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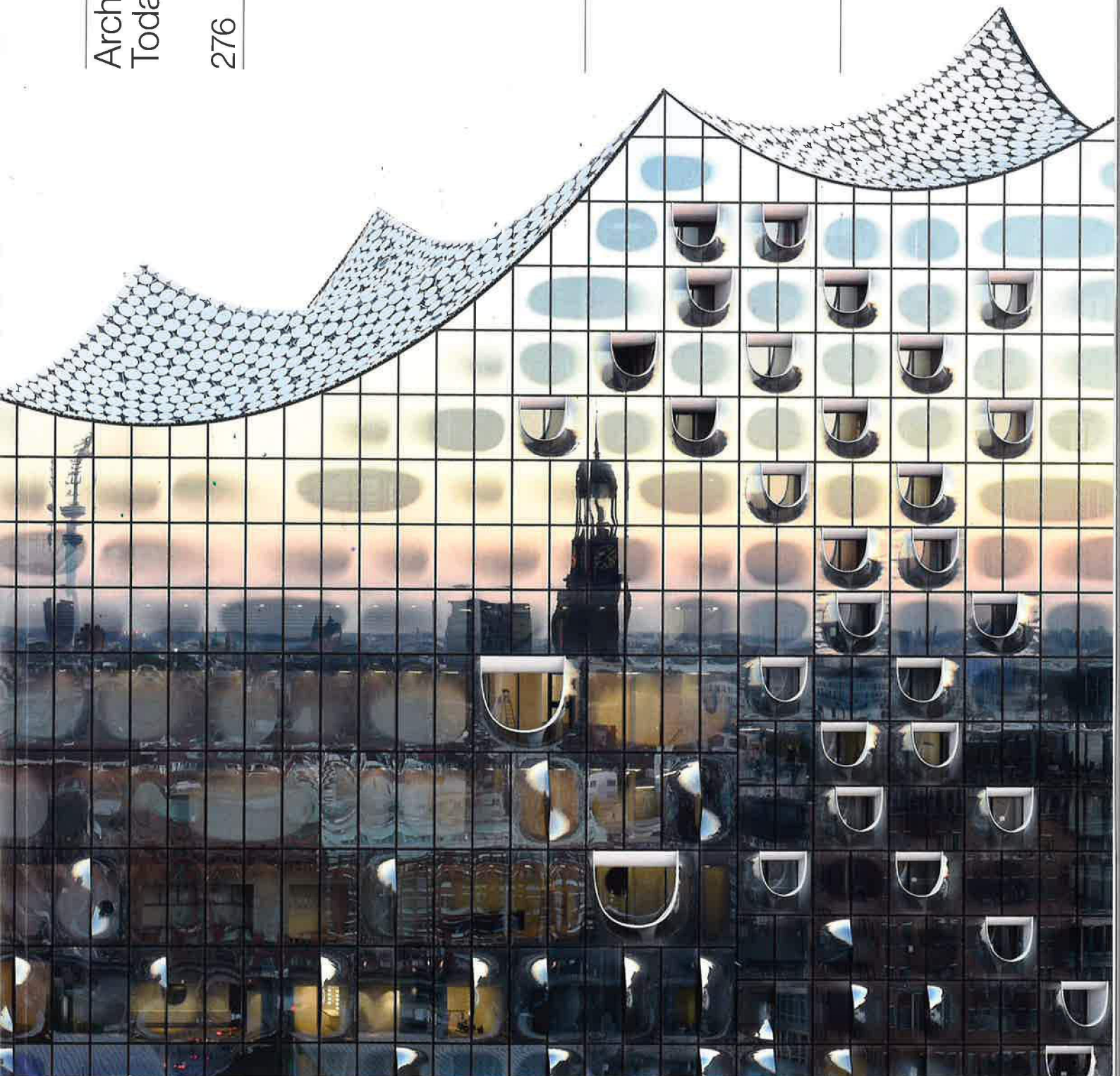
Building
Wilfried Wang on Herzog & de Meuron's Elbphilharmonie

Forum
Charles Saumarez Smith, Sasha Bhavan, Claire Jamieson, Robert Harbison

Works
Trevor Horne Architects, 6a Architects, Sam Jacob Studio, Horden Cherry Lee, FAHR 021.3

Focus
Envelope: Squire & Partners, Reiach & Hall Architects



Joint Enterprise

Squire & Partners develops a contemporary interpretation of historic gauged brickwork at Hans Place in Knightsbridge

Photos
James Jones

Top
Facade and brickwork details.

