

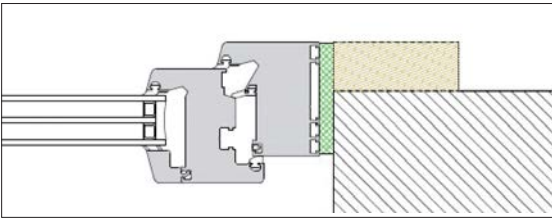
Description

SY001 Thermal Window Installation System is a highly innovative system which facilitates the installation and perimeter sealing of windows into typical backing wall openings. The finished installation provides an airtight and weather tight seal and also enhances the thermal properties of the window by avoiding thermal bridges such as those resulting from the use of metal dead-load support angles. The SY001 profile options provide projections from the backing wall from 35 - 200 mm and can be mechanically fixed or bonded to SFS or solid type construction. Whilst the full system forms a complete surround to the window, removing the need for membranes, a single length of the appropriate profile can alternatively be used as a dead-load support. Once the SY001 is installed, windows can be sealed in a number of ways including using the illbruck i3 system or multi-function Trio tapes.

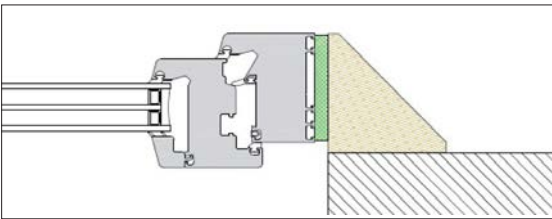


System Options

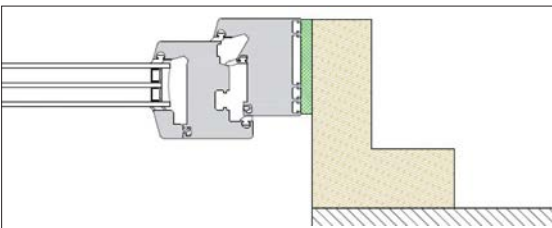
PR011 Profile 35 mm projection



PR007 Profile 90 mm projection



PR010 Profile 120-200 mm projection



Colour

Profiles – beige
Insulation - grey

SY001

Thermal Window Installation System

SY001 is an installation system for windows which project into the insulation zone forward of backing walls (35 – 200 mm) and provides dead load support, full perimeter airtight and weather tight performance whilst improving the thermal performance of the window installation. By replacing a traditional steel support angle with a thermally efficient profile, the risk of interstitial condensation is also reduced.

Key Benefits

- Improved thermal performance
- Improved acoustic performance up to 49 dB
- Simplifies window installation – no need for complicated membrane installations
- Windows can be removed, replaced and resealed without removing the façade (4-sided only)
- High load capability – accommodates heavy windows/doors with ease
- Suitable for use with solid wall or lightweight SFS construction
- Enables early sealing of the weather-tight envelope
- Full system application ensures compatibility and proof of performance

SY001

Thermal Window Installation System

Packaging

Supplied as individual palletised lengths as detailed below.

Reference No.	Description	Code	Dimensions (mm)	Lengths /Pack
397254	Structural Profile	PR007	90 x 90 x 1200	4
397290	Structural Profile	PR011	35 x 90 x 1400	1
398054	Structural Profile	PR010	120 x 120 x 1350	1
397286	Structural Profile	PR010	140 x 120 x 1350	1
397287	Structural Profile	PR010	160 x 120 x 1350	1
397288	Structural Profile	PR010	180 x 120 x 1350	1
397289	Structural Profile	PR010	200 x 120 x 1350	1
397256	EPS Insulation Profile	PR008	82 x 82 x 1200	4
399009	EPS Insulation Profile	PR012	70 x 70 x 1000	1
397418	EPS Insulation Profile	PR012	90 x 70 x 1000	1
397419	EPS Insulation Profile	PR012	110 x 70 x 1000	1
397420	EPS Insulation Profile	PR012	130 x 70 x 1000	1
397421	EPS Insulation Profile	PR012	150 x 70 x 1000	1

