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# The Knauf Building

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# The Knauf Building

The Knauf Building is the new public face of Knauf's manufacturing facility in Sittingbourne, Kent. Set within a flat landscape peppered with industrial boxes, a simple rectangular volume is extruded and eroded to express the spatial arrangements of the plan and announce a public programme. The building's horizontal emphasis responds to the adjacent Swale wetlands, which are classified as a migratory bird 'Special Protection Area'. The building systems maximises the use of Knauf materials and systems; the façade, insulation, internal partitions, ceilings and raised access floors all showcase the company's product catalogue. The 1,100 square metre new headquarters accommodates a reception, product gallery, technical support office, seminar and boardroom facilities as well as a drywall training school. The project combines with Knauf's research facility to support the company in extending and improving its training programme. Nicknamed the 'Knauf Cube' by the onsite staff the scheme is part of wider regeneration plan for the surrounding Kemsley Fields Business Park.

Sector :	Office
Location :	Sittingbourne, Kent
Address :	Kemsley Fields Business Park, Sittingbourne, Kent ME9 8SR
Client :	Knauf
Value :	£1.8m
Start :	February 2011
Completion :	August 2013
Contract :	

## Area

Gross Internal:	11,840 ft <sup>2</sup>   1,100 m <sup>2</sup>
Net Internal:	8,934 ft <sup>2</sup>   830 m <sup>2</sup>

## Key Dates

<b>December 2011:</b>	Planning Approval granted
<b>March 2012:</b>	Start on site
<b>August 2013:</b>	Practical completion

## Project Team

<b>Client &amp; User :</b>	Knauf
<b>Architect :</b>	Allford Hall Monaghan Morris
<b>Planning Authority:</b>	Swale Borough Council
<b>Main Contractor :</b>	Kempton Smith
<b>Project Manager:</b>	Kempton Smith
<b>Civil Engineer:</b>	Elliott Wood Partnership
<b>Structural Engineer:</b>	Eckersley O'Callaghan
<b>Services Engineer:</b>	Long and Partners
<b>Landscape Architect:</b>	BB UK
<b>Acoustic Engineer:</b>	Sound Research Laboratories
<b>Fire Engineer:</b>	Exova Warringtonfire
<b>Transport Consultant:</b>	PFA Consulting
<b>CDM Coordinator &amp; Cost Consultant:</b>	Kempton Smith
<b>Sustainability Consultant:</b>	RES Design

## Subcontractors & Suppliers

Knauf Drywall  
Knauf Marmorit  
Knauf Facades  
Knauf Insulation  
Marshalls Paving

## Allford Hall Monaghan Morris Team

Paul Monaghan, Andrew O'Donnell, Nisha Patel, Jing Chew, Simon Allford, Jonathan Hall and Peter Morris



## Project Description

### Introduction

The Knauf Building is the new public face of Knauf's manufacturing facility in Sittingbourne, Kent. Set within a flat landscape peppered with industrial boxes, a simple rectangular volume is extruded and eroded to express the spatial arrangements of the plan and announce a public programme. The building systems maximises the use of Knauf materials and systems; the façade, insulation, internal partitions, ceilings and raised access floors all showcase the company's product catalogue. The 1,100 square metre new headquarters accommodates a reception, product gallery, technical support office, seminar and boardroom facilities as well as a drywall training school. The project combines with Knauf's research facility to support the company in extending and improving its training programme. Nicknamed the 'Knauf Cube' by the onsite staff, the scheme is part of wider regeneration plan for the surrounding Kemsley Business Park.

### Background to Company

Knauf is one of the largest independent building materials groups in the world and one of the leading suppliers of gypsum-based building materials in the UK. Simple decision-making processes, a distinct commitment to continuous innovation and the wealth of ideas contributed by all Knauf employees are what characterise the company.

### Background to Project

Knauf was interested in developing a new UK headquarters and training facility on their Sittingbourne manufacturing site to support the business. The company wanted a multi-purpose building; one that would provide theoretical and practical education in all areas of lightweight dry construction, maximise the use of Knauf materials and systems and act as a new public face of the unique site.

AHMM's design of the new building was the winning scheme from an invited competition organised by Knauf.

### Site and Context

The site is located off Ridham Dock Road, on an established commercial and industrial site that is adjacent to the river Swale but within the defined built up area of Sittingbourne, Kent. The Swale – separating the Isle of Sheppey from the UK mainland – lies to the east of the site and flows into the Thames estuary. The Swale is a Site of Special Scientific Interest (SSSI), a Ramsar site and part of the Elmley Marshes National Nature Reserve, which is a migratory bird 'Special Protection Area'. This required special mitigatory measures to put in place during the construction phase of the project.

The wider site is currently surrounded by various industrial uses that collectively constitute the Kemsley Fields Business Park. To the north is Ridham Dock – an industrial wharf. To the west of the site are the Coldharbour Marshes that form part of The Swale SSSI which also runs around the north of the development site. The east of the site is bounded by the private road beyond which lies an area of disused land. Also on this side of the private road are other industrial uses including Country Style Recycling and St Regis Paper Mill.

### Site Analysis and Masterplanning

The new headquarters and training facility building is positioned to take advantage of both views out to the surrounding marshlands and back to the Knauf factory. Its placement – between Ridham Dock road, an existing office block, a stockpile of raw gypsum, the Knauf Warehouse and a new service yard – helps to clarify site activities by providing a clear segregation of manufacturing operations from more public zones. In particular, the new building's setback from the existing office block forms a new pedestrian plaza to serve the entrances to both buildings and acts as the outdoor setting for company functions. Another external courtyard has been created to the scheme's immediate east, which is protected from the elements by the overhang of the top floor of the new building.

### Form and Function

In a flat landscape peppered with industrial boxes, a simple series of rectangular volumes are stacked, extruded and eroded to express the spatial arrangements of the plan and announce a public programme. The building's horizontal emphasis (established through the proportions of the volumes and articulation of the openings) responds to the adjacent swale wetlands, while its functional, rectangular form echoes the existing manufacturing buildings on site as well as precedents from the industrial revolution and early modern period.

The building expresses its internal arrangement; its form – ranging from workshop, office, marketing and research and development – is stacked vertically across three levels. The ground floor's public zone is defined by a large reception and long gallery that displays Knauf products and systems. These spaces are all easily accessed from the existing office building, manufacturing facility and new plaza. The workshop space, also on the ground floor, has its own access from the service yard. The first floor is defined by a series of flexible office spaces and staff amenity areas, while the top floor holds a large seminar room with views across a green roof over to the factory and a cantilevering hospitality space that benefits from views over the fenland.

