



SPECIFICATION

DOORS & WINDOWS

Vitsoe with Martin Francis
+ Waugh Thistleton Architects
Gianni Botsford Architects
Richard Murphy Architects



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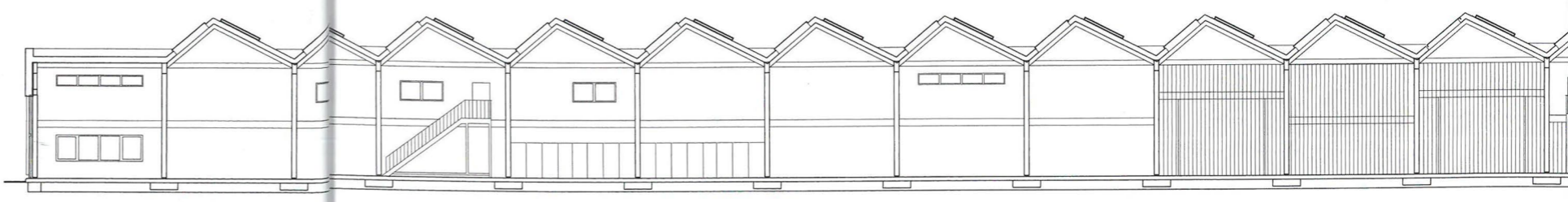


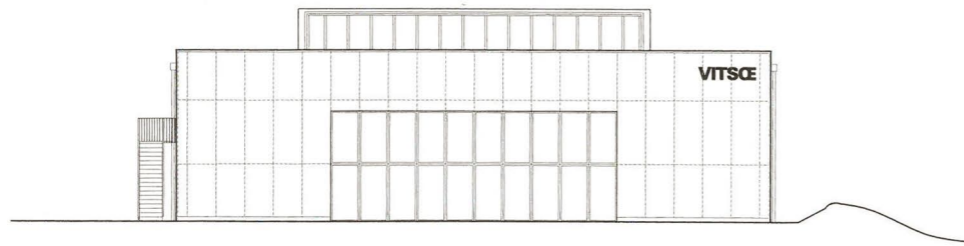


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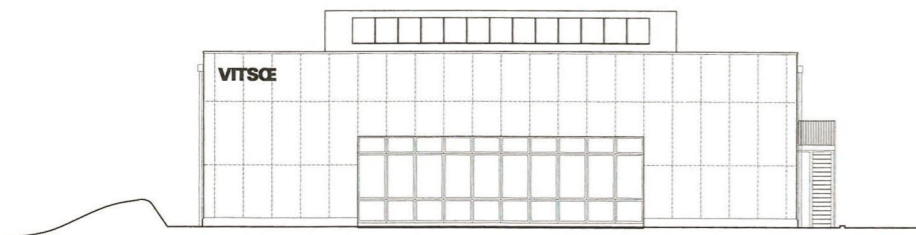
Photography by Luigi Parise

VITSOE HQ BY VITSOE WITH MARTIN FRANCIS AND WAUGH THISTLETON





North elevation



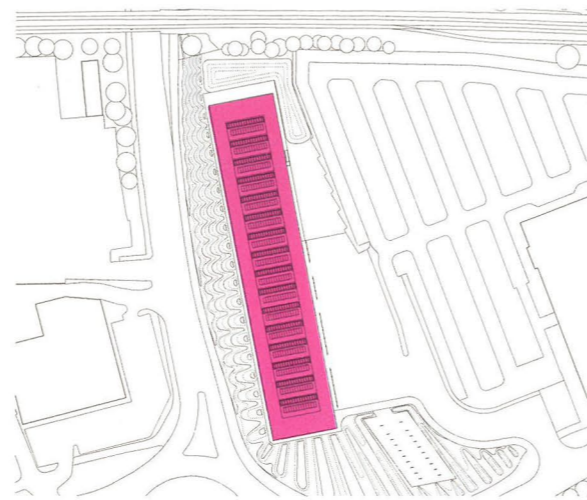
South elevation

Having outgrown its London production building Vitscé's brief was to create a low-energy building that put people at its heart. Natural light, natural ventilation and natural materials were deemed essential to achieve a vapour-open, airtight, highly insulated building.