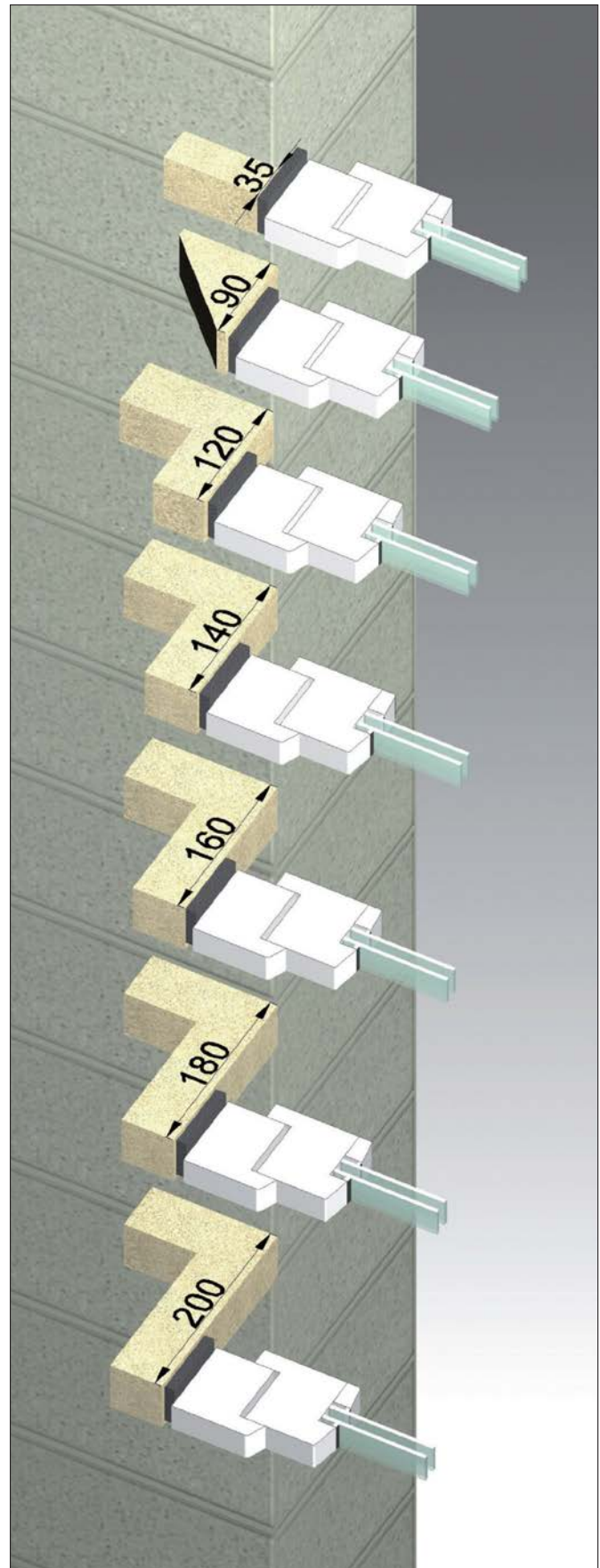
Technical Information

PR007/010/011 Structural Profiles

Properties	Test Method	Result
Building Material Class	DIN 4102	B
Resistance to Fire	DIN 13501-1	E
Thermal Conductivity		$\lambda = 0.070 \text{ W/m.K}$
Acoustic Performance	ift Test 12-000746-PR01	Acoustic performance of the installation in accordance with the window itself tested to 49 dB
Density of Profiles		550 kg/m ³
Weight per Metre		2.5 - 7.5 kg/m
Compressive Strength	EN 826	4 MPa
Flexural Strength	EN 12089	4 MPa
Temperature Resistance	DIN 53423	-50° to + 100°C
Thickness Swelling	DIN EN 68736	0.8%
Compatibility	Compatible with typical construction materials	
Storage	Store all structural and insulation profiles in shaded, dry conditions between +10 and +25°C	
Shelf Life	Minimum 24 months when stored as recommended	

PR008/012 EPS Insulation Profiles

Properties	Test Method	Result
Building Material Class	DIN 4102	B1
Thermal Conductivity		$\lambda = 0.032 \text{ W/m.K}$
Density		17 kg/m ³
Compressive Stress	EN 826	150 KPa
Temperature Resistance	DIN EN 53423	-20°to + 85°C
Storage	Store all structural and insulation profiles in shaded, dry conditions between +10 and +25°C	
Shelf Life	Minimum 24 months when stored as recommended	



Thermal Window Installation System

Ancillary Products

- AT140 Primer
- SP350 Fix & Seal High Tack Adhesive
- Mechanical fixings are not supplied by Tremco CPG UK Limited

4-Sided Installation – Bonded for Solid Wall Construction

For installation to solid backing walls, eg concrete block, precast concrete panels, SY001 system profiles should be bonded to the backing wall with SP350, supplemented by mechanical fixings. The maximum loading capability based on adhesive only is 200 kg/lm. In reality, the capability is significantly higher when using mechanical fixings, which also facilitate immediate fixing of the window following installation of the structural support profiles.