### Connection, Graphics and Identity

An atrium links all three levels of the building and floods both the reception area and staircase with natural light. Inspired by Weisenhofseidlung, an exhibition estate built in Stuttgart, Germany in 1927 at the beginning of the modern architecture movement, the staircase is crisp and sculptural. Facing the staircase is a three-dimensional map of the world, folded out and vertically oriented to span the height of the three story space. The map, developed by Studio Myerscough, is both a nod to US architect, engineer and philosopher Buckminster Fuller and a colour-coded guide to Knauf's worldwide activities. Myerscough also contributed to the development of the long product gallery space on the ground floor. Along the length of one wall of the gallery stretches Knauf's strapline, 'Build for the world we live in', white letters in relief on a white background.

## Project Description

### Materials and Method of Construction

The building's structure is steel, designed by Eckersley O'Callaghan for its lightweight properties (the building sits on marshland) and cantilevering abilities (the building has a 6m overhang). The steel frame also allowed for a column-free training area and open plan office spaces – both a specific client requirement.

Throughout, the building has been configured to showcase the exemplary use of Knauf materials and systems. The entire building is clad in Knauf ThermaFrame; a complete through-wall system that reduced construction time. The outside of the building is finished with Aquapanel boards with Knauf Marmorit, a spray-applied render, completing the outer skin. Internally, plasterboard features with Soundshield Plus providing acoustic benefits. Partitions have been created using versions of Knauf's Performer system, while upper floors have been configured with Knauf's GIFA floor raised access flooring and ceilings with Cleaneo Akustic board.

### Landscape

The site's landscape plays a critical role in linking the existing office to the new building, in raising the perception of the area and in not being at odds with the natural setting beyond. Landscape architects BBUK selected species native to the location and retained existing trees and hedgerow around the site's perimeter. The regimented rows in which the new plants have been placed are a reference to Sittingbourne's market gardens.

### Sustainability

The building system deploys a range of technologies, both active and passive, to reduce its CO<sub>2</sub> emissions. In addition to minimising energy consumption, a range of measures have been introduced to create high internal and external amenity as well as significantly enhance biodiversity within the development site. The strategies employed include the highly insulated and airtight building envelope, energy efficient lighting, low flush toilets, drainage design and reducing waste to landfill – a key goal in all Knauf's manufacturing activities. The roof includes an area of PV panels and an expansive sedum roof, both of which are also parts of the building's extensive sustainability strategy.

## The Existing Site

The scheme is located on a previously disused part of the Knauf site immediately adjacent to the existing administration building off Ridham Dock Road. Part of the initial design study was to select the optimal location for the building such that it could effectively function as a headquarters and landmark for the entire facility.

The site posed a number of challenges to the scheme including poor ground, potential flooding as well as the impact of dust from the site and surrounding industrial uses. Equally the sensitive character of the nature reserves further afield were also a key consideration in the early site analysis.



Aerial view of site. Extent of site outlined in red



Existing view of the site



View over the swale and site



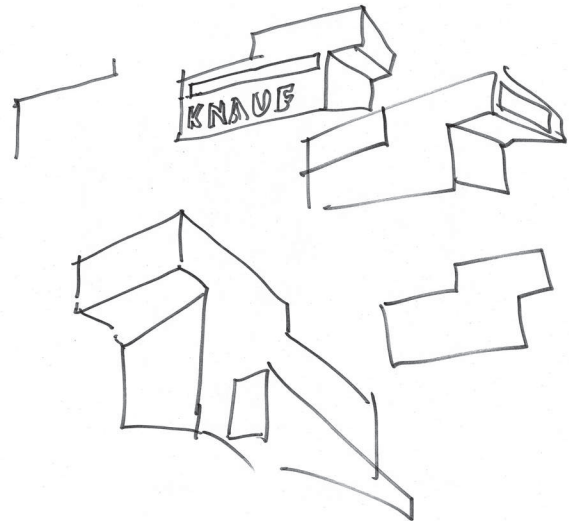
Existing office and staff car park



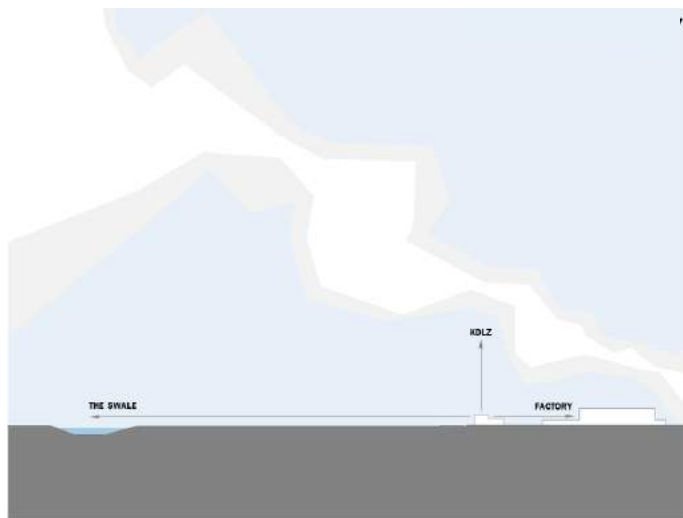
## Design Development

The scheme that was carried through to completion was very much a direct evolution of the initial competition proposal.

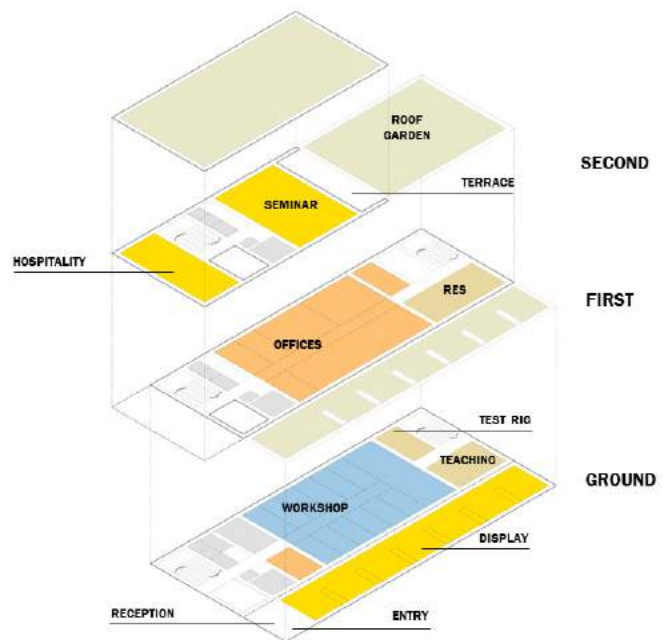
A key refinement during the design process was to simplify the expression of the building to a single articulated volume as opposed to the three distinct volumes of the competition scheme.