With a limited budget, the challenge was to use just a few high-quality components at the outset which would form a kit of parts that could be adapted at will in future. Yacht designer Martin Francis responded to the brief for a north-lit space by creating a cost-effective roof-form that maximised indirect light while minimising surface area.

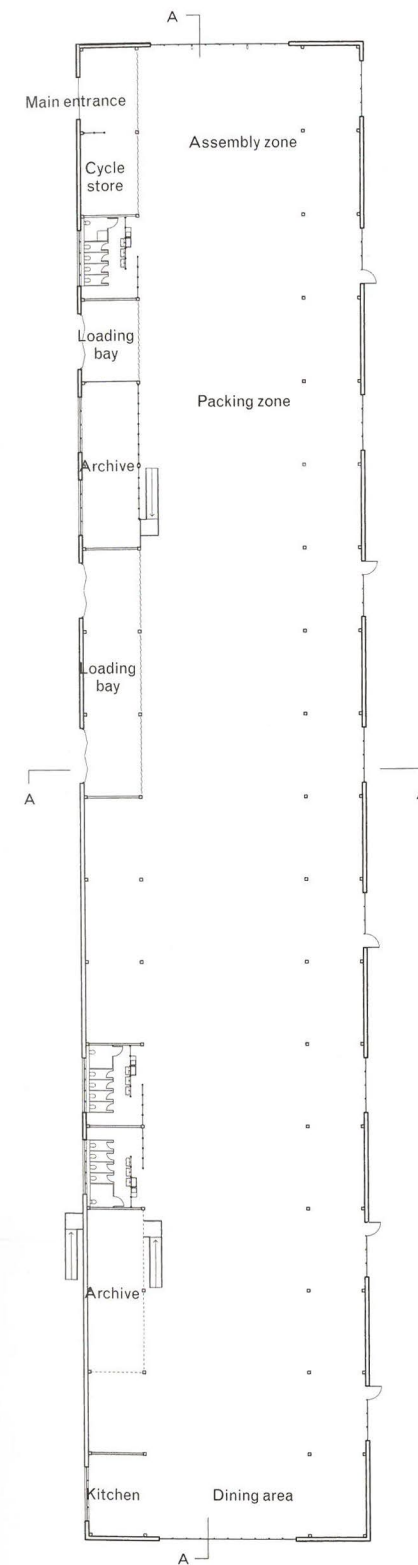
Waugh Thistleton Architects was appointed for its timber expertise to refine the design and deliver the building. This included securing planning for a building double the length of the original design, and optimising the system components to enable the building to accommodate a variety of uses and meet the associated performance criteria.

Vitscé

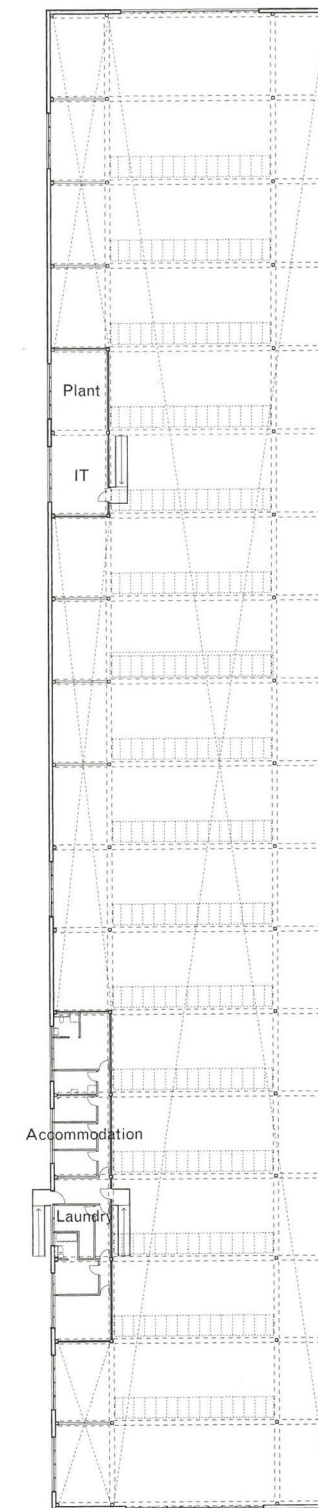


Site plan





Ground floor plan



Mezzanine

0 10m

Client's view

When Vitsø first considered commissioning its own production building and HQ in 2013, we focused immediately on the 'ten-year judgment' – after a decade, would people say they enjoyed working in it? Would they find it comfortable? Would energy bills be lower? Would the building adapt easily to change?