- Measure, pre-drill and countersink the structural profiles to suit the opening. In order to minimise waste, shorter cut lengths of profile can be utilised (300 mm minimum) in conjunction with full/longer lengths.
- Clean, and prime the backing wall substrate and structural profiles with AT140. Ensure that bonding is carried out on the same day of primer application.
- Apply two parallel beads of SP350 to each length of profile to achieve 18 mm width (each bead) when the profile is compressed against the substrate and with a minimum of 50% of the beads having < 6 mm thickness of adhesive (see Figure 1). At the ends of the vertical profiles and all butt-jointed sections, the SP350 beads must be continuous to ensure air and weather tightness against the backing wall (see Figure 2).
- The structural profiles must be mechanically fixed under the sill to guarantee dead load support of the installed window. Three fixings per full profile length and a minimum one fixing per shorter lengths are required (wherever possible, use longer lengths at the sill due to the loading considerations). If installing a full perimeter system, use one fixing per length of profile for the head and jamb locations.
- Due to the use of the mechanical fixings, the window can now be installed into the full surround system or sill support profile only. The window is fixed by through frame fixing into the structural profiles or using fixing lugs to the structure.
- The installed window can be sealed to the PR007/010/011 surround using the illbruck i3 System or TP652 Compriband Trio+ impregnated foam tape rather than exterior membranes. Finally, the insulation profiles are bonded to the structural profiles using SP350.

