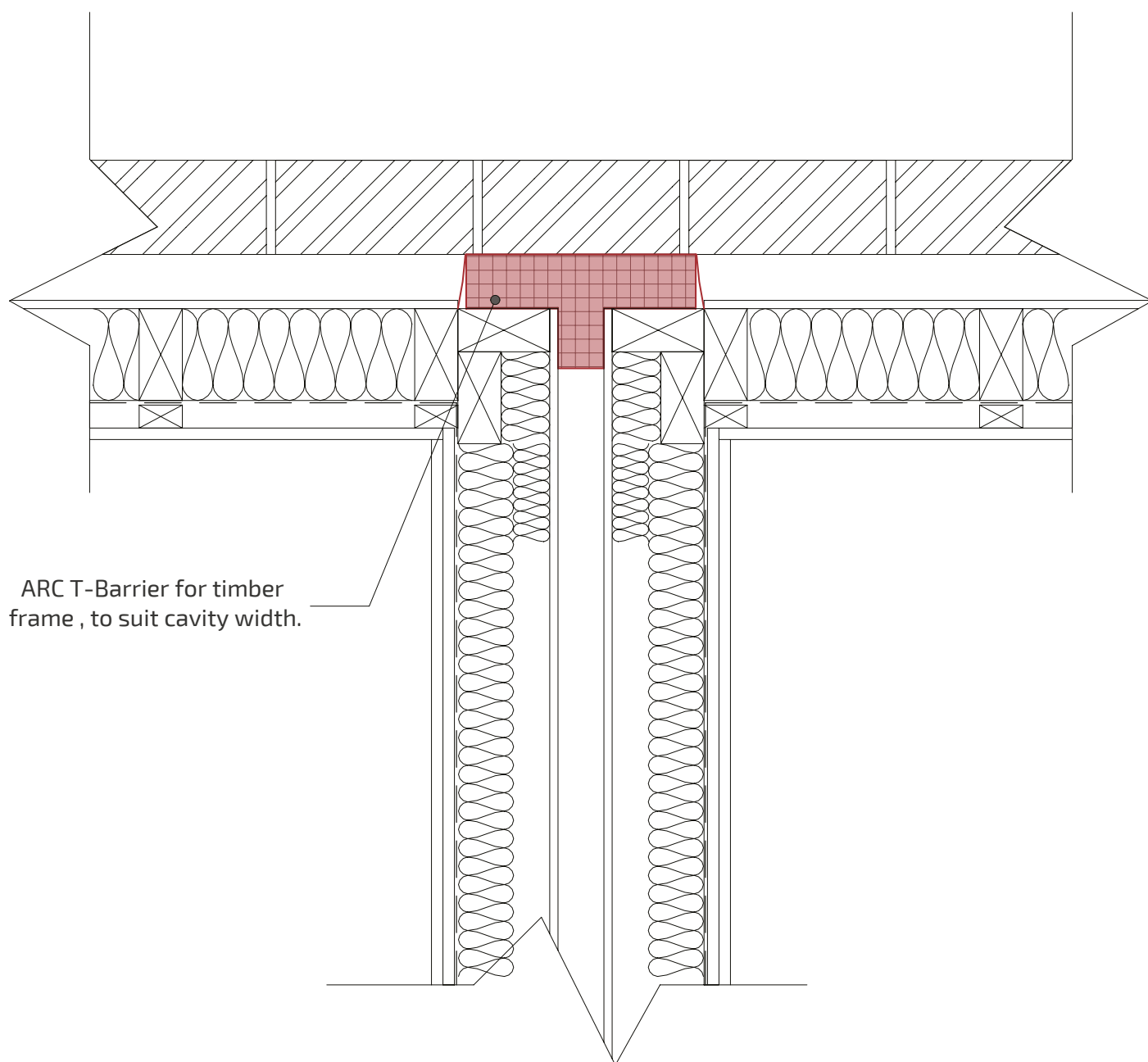
Environment

No CFCs or HCFCs are involved in the manufacturing process of ARC's rockfibre mineral wool insulation. Additionally, the mineral wool has a Green Guide rating of A+.

This product can be disposed of via landfill; preferably, the product should be returned to ARC Building Solutions so that the waste can be separated and recycled accordingly.

Typical Detail Example

Please find a detail drawing for a typical detail where the T-Barrier® Timber Frame has been installed.



ARC T-Barrier for timber
frame , to suit cavity width.

Any information provided within this document is intended for guidance only. Expert technical advice should be sought before specification or installation of any product. It is of particular importance to ensure that any fire barrier or fire stopping product is tested for use with the exact application intended. ARC Building Solutions Ltd cannot accept liability for failure where usage is outside of the standard application, including but not limited to, where deflection or distortion has allowed gaps to form around the barrier, or where the barrier is not fitted in accordance with the manufacturer's guidelines. Due to the protective polythene, the product as a whole cannot be classified as A1 non-combustible.

© 2025 ARC Building Solutions Ltd. ARC and T-Barrier are registered trademarks of ARC Building Solutions Ltd.