Vitsø opted for an adaptable, timber kit of parts that would create a lightweight, tall building in which stratification would be important. I made an early sketch capturing how our building would deal with heat, light, air, power, views and external noise. Together with Sofie Pelsmakers *Environmental Design Pocketbook*, that sketch became increasingly dog-eared as the competing pressures of the construction industry came to bear.

We were advised not to register for BREEAM so we would not be constrained by the need to tick boxes. Later I came across a quote from Max Fordham: 'Scoring systems are useful but there is no substitute for ensuring that buildings are well commissioned and the construction is improved during the first years of use.' This summed up our approach perfectly.

When Skelly & Couch joined as M&E consultant in 2014, it confirmed the importance of making the roof work hard – as a canopy, and for light and air. Given the demands of Vitsø's production processes, we opted for a 10 per cent daylight factor to allow 1,000 lux to be exceeded for 72 per cent of the year. The LED lighting is almost never used in daylight hours.

Airtightness – in a naturally ventilated building – is always a measure of how well the building has been built. Upon occupation in 2017, the first airtightness test returned a score of $0.85\text{m}^3/\text{h}/\text{m}^2$ at 50 PA.

Changes to the building and its use have continued almost daily since. Energy generation and consumption are being measured. But, most importantly, in a naturally ventilated building constructed from natural materials and flooded with natural light, the daily presence of beaming faces indicates that BREEAM's box-ticking was not necessary.

Mark Adams, managing director, Vitsø

M&E consultant's view

BREEAM is useful for setting a brief for clients or planners who don't know much about sustainability. But when a client is interested in the design process and has an intelligent brief tailored to its needs and function, a rigid adoption of a BREEAM target can get in the way of the true beauty of creating and making. BREEAM plays an important role in the industry, but it is no substitute for a thoughtful iterative briefing and design process.

Some clients and design teams who are trying to push boundaries are lucky and can choose not to follow the BREEAM route and define their own needs. Others have no choice as BREEAM is imposed on the scheme by funders or planners. These latter clients, who may have equal ambitions, can very quickly become disillusioned with the process and as a result lose their ambition, and sometimes that also has a knock-on effect on the design teams.

It is time for industry focus to shift from generic checklists to actual monitoring of buildings to help define quality and good performance.

It is easy to forget that a sustainable building is nothing more than a well-designed building – robust, flexible and adaptable, and designed not just for today but with future uses and climates in mind. We should not settle for a 60-year design life when well loved, cared-for buildings can last for hundreds of years, immune to trends or fashion, with parts being replaced when necessary.

Vitsoe's own products point the way forward. Its simple, well-resolved, robust designs are elegant, legible and practical, while also being affordable over their life cycle. These same principles can be seen in the new building in various forms: natural breathable materials, exposed services that conform to a set hierarchy when integrated with the structure, and refined details.

But just like Vitsoe the company, a building is more than just an assembly of components, it is a place for people to work and play and flourish.