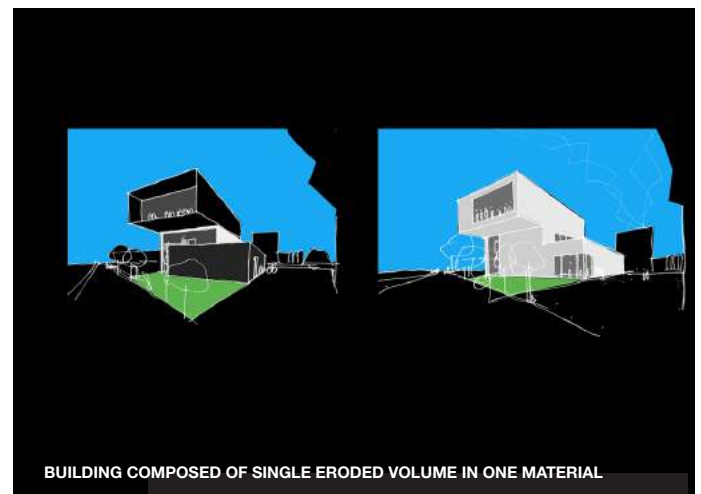
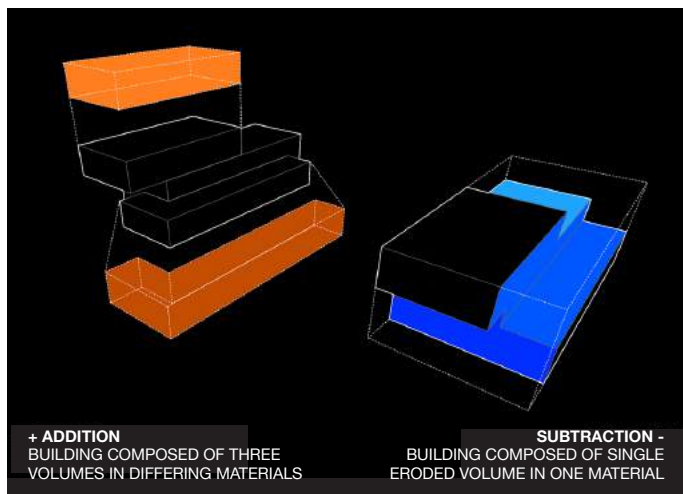
Early concept sketches



Key strategy: Maximising height to gain views over both the Swale + Knauf Factory



Arrangement of functions over the three storeys of the scheme



Design development studies moving from an additive to a subtractive composition

## Proposed Site

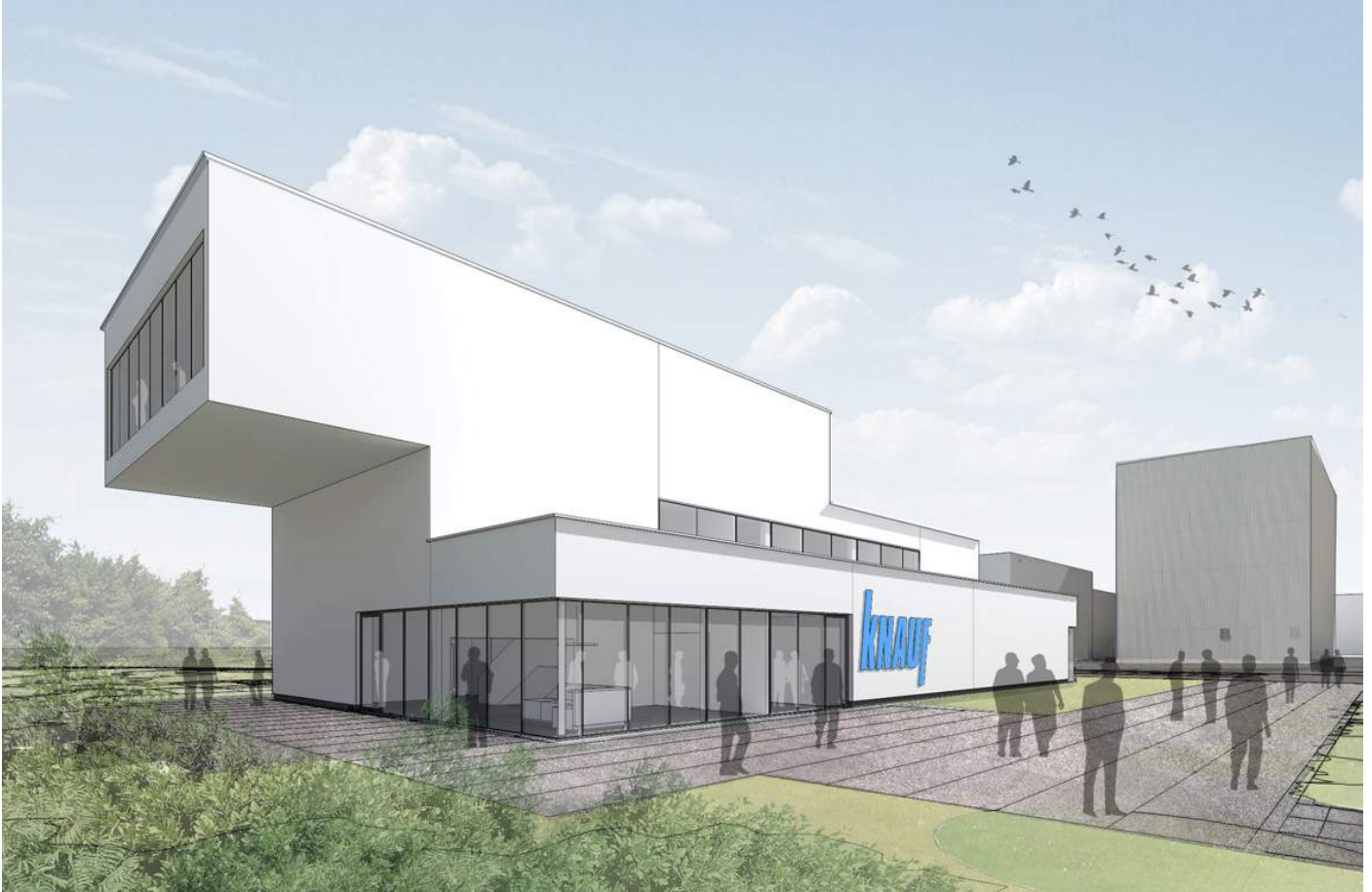


### KEY

- 1 Vehicle entrance
- 2 HGV entrance
- 3 Visitors entrance
- 4 Knauf Drywall Learning Zone
- 5 Courtyard
- 6 Plaza
- 7 Existing office building
- 8 Lawn
- 9 Office staff car park
- 10 Gypsum raw material stockpile
- 11 HGV turning
- 12 Plant staff car park