Above
Local example of traditional gauged brickwork. Soft bricks are carved and rubbed by hand to achieve tight joints and form intricate shapes and patterns.

At Kingwood, a residential development in Knightsbridge, architect Squire & Partners has incorporated a reference to the richly detailed handmade brick facades of nearby buildings with details that exploit the craft potential of contemporary technologies, along with traditional skills.

Bespoke brickwork, applied to spandrels and the flank wall of a prominent chimney, creates heavily modelled and sharply defined surfaces that recall the gauged brickwork that distinguishes neighbours in the Hans Town Conservation Area. In seeking to echo its precision and three-dimensional complexity, the architects quickly concluded that hand-carving would be prohibitively expensive and time consuming, and that the necessary skills are now in short supply. Instead, an approach combining digital design and fabrication was developed.

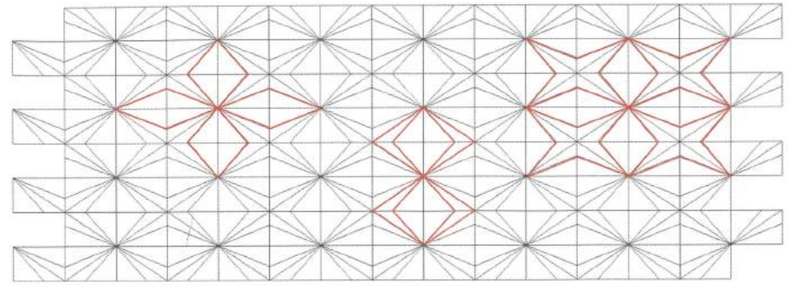
The starting point was the form of a cocoa bean – introduced to the UK by Hans Sloane, for whom the street is named. This was abstracted to create a geometric form which, for reasons of cost and practicality, could be created with a limited number of brick types. When laid in a stretcher bond, this small number of types gives a varied pattern across the facade.

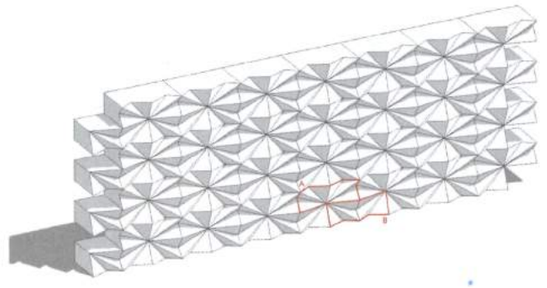
Squire & Partners then worked with specialist brick manufacturers to explore production methods. Investigations into whether standard bricks might be cut by hand and machine were not fruitful; as well as being time-consuming, the accuracy and finish were inconsistent. An attempt to create a moulded brick using a negative imprint of the pattern in polystyrene did not achieve the desired accuracy due to shrinkage during the firing process.

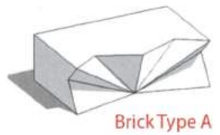
CNC cutting offered both precision and the ability to produce sufficient volumes. "Two basic patterned bricks were established", says the architect, "with a small number of variants for junctions and corners, to be produced in batches of 40 to 50 per session. After CNC cutting, the bricks were hand rubbed to remove any texture left by the drill bit, and to achieve a smooth surface".

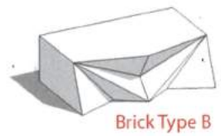
The bricks were checked for damage and then individually packed in purpose-made foam-padded boxes for delivery to site, where they were inspected again by specialist bricklayers, who made repairs by hand as necessary.

The bricks were laid with a high degree of precision, with 1mm joints. The use of lime putty required that each be soaked with water before laying, further slowing the process. The bricklayers were able to lay a maximum of one metre of brickwork per day, and once each section was completed, the bricks required cleaning and face rubbing by hand to remove smudges. A+









Top
The geometric pattern is formed from two primary brick types.

Above
Hand-cut samples lacked precision.

Above right
Laying and finishing on site.

Right
CNC-cutting and batches of cut bricks.

Project team

Architect
Squire and Partners
Structural engineer
Michael Barclay Partnership
Planning consultant
Savills
Contractor
Chorus
Client
Finchatton

Selected suppliers & subcontractors

Brick supplier
Lambs
Brickwork subcontractor
Bishops Developments
CNC manufacture
Cranbourne Stone