Mark Skelly, director, Skelly & Couch



Project data

Start on site September 2016

Completion June 2017

Gross internal floor area 3,677m²

Form of contract

Construction management

Construction cost £5.75 million

Construction cost per m² £1,564

Building concept and design

Vitse and Martin Francis

Delivery architect

Waugh Thistleton Architects

Client Vitse

Structural engineer

Eckersley O'Callaghan

M&E consultant Skelly & Couch

Quantity surveyor

JCA Concept Construction

Landscape architect

Kim Wilkie and Wilder Associates

Industrial/sustainability

consultant EPSRC Centre for Industrial Sustainability, University of Cambridge

Project manager Vitse

CDM co-ordinator

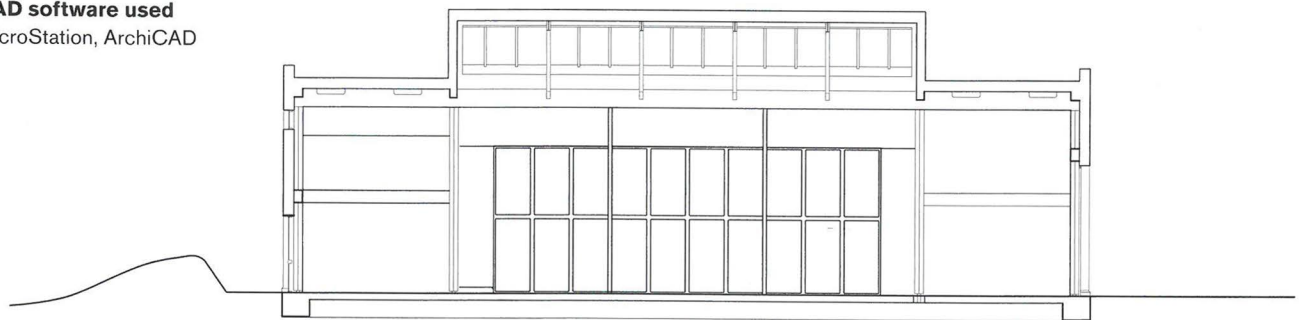
JCA Concept Construction

Approved building inspector

Assent Building Control

CAD software used

MicroStation, ArchiCAD



Section A-A

0 5m



Section B-B

0 10m

Specification

The system-built design of the building was central to the choice of building materials. The components had to be adaptable, demountable and as long-lasting as possible.

All materials are selected in a natural palette: steel is galvanised; aluminium is natural-anodised; and timber is left untreated. Performance criteria were inherent in the building materials: the CLT wall/roof panels and BauBuche LVL structure is left exposed internally, achieving the required fire performance without fire-rated linings.

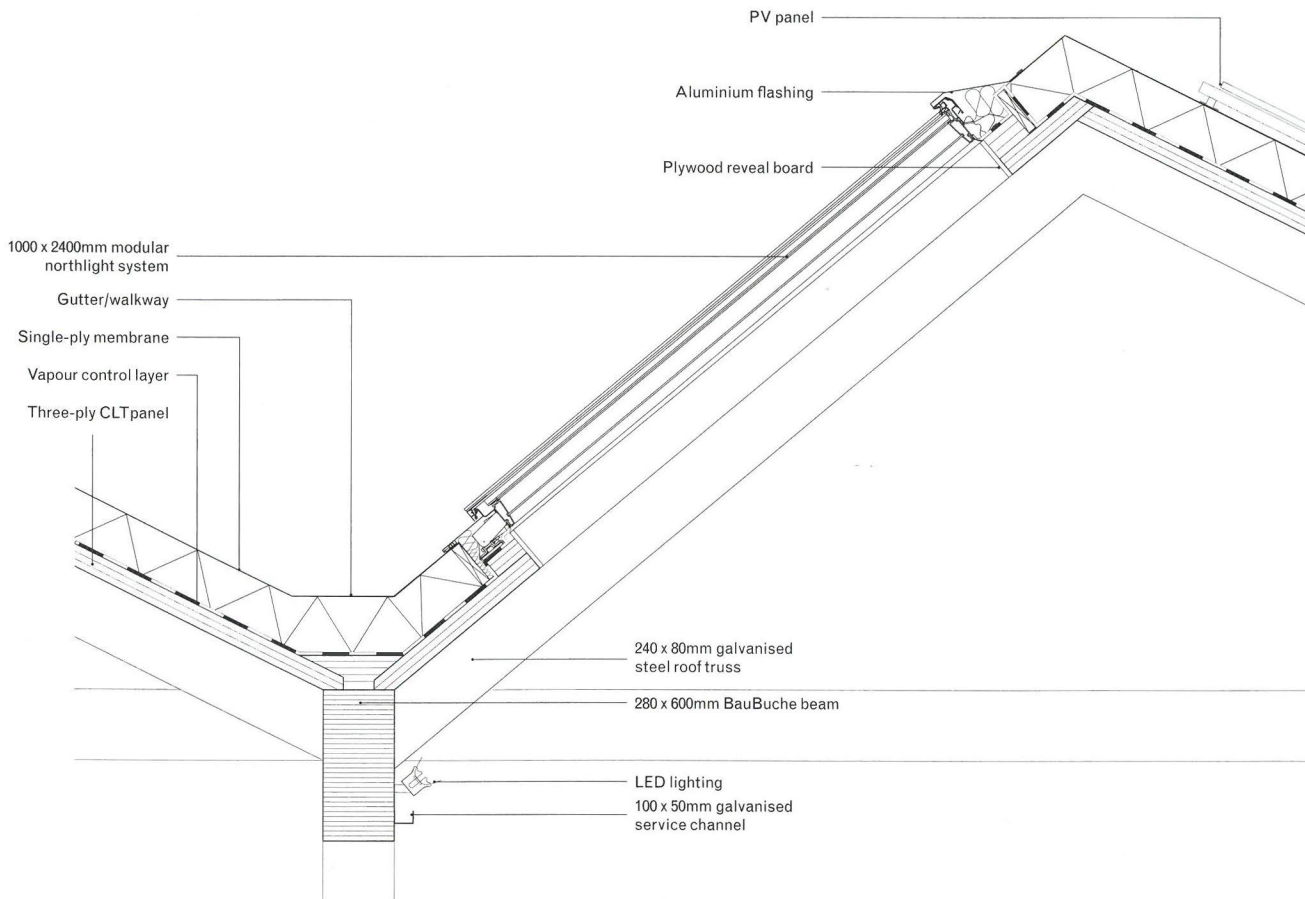
Steel I-beams are used as the primary structure for the saw-tooth roofs, as they perform more efficiently than timber in this application – and this removed the need for tie-beams.

