

# CURTAIN WALLING REHAU POLYTEC 50

Engineered to realise your vision.



## The facts

### CWCT approved giving NHBC compliance.

Polytec 50 has exceptional weather performance abilities and has been tested to the stringent CWCT (Centre for Window Cladding Technology) weather performance standards, confidently passing all areas. With this approval, our system can be specified for new build work controlled by the NHBC (National House Building Council).

### Passivhaus certified.

Thanks to its excellent thermal insulation of up to Ucw-value-0.8 W/(m<sup>2</sup>K), Polytec 50 has been certified suitable for Passivhaus projects and zero carbon buildings. With optimum thermal insulation standards, it ensures energy loss is minimised through the building fabric for new builds, as well as refurbishment projects.



## REHAU POLYTEC 50

Composite curtain walling with superior strength and thermal performance.

As a warm façade (thermally broken) stick system design, the REHAU Polytec 50 curtain walling system has been engineered to give you complete architectural freedom and efficient on-site assembly.

Unlike most curtain wall systems, which are mainly aluminium, Polytec 50 uses a system that has the structural capabilities of steel reinforcement, the design and finish of aluminium on the exterior, and the warmth and low maintenance benefits of PVCu on the interior.

As steel has an E-modulus three times greater than aluminium, Polytec 50's structural capabilities can easily outperform aluminium sections with the same geometry, making it perfect for larger spans. It's for this reason it's being specified in many luxury housing developments, schools, leisure facilities and commercial offices across the world.

It's a highly innovative system that combines economical polymer materials with the advantages of a conventional transom/mullion construction, yet ingeniously uses the same profile as both transom and mullion – helping to eliminate wastage.

Polytec 50 also has incredibly slim and attractive sight lines, just 50mm, with different aluminium caps available in many different colours and finishes. This gives you total flexibility to achieve the exterior styling you require.

Tried and trusted worldwide, it's the cost-effective, versatile curtain walling system you're looking for.



### Global distribution. Local company.

REHAU PVCu composite curtain walling is supplied through a network of selected independent fabricators and installers, ensuring that clients obtain the services of a local company, backed by the resources of a global company.



## NEW POSSIBILITIES IN NEW BUILD DEVELOPMENTS

Achieving contemporary designs with ease.



### THE OBSERVATORY - BERKELEY HOMES LUXURY APARTMENTS

The centrepiece of this contemporary apartment development is a 14m, multi-storey, circular glazed tower, creating the main feature of many of the 45 apartment interiors and also forming a rooftop solarium.

Traditionally, it would have been fabricated using aluminium, however, REHAU's Commercial Sales Manager, worked closely with Berkeley

Homes to design and install the tower using our modern composite system – a more cost-effective alternative to aluminium.

Polytec 50 was the perfect choice. The development took full advantage of its innovative composite system which combines the strength of the steel core with the external style of aluminium, and the low maintenance and energy efficiency of PVCu.

## CENTRIUM - LUXURY APARTMENTS BROUGHT TO LIFE

This prestigious new-build apartment development in Surrey, involved installing around 1800 windows and doors with the 70mm system, as well as fitting curtain walling in the three penthouse apartments overlooking luxury decked roof terraces. At a maximum height of 5m and faceted to give a curved effect, it really highlights the versatile capabilities of Polytec 50.

REHAU carried out both the structural and heat loss calculations for the installation, taking into account the fact that the penthouse windows are situated on the 15th floor of this striking new development.



### EAST HILL - LAING HOMES LANDMARK DEVELOPMENT

The REHAU Polytec 50 curtain walling system played an integral role in realising this ambitious project in Wandsworth.

The developers were looking for a contemporary, cost-effective alternative to aluminium for the stunning circular-faceted rotunda and 12m high stairwells of the six apartment blocks.

Polytec 50 was the perfect choice. The development took full advantage of its innovative composite system which combines the strength of the steel core with the external style of aluminium, and the low maintenance and energy efficiency of PVCu.

### Specialist support at your fingertips.

Our advanced technical support and expertise is at your disposal whenever you need it. From assisting with wind load calculations and the curtain walling design, to on-site training and after-care support.

## CREATING EYE-CATCHING EDUCATIONAL CENTRES

Yate International Academy, new build.

The 900 student Yate International Academy was built by construction specialists Willmott Dixon on behalf of South Gloucestershire Council to replace the 45-year old buildings of the former King Edmund Community School.



As a £16m development, it had very tight design parameters and every aspect of the project had to fall in line with stringent sustainable features that were being incorporated. For example, a ground source heat pump powered by photovoltaic panels and highly insulated materials had already been specified.

With insulation so high on their priority, the REHAU Polytec 50 curtain walling system, in conjunction with the Passivhaus certified REHAU Gened® window system, was the perfect choice.