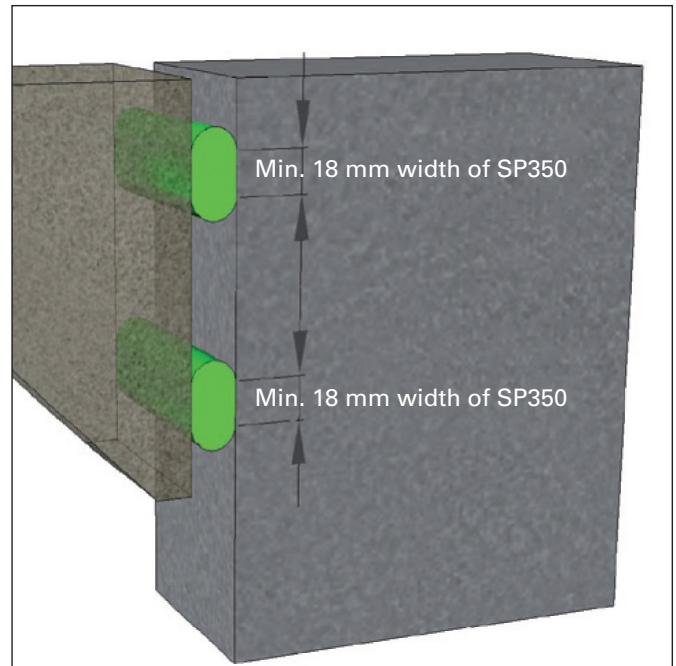


Figure 1



Figure 2

Thermal Window Installation System

4-Sided Installation - Mechanical for SFS Construction

- Measure, pre-drill and countersink the structural profiles to suit the opening. In order to minimise waste, shorter cut lengths of profile can be utilised (300mm minimum) in conjunction with full/longer lengths.
- Clean, and prime the backing wall substrate and structural profiles with AT140. Ensure that bonding is carried out on the same day of primer application.
- Apply one bead of SP350 to each length of profile to achieve 18 mm width when the profile is compressed against the substrate and with a minimum of 50% of the beads having < 6 mm thickness of adhesive. At the ends of the vertical profiles and all butt-jointed sections, the SP350 beads must be continuous to ensure air and weather tightness against the backing wall.
- The structural profiles must be mechanically fixed under the sill to guarantee dead load support of the installed window. The quantity and position of the fixings should be as per the project specific engineering calculations, however it is expected these will be at minimum 600 mm centres.
- To take wind-load the window should normally be installed using fixing lugs/brackets which are connected to the back wall, however direct fixing is possible provided the jamb and head profiles are also suitably mechanically fixed.
- Where lugs/brackets are used the jambs/head profiles can be bonded with a single continuous bead of SP525 Frame and Façade Sealant & Adhesive. It is assumed that no load is being taken by these members, however they provide a complete structural opening for easy window sealing.
- The installed window can be sealed to the PR007/010/011 surround using the illbruck i3 System or TP652 impregnated foam tape.

Window Installation

4-sided installation provides a new structural opening which allows for a simple window installation using either of the following methods:

1. TP652. This impregnated tape provides three sealing functions in one application and is applied to the perimeter edge of the window immediately prior to installing. A range of sizes is available to suit both joint width and frame thickness. Full application instructions are available on the TP652 Technical Data Sheet (TDS). For specific advice, please consult Tremco CPG UK Limited technical or customer service departments.
2. illbruck i3 System comprising TP600 Compriband 600 for external weather sealing, FM230 Pro Foam Window for thermal and acoustic insulation, ME500 Duo Flexible Window Membrane for internal airtightness. This system has BBA accreditation. Full application instructions are available on individual product TDS's. For specific advice, please consult Tremco CPG UK Limited technical or customer service departments.

Maximum Loading Guide

	Option 1 (Fig. 3)	Option 2 (Fig. 4)
Projection (mm)	Maximum Window Weight (kg)	VDL with Bracket Maximum Window Weight (kg)
35	214	214
90	109	214
120	58	187
140	48	159
160	41	138
180	35	122
200	31	109