## External Views



View from the existing office building



View of entrance plaza from the northwest

## Internal Views



Internal view of main reception



View of the atrium



Internal view of the seminar room



Internal view of the hospitality room





**KEY**

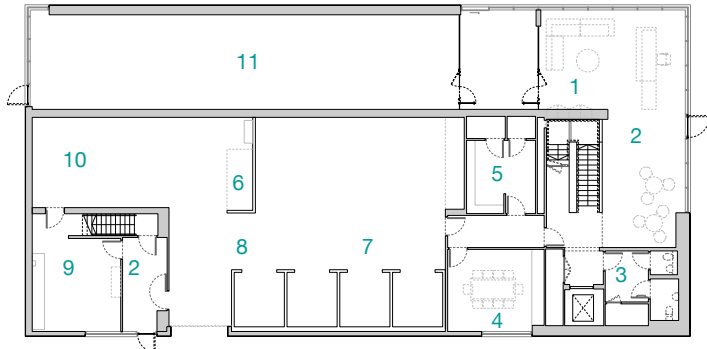
- 1 SSSI site
- 2 HGV entrance
- 3 Office staff car park
- 4 Lawn
- 5 Existing office building
- 6 Plaza
- 7 Courtyard
- 8 The Knauf Building
- 9 Service yard
- 10 Energy centre
- 11 Cycle store
- 12 Ecology planting
- 13 Plant staff car park
- 14 Manufacturing Facility
- 15 Gypsum raw material stockpile

Site plan

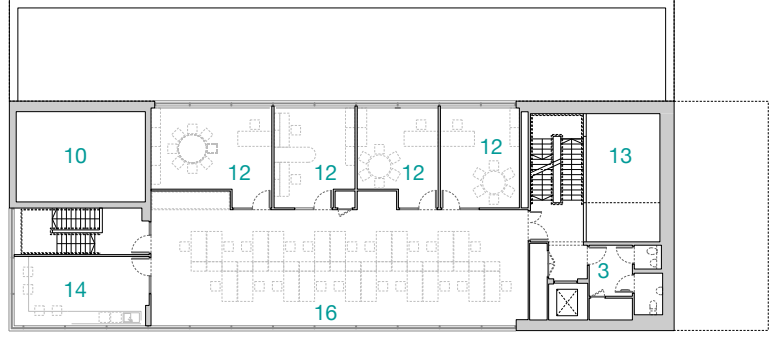


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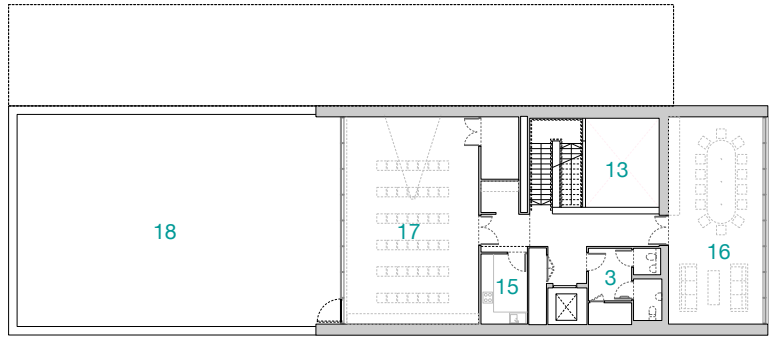
- 1 Reception
- 2 Lobby
- 3 Toilets
- 4 Teaching
- 5 Changing
- 6 Storage
- 7 Training
- 8 Loading
- 9 Research
- 10 Test Rig
- 11 Display area
- 12 Office
- 13 Atrium
- 14 Staff room
- 15 Kitchenette
- 16 Boardroom
- 17 Seminar
- 18 Green roof