Polytec is  
**3x stronger**  
than aluminium



## ST MARGARET'S SCHOOL REFURBISHMENT, LUTON

Undergoing an extensive refurbishment, the school wanted a new window arrangement that met their thermal and sustainable requirements. They had considered an aluminium screen, but the structural capabilities of REHAU Polytec 50 easily outperformed it, ensuring its suitability for the second phase of the school's refurbishment.

Externally, the new system is almost indistinguishable from the previous aluminium screen with sight lines of just 50mm. In addition, its superior thermal performance created greatly improved comfort levels for pupils and staff, as well as significantly reducing heating costs.



### Designed with efficiency in mind.

REHAU Polytec 50 has been specially engineered as a 'Stick' curtain walling system. This means it has pre-machined mullions and transoms that ensure efficient on-site assembly and installation.

## CONTEMPORARY FEATURES FOR CARE HOMES

Contemporary new build care home in Slough.

The Oak House care home in Slough is a stunning new building brought to life with floor to ceiling glazed façades for the foyer, café and communal areas.



To help realise their ambitious plans, the main contractors, Baxter & King Construction, specified an internally faceted three-storey screen using the REHAU Polytec 50 composite curtain walling system.

REHAU Polytec 50 was chosen as it easily outperforms aluminium curtain walling in two key areas. The first is the thermal performance of up to  $U_{cw}$ -value-0.8 W/(m<sup>2</sup>K). Secondly, it has superior structural strength due to an E-modulus on the box steel sections three times that of aluminium.

Exceptional  
value for  
money



Purposeful design.

REHAU Polytec 50 screen combines the benefits of slim 50mm external sight lines using aluminium facings, galvanised box steel sections for structural strength and PVC profiles for warm, low-maintenance internal facings.



Outstanding Thermal Performance of up to Ucw value-0.8 W/(m<sup>2</sup>K) as standard.

## HIGH-PERFORMANCE FOR HIGH-PROFILE SOCIAL HOUSING

A refurbishment of social housing in Scotland.

In a high profile social housing project in Glasgow, the REHAU Polytec 50 composite curtain walling system was used to transform the exterior of five, eight storey, blocks bringing them to life with a fresh and sleek new design.

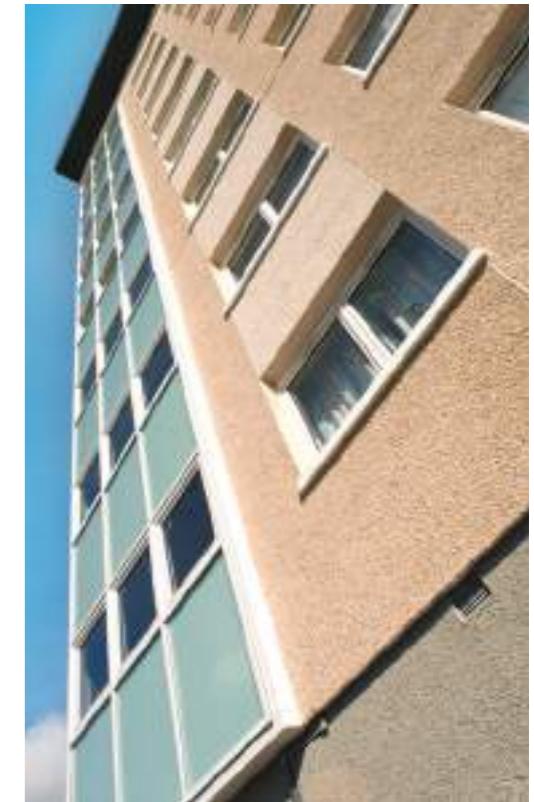
Enclosing what were previously 155 open balconies with pre-cast concrete rails – the REHAU Polytec 50 curtain walling system transformed not only the external appearance of the blocks, but gave tenants a comfortable and practical external space thanks to its incredible thermal efficiency.

Each of the five blocks, managed by Glasgow Housing Association (GHA), were refurbished by main contractors Rok Building Ltd, working with renowned architects Burnet Bell and structural engineers, Citypoint.

One of the key remits of the refurbishment was to improve the thermal performance and therefore the energy efficiency of the blocks.

With the outstanding thermal characteristics of REHAU Polytec 50 curtain walling, it was not only a cost-effective choice, but it also easily met the energy saving targets for each block.

In any project using REHAU Polytec 50, REHAU have a team of Commercial Sales Managers who can provide on-site assistance if required. For this particular development, there was a need to ensure the correct detailing of the firebreaks at each floor level and to the adjacent insulation at the jamb details. Our CSMs assisted in carrying out a fire test on a three storey test screen which provided the relevant test data and practical experience.

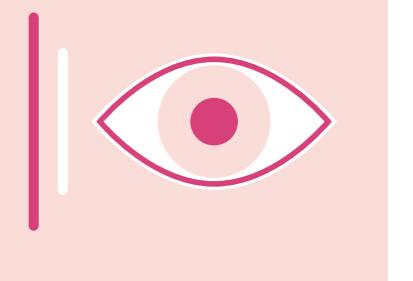


### Highly adaptable and efficient.

REHAU Polytec 50 curtain walling system is recognised amongst specifiers as the ideal solution for a myriad of multi-storey curtain wall developments for its exceptional strength, style, thermal performance and sound attenuation.