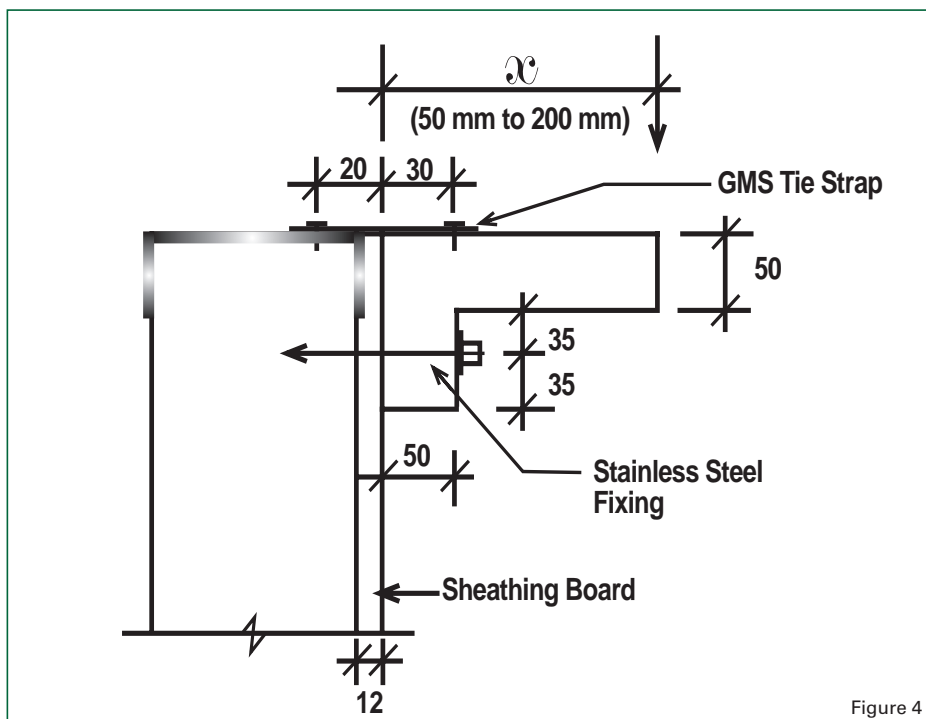
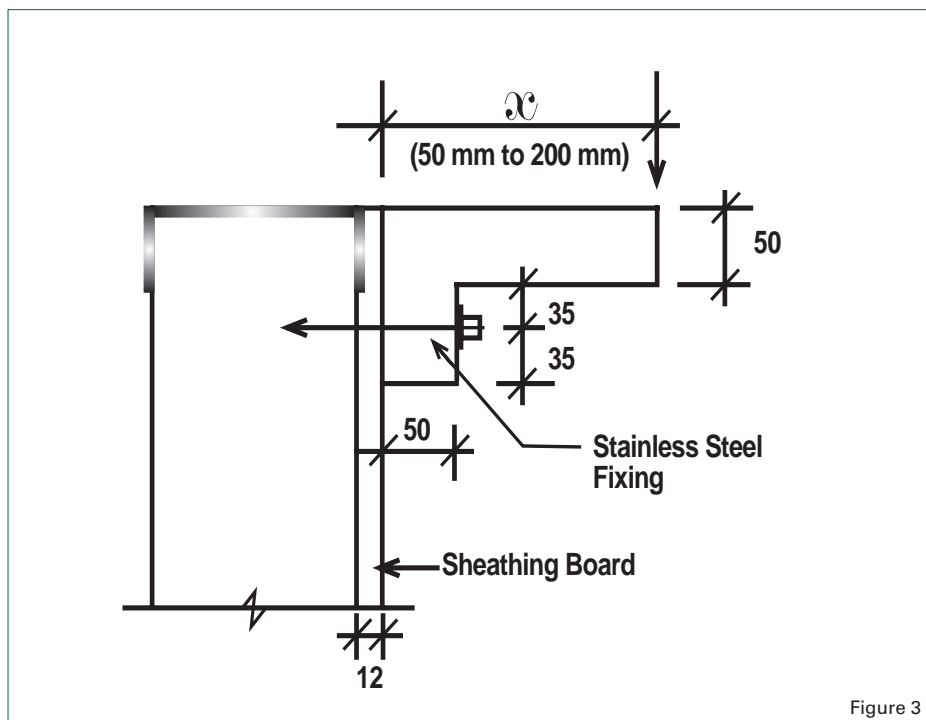
- Fixings assumed @ 600 mm centres and located on the SFS mullions (see Figure 3).
- Bracket fixing for Option 2 based on Galvanised mild steel 60 x 3mm, fixed to SFS stud and PR010 profile (see Figure 4).
- Assumed Tek screws (SFS Intek SX3 – 6XL) into SFS studs of minimum 1.2mm thickness.
- Assumed Wood screws 5.5 mm diameter x 40 mm into top of PR010. Same shear strength as TEK screw assumed.
- These calculations are provided as a pricing guide, however it is recommended that individual calculations are completed for specific projects/details.

Sill Only Installation Instructions

SY001 can also be used just as a sill support for the thermal benefits it offers. In this case the sill profile should be installed in the same way as described for Solid Wall Construction or for SFS Construction (whichever is relevant). As a complete new structural opening is not formed using this method, the perimeter weather and air seal should be completed using a membrane such as ME501 Duo Window Membrane HD, typically spanning from the window perimeter to the face of the back wall. The membrane should be applied around the jambs and head, and a robust seal formed to the SY001 profile at the sill ensuring the adhesive forms a continuous seal that also connects with the SP350 that is used to seal the SY001 system. If SP525 adhesive is used for the ME501 membrane, compatibility is assured with the SP350.

Health & Safety Precautions

Safety data sheets for all relevant products must be read and understood before use.



Technical Service

Tremco CPG UK Limited has a team of experienced Technical Sales Representatives who provide assistance in the selection and specification of products. For more detailed information, service and advice, please call Customer Services on 01942 251400.

Guarantee / Warranty

Tremco CPG UK Limited products are manufactured to rigid standards of quality. Any product which has been applied (a) in

accordance with Tremco CPG UK Limited written instructions and (b) in any application recommended by Tremco CPG UK Limited, but which is proved to be defective, will be replaced free of charge.

No liability can be accepted for the information provided in this leaflet although it is published in good faith and believed to be correct. Tremco CPG UK Limited reserves the right to alter product specifications without prior notice, in line with Company policy of continuous development and improvement.



Tremco CPG UK Limited
Coupland Road
Hindley Green, Wigan WN2 4HT
United Kingdom
T: +44 1942 251400
F: +44 1942 251410

info.uk@cpg-europe.com
www.cpg-europe.com