Ground floor plan

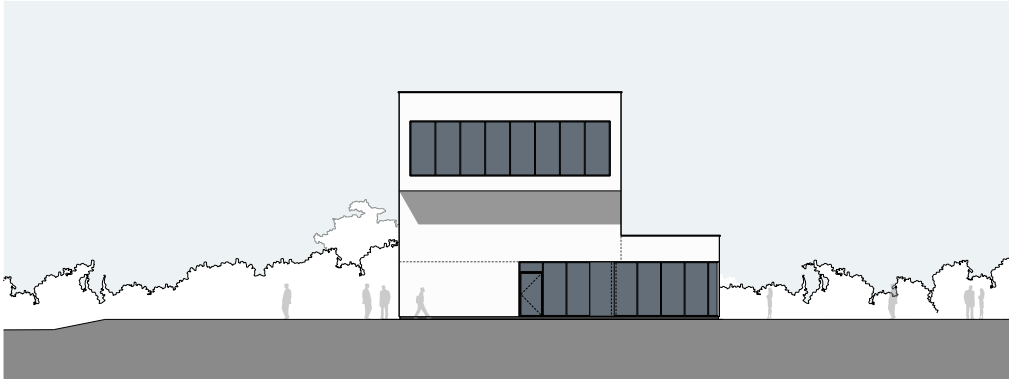


First floor plan

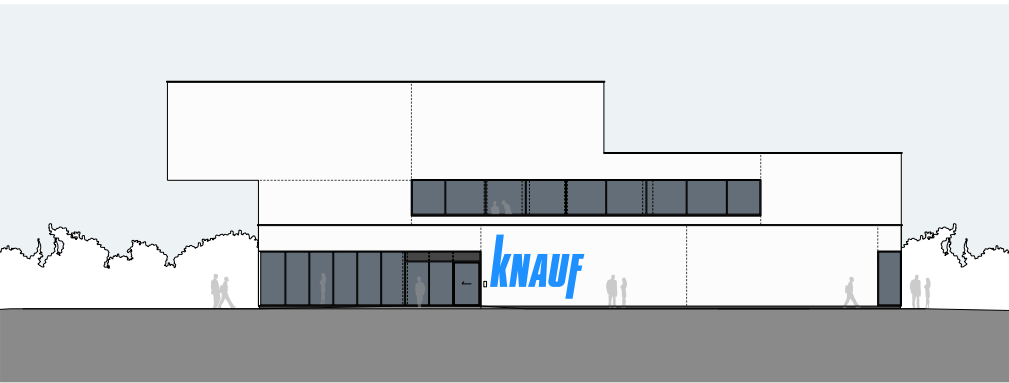


Second floor plan

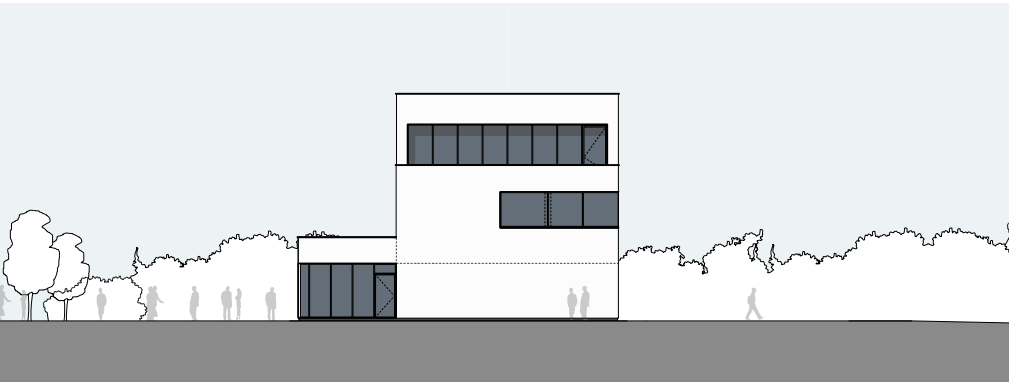




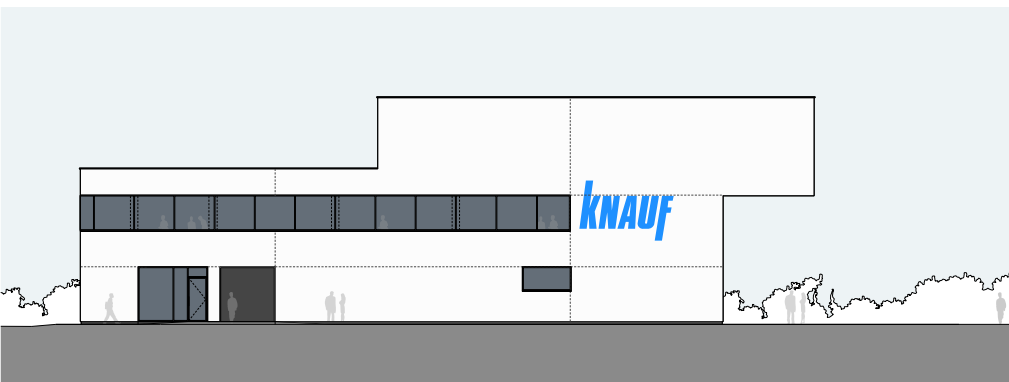
West elevation



North elevation



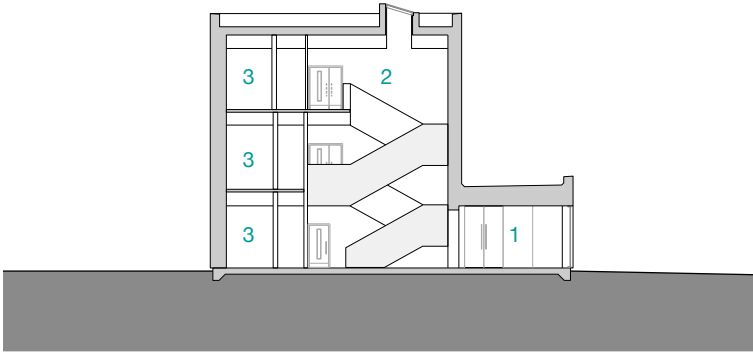
East elevation



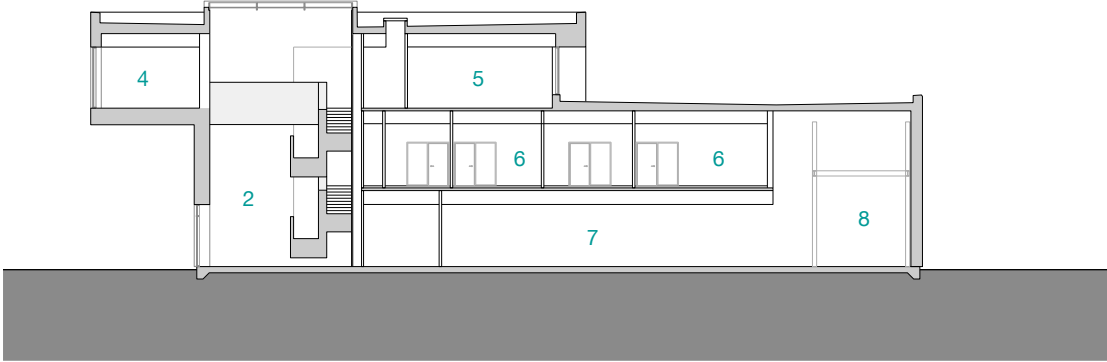
South elevation

**KEY**

- 1 Reception
- 2 Atrium
- 3 Toilets
- 4 Boardroom
- 5 Seminar Room
- 6 Office
- 7 Training
- 8 Test Rig