The Velux Modular Skylights were chosen for the 16 saw-tooth openable north lights, due to their fully resolved system-based design combined with elegant profiles. They flood the building with natural light during daylight hours.

Velfac windows with combined fire doors were chosen for their composite construction, which combines a timber internal with aluminium external frame. Inward-opening windows allow the use of external venetian blinds.

Manually-operated concertina loading-bay doors with integral wicket doors are protected by airlocks to minimise the energy loss from the building.

Vitse



Roof detail section

SAMPLES BOARD

Photographed by Ståle Eriksen

- 1. Power-floated concrete floor**
Malin Floors
www.malinfloors.co.uk
- 2. Red smoke detector wire**
- 3. Fibre cement cladding**
Marley Eternit, Natura
www.marleyeternit.co.uk
- 4. Single ply membrane**
Sarnafil
gbr.sarnafil.sika.com/en/new-builds.html
- 5. Yellow floor tape**
3M Floortape
www.3m.co.uk
- 6. Floor channel cover**
WISA-Truck Plus
wisaplywood.com
- 7-11. 606 Universal Shelving System, made by Vitsø, designed by Dieter Rams**
- 7. Vitsø E-Track (back and front)**
Natural anodised aluminium
- 8. Vitsø aluminium pin to attach all components of the shelving system to E-Track**
- 9. Vitsø H-Post and floorplate**
Natural anodised aluminium
- 10. Vitsø metal shelf, off-white**
- 11. Vitsø X-Post**
Natural anodised aluminium
www.vitsoe.com
- 12. Pollmeier BauBuche beam**
www.pollmeier.com
- 13. Beech pellet for fire protection of steel dowel**
- 14. Fire panel**
Fermacell fire panel A1
www.fermacell.co.uk
- 15. Window section**
Velfac
www.velfac.co.uk
- 16. Loading bay door**
Jewers, plain galvanised steel
www.jewersdoors.co.uk
- 17. Entrance door**
ASSA ABLOY natural anodised aluminium
www.assaabloy.co.uk
- 18. Column-gripped eye bolt**
Designed by Martin Francis for Vitsø
www.vitsoe.com

