

# CASE STUDY

## KGX1



### APPLICATION

Internal Façade

### BUILDING TYPE

Commercial Office,  
Commercial Retail

### ARCHITECT

BDP, BIG and Heatherwick Studio

### PROJECT TEAM

Permasteelisa / Gartner

### PRODUCT

Bespoke

### LOCATION

London, UK

**KGX1's new UK headquarters at London Kings Cross is a £1 billion+ development dubbed a 'Groundscraper' thanks to its 330m length, accommodating some 80,000m<sup>2</sup> of office space.**

The project is developed by Argent, built by Lend Lease, and designed by a comprehensive team including BDP, BIG and Heatherwick architects, Arup, EOC, and Atelier 10.

Designed by Gartner and delivered by Permasteelisa UK, the building will be enclosed by 23,000m<sup>2</sup> of timber and glass façade, making it the world's largest façade.

Its sophisticated design, made up of a combination of unitised and stick systems, features timber mullions spanning 6 floors, 10m+ tall glass panels, pre-cast concrete spandrel areas, and more than 1,600 tensioned blinds.

**The Challenge:** Meeting client requirements for a large glass façade without compromising design intent.

The client brief for the façade shading project presented a complex challenge.

Balancing privacy, glare control, flexibility, and aesthetic appeal was paramount.

The design team, incorporating mechanical and electrical specialists, had to take into account space constraints, durability, sustainability, maintenance considerations, and security requirements.

The primary constraint of the project was the combination of a large glazing area to be covered and limited space for concealment.

The floorplate and ceiling level had multiple demands for services, making it difficult to conceal the shading solution. This challenge was further complicated by the presence of timber mullions, which expanded and contracted beyond acceptable tolerances for effective blind function.

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**Guthrie Douglas**

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The testing requirements for the project were rigorous. Each type of blind underwent over 25,000 cycles of testing, equivalent to 30 years of use, to ensure its durability. Additionally, individual blind components were subjected to further durability tests to ensure their longevity and performance.



**The Solution:** Collaborative design development.

The complexity of the project required early collaboration among all members of the design team. Through numerous design workshops and iterations, the team overcame challenges and arrived at the final design consisting of two tensioned blinds in each façade bay.

One blind, concealed within the floor plate, rose to the top of the façade for privacy, while the other, concealed above the ceiling line, adjusted downward in response to environmental conditions to control glare.

To meet the client's environmental, aesthetic, and durability requirements, a bespoke fabric was designed in partnership with Helioscreen.

The control system, engineered with Vestamatic + CRE, was cutting-edge and integrated with KGX1's network, fulfilling its strict security requirements.

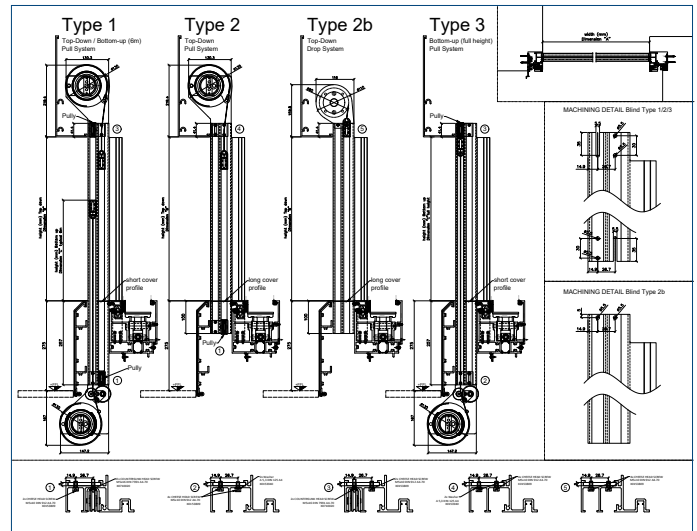
Thanks to this collaboration, the Visual Mockup was successfully installed first time at Gartner's HQ in Gundelfingen, Germany, and once approved by the client, full scale product testing commenced.

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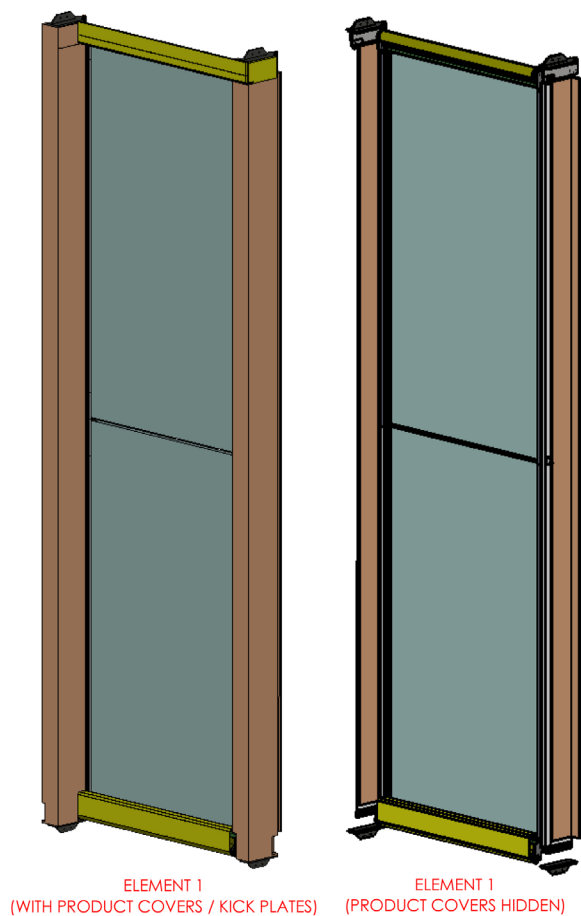


Over a period of 18 months, five separate full-system tests were conducted at our company headquarters in Warwick. This included an accelerated 9m long horizontal test, a 6m long replica system test, and various stress tests on blind components, such as cables, motors, and fabric. These thorough tests showcased the durability and reliability of the shading solution and confirmed its long-term performance.

The result is tension blinds playing an important role in this groundbreaking dynamic façade.

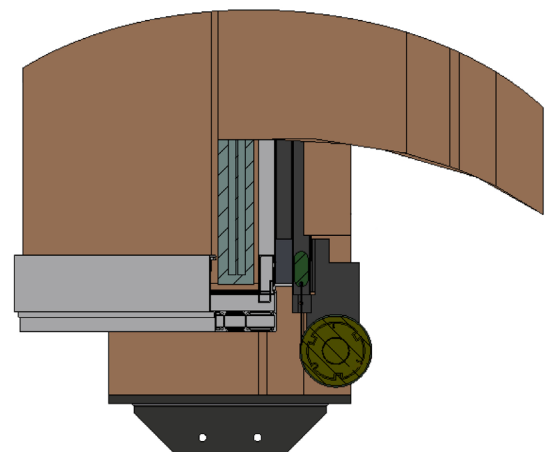
“Gartner worked closely with Guthrie Douglas to develop the integrated façade shading solution for this major project in London. It was a very challenging project which required expertise in both mechanical engineering and state of the art control systems, and we chose Guthrie Douglas for their technical know-how and long track record of successfully delivering complex façade shading projects. I look forward to working with them again on our next project.”

Bernhard Rudolf, Head of Engineering, Josef Gartner GmbH



ELEMENT 1  
(WITH PRODUCT COVERS / KICK PLATES)

ELEMENT 1  
(PRODUCT COVERS HIDDEN)



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