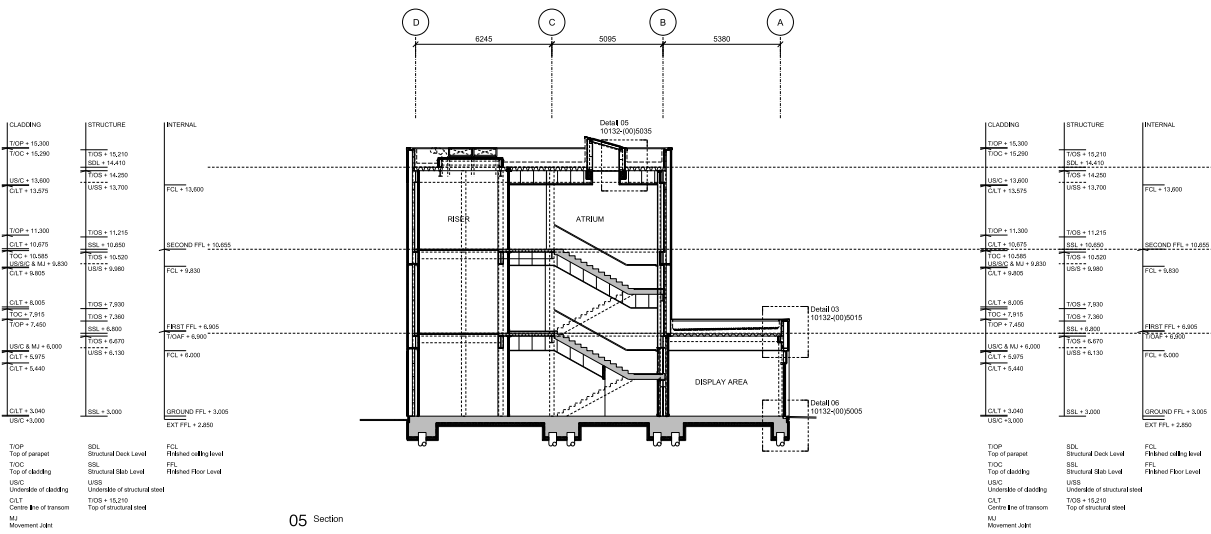


Cross section

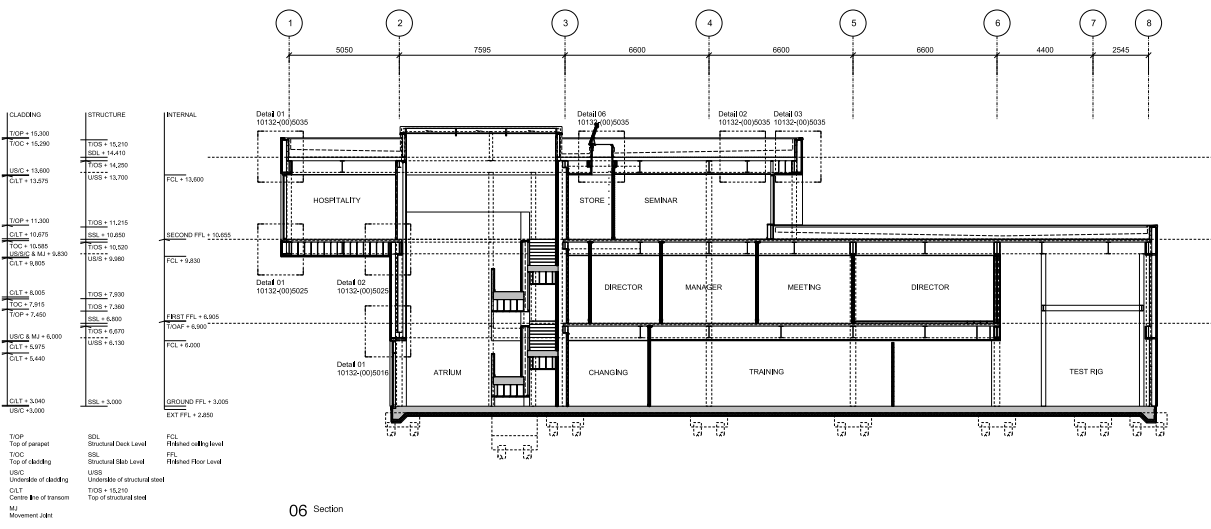


Long section



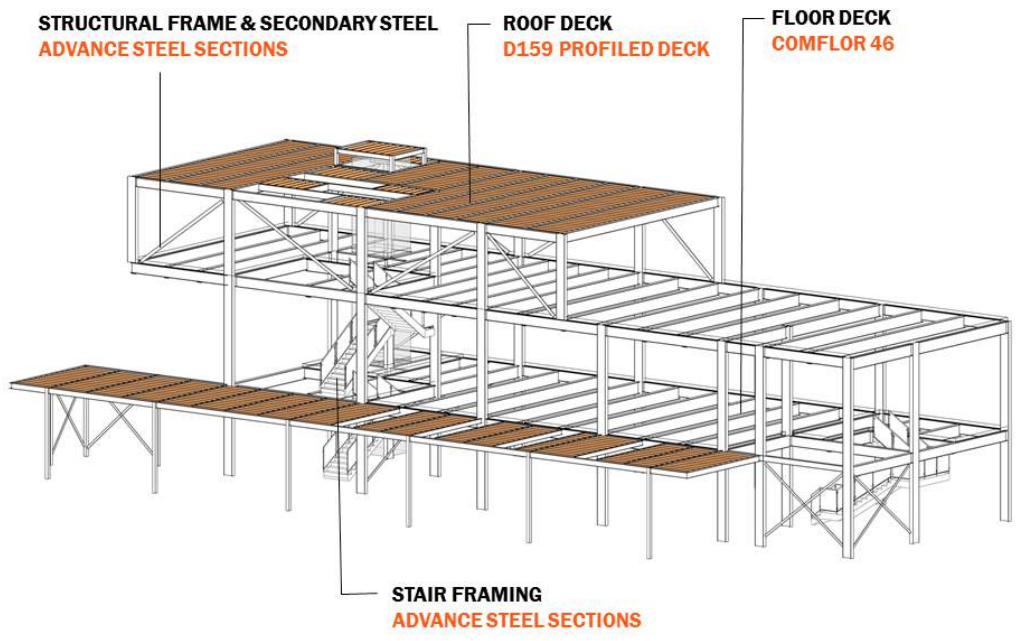


05 Section



06 Section

Construction drawings



Structural steel design diagram



View from Ridham Dock Road

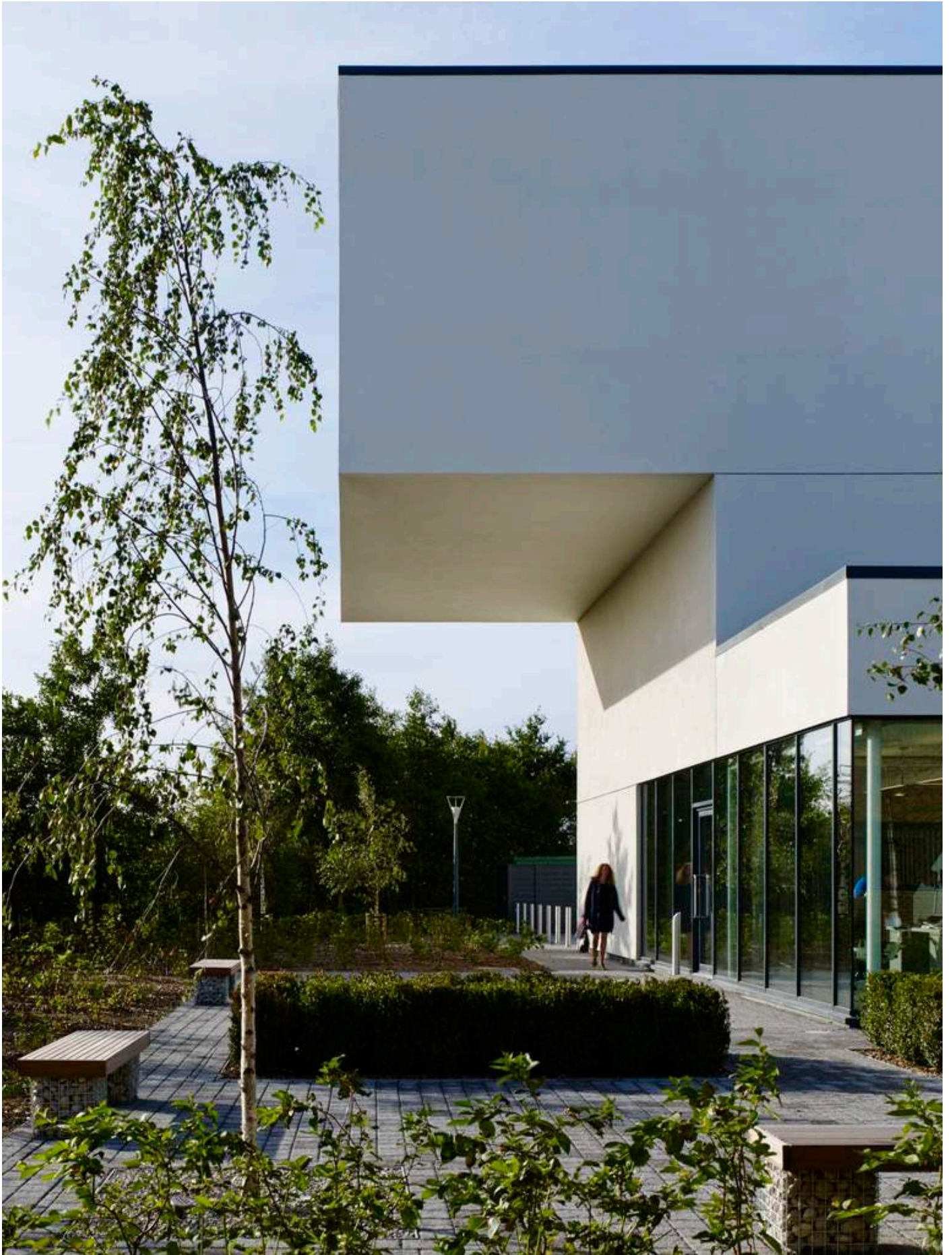