### Looks as good as it performs

REHAU Polytec 50 is being installed in luxury housing developments, schools, leisure facilities and commercial offices – wherever there is a requirement for an attractive façade coupled with both high levels of thermal insulation and weather performance



## LUXURY TOUCHES FOR LEISURE DESTINATIONS

Prestigious new build hotel development in Bognor Regis.

The contemporary £20m Ocean Hotel with spa at Butlin's Bognor Regis Resort was brought to life using the REHAU Polytec 50 curtain walling system as a key architectural element.

The centrepiece of this eye-catching development is an externally faceted screen that was fabricated with REHAU Polytec 50. Spanning two floors of a double height lobby area at the hotel's southern entrance, it really created an incredible focal point.

What's remarkable about this installation is that due to the strength and durability of the REHAU Polytec composite system, it was installed without the need for any secondary steel structure.



WINDOWS & DOORS

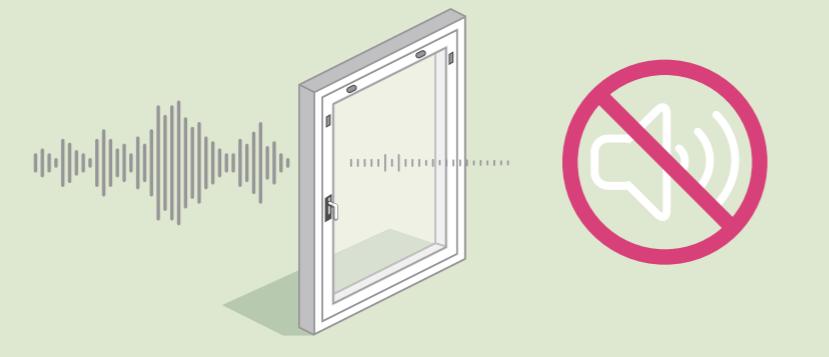
### Slim 50mm sight lines.

REHAU Polytec 50 has incredibly thin sight lines together with different aluminium cap options. This gives you the freedom to finish the style of the curtain walling precisely as you wish.



### Pitch perfect

Our engineers have specifically designed Polytec to achieve an exceptional sound rating. At just 43dB, it's the perfect choice for a huge variety of developments from luxury new builds to large commercial projects, creating a peaceful internal environment.



## REHAU POLYTEC 50

Curtain Walling Design & Technical Data.



Feature	Rating
Sight Lines	50mm
Range of Profile Depth	71 – 134mm (internal profile depth)
Range of Glazing Size	6 – 40mm
Max Glazing Weight	180kg
Thermal Performance	Up to $U_{cw}$ -value-0.8 W/(m <sup>2</sup> K) (Passivhaus specification)
IFT Rosenheim testing:	
Water Tightness	1950 Pa (BS EN 12155)
Air Permeability	750 Pa (BS EN 12153)
Wind Resistance	2000 Pa (BS EN 12179)
Safety Test	3000 Pa (EN 13116)
Impact Resistance	Pass I5 / E5 (EN 14019)
Sound Insulation	$R_w = 43$ dB (depending on glass spec)
Colour Options:	
External	Powder coating (RAL colours) or Mill / Anodised finish
Internal	PVCu White RAL 9016 or painting in REHAU Acryl II wide range of colours (REHAU Colour chart)
CWCT (Centre for Window Cladding Technology)	Polytec 50 Tested (2014) to CWCT Test Methods for Building Envelopes (December 2005) Sections 5,6,7,9,11,12 and 15 for Weather and Impact performance.
Passivhaus	Subsequent compliance with NHBC Chapter 6.9.
	Polytec 50 Tested and Passivhaus Certified to Efficiency Class phA / phA+

Further technical data available on request.

## WHY POLYTEC 50 IS RIGHT FOR YOU

- Certified by the Passivhaus Institute with a thermal performance of up to Ucw-value-0.8 W/(m<sup>2</sup>K).
- Fully CWCT tested and designed for ultimate weather performance.
- Provides a water tightness of up to 1950 Pa for exposed locations as tested according to EN12154 and EN12155.
- The elasticity modulus of the steel box sections is three times higher than an aluminium one (E steel = 210,000 N/mm<sup>2</sup>, E aluminium = 70,000 N/mm<sup>2</sup>).
- REHAU Polytec 50 is available in white and a vast range of RAL colours.
- The system is designed to work with glazing units or panels from 6-40mm.
- Successful installations worldwide in multiple sectors with Rehau Knowhow support.



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## GET IN TOUCH

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For further information  
visit [www.rehau.uk/curtainwalling](http://www.rehau.uk/curtainwalling)  
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