Southern approach

10132\_09 © Tim Soar





External courtyard and cantilever





External courtyard and cantilever





View into Piazza and Entrance

10132\_08 © Tim Soar

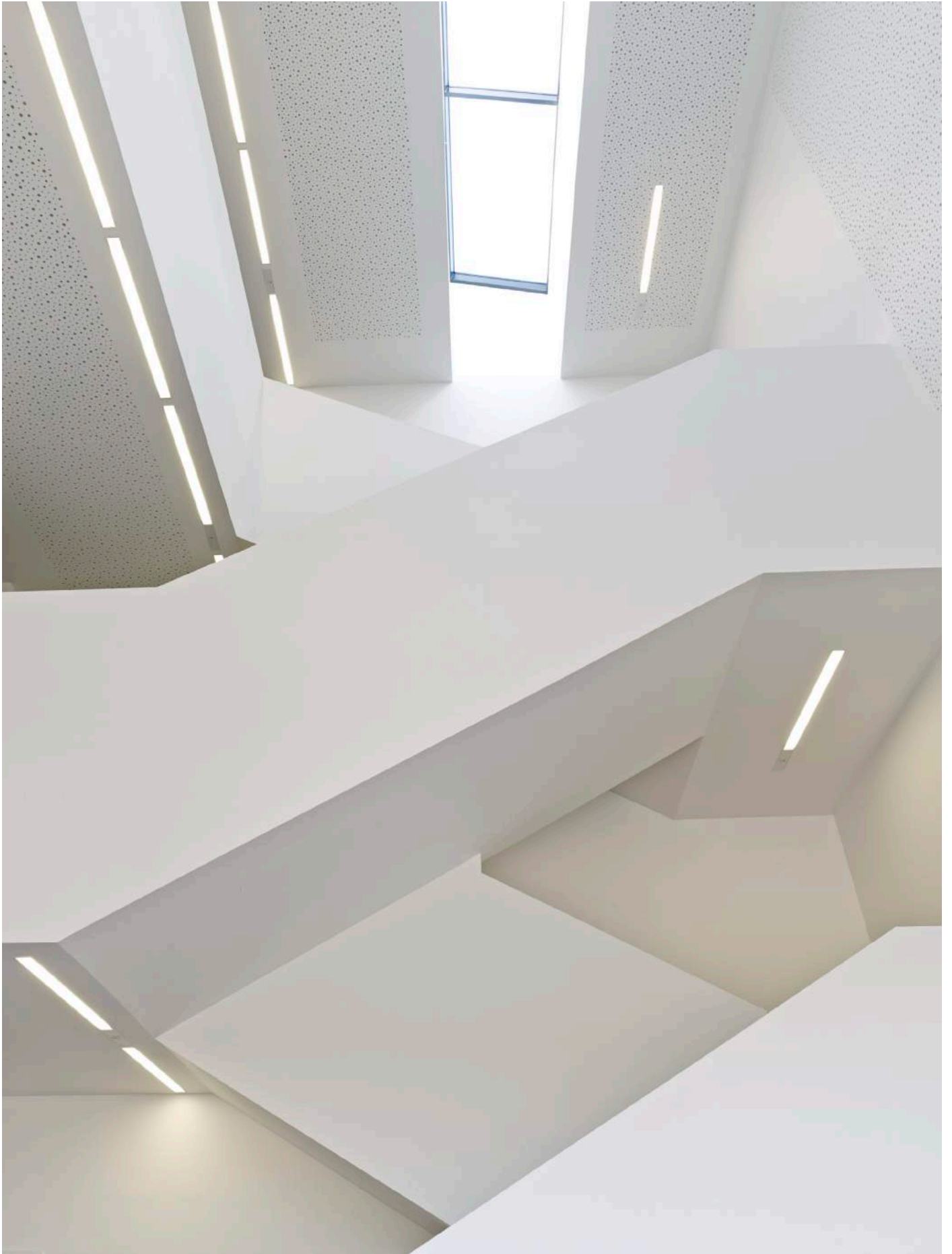




Reception

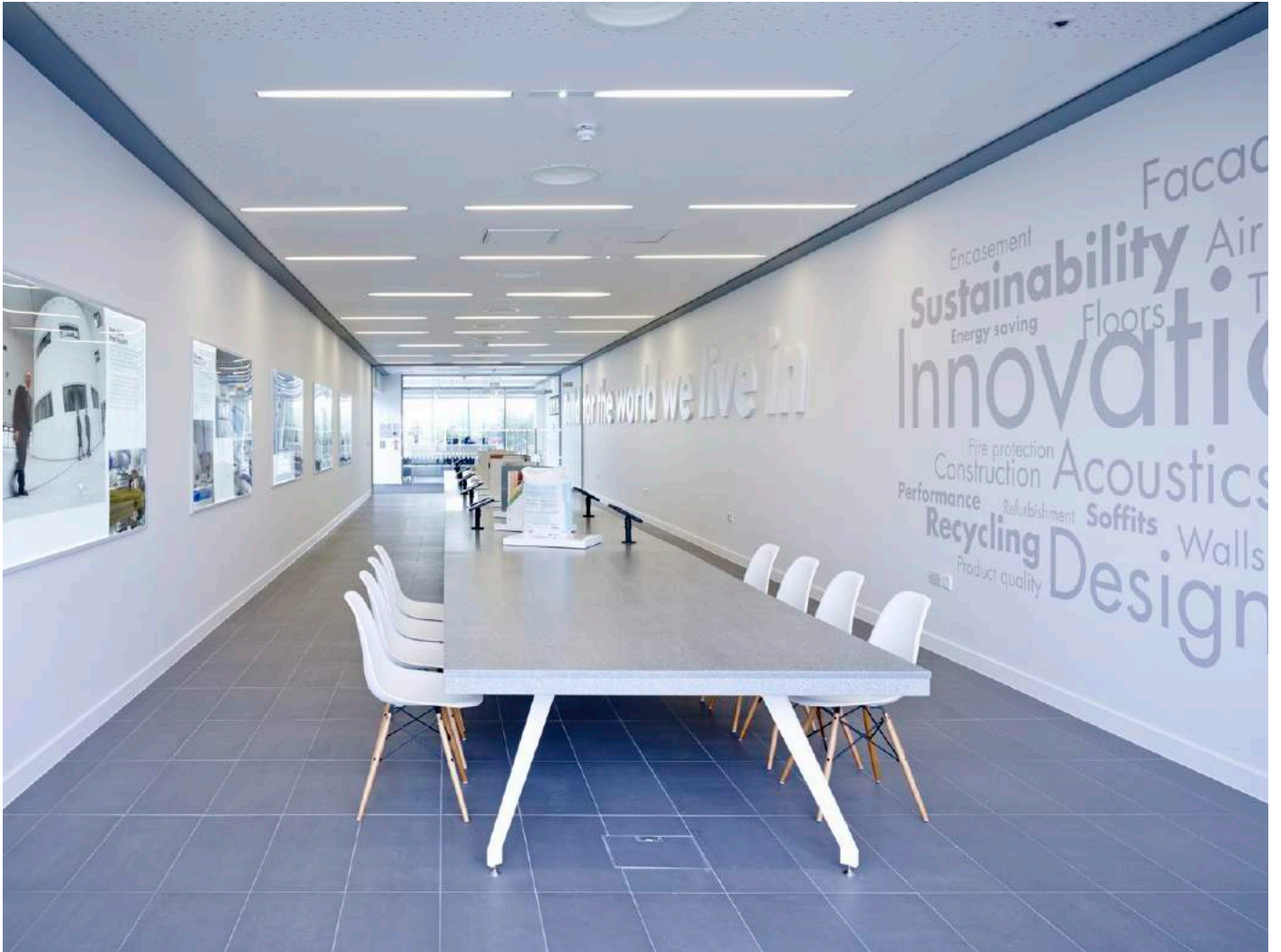


Atrium Artwork by Studio Myerscough



Atrium staircase





Knauf Gallery





Staff area and manufacturing facility

10132\_22 © Tim Soar



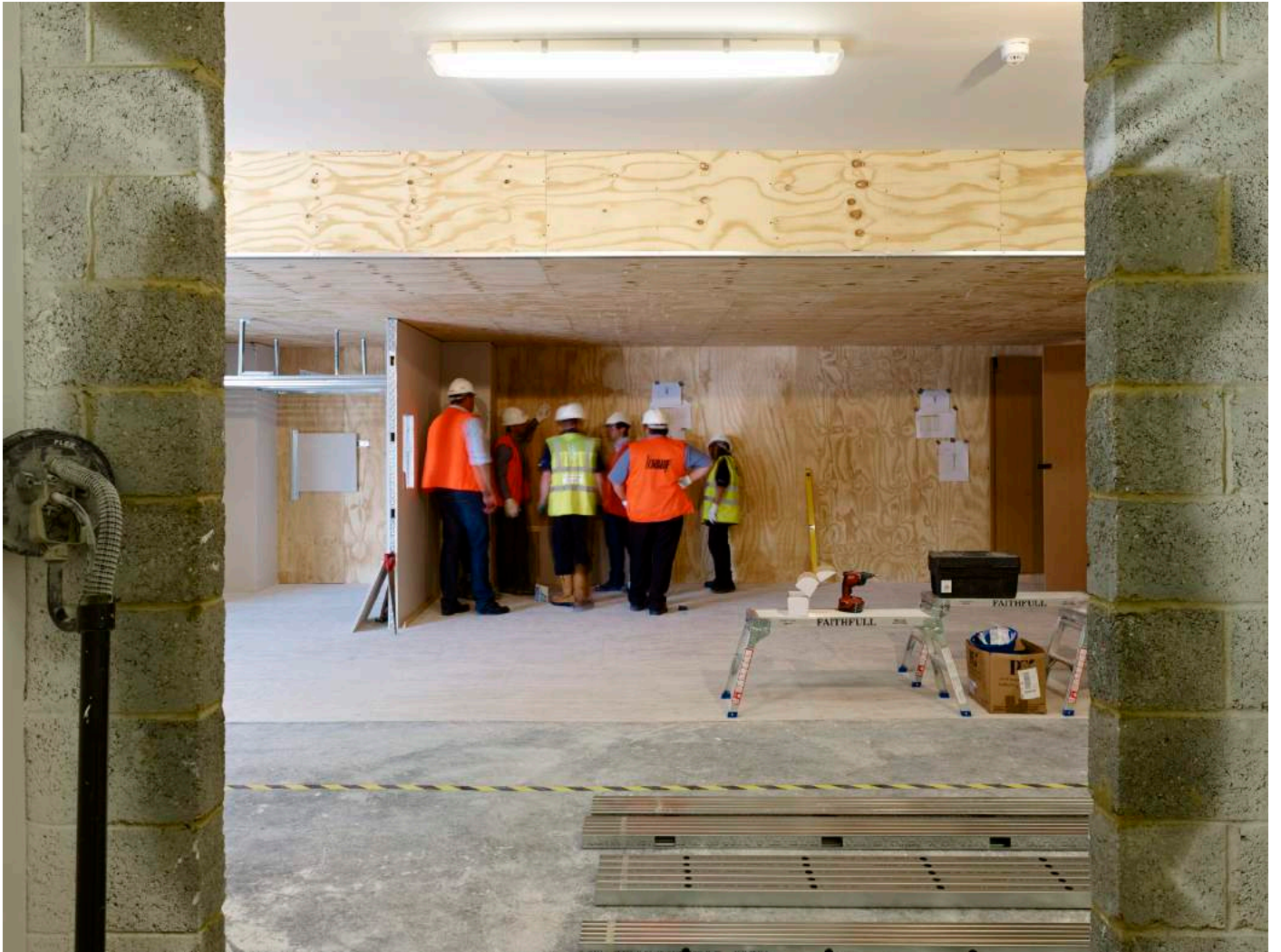
Seminar room with view of manufacturing facility



Boardroom with view of the Swale

10132\_25 © Tim Soar





Drywall Training Centre





Drywall Test Rig