




tenos  
retail expertise





“Value engineered fire safety solutions for landmark retail developments.”

## Retail solutions by Tenos

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In large open spaces, occupied by people who may be unfamiliar with their surroundings, retail properties can present a unique set of challenges when considering fire safety.

With over 18 years' experience in the retail sector, our fire engineers provide strategies to tackle the reaction of people and buildings to fire in a retail environment, enabling safe evacuation.

Through a fire engineered approach and the application of advanced fire engineering techniques, Tenos can deliver a fire safety solution for any retail project, regardless of size.

Our retail projects vary in scale and type from out-of-town and multi-level retail complexes, through to mixed-use retail, leisure and residential schemes.

Tenos work alongside leading architects, developers, retailers and contractors in the UK and Middle East to create modern shopping environments that are fully code compliant.

Our experience in this sector enables us to deliver a bespoke, value engineered fire engineering solution for clients who appreciate our retail expertise.

Two construction workers, one wearing a white hard hat and the other a blue one, both in orange safety vests and light blue shirts, are standing on a construction site. They are holding and looking at a large set of white blueprints. The background shows a building under construction with scaffolding and large windows.

“Expertise across a wide range of fire engineering services.”


## Selected services

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Working from the earliest design stage through to building occupancy, Tenos offer all the expertise to make the most challenging retail projects possible. Take a look at what fire engineering services we offer:

- Fire Engineering
- Fire Safety Engineering
- Advanced Fire Safety Engineering
- Computational Fluid Dynamics
- Fire Safety Management
- Fire Safety Training
- Tenos Benchmark
- Fire Expert Witness



A photograph of a modern Waitrose building with a glass facade. A dark blue semi-transparent box is overlaid on the top left of the image, containing a quote and a name. The Waitrose logo is visible on the building's facade and on a green sign in the foreground.

“The fire engineering  
expertise provided by  
Tenos is highly regarded.”

Mark Dutton - Fire Engineering Manager, John Lewis Partnership

## Key clients

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- John Lewis Partnership
- Waitrose
- The Grosvenor Group
- IKEA United Kingdom
- Morrisons
- The Exchange Ilford



# Liverpool ONE

## Liverpool City Centre

Liverpool ONE is a state-of-the-art shopping, residential and leisure complex in the heart of Liverpool city centre. It is the largest open-air shopping centre in the UK and the 10<sup>th</sup> largest overall, comprising a total area of 170,000m<sup>2</sup>.

This retail-led development, boasting 170 stores and services, also includes leisure facilities, apartments, offices, public open spaces and transport improvements.

Tenos was appointed by the Grosvenor Group to develop the fire safety strategy and management procedures for the master plan and building concepts. A particular challenge was the large underground car park.

The underground car park comprises a total area of 60,000m<sup>2</sup> and provides car park spaces for 2,000 vehicles on four levels.

This exceptionally large underground car park presented a number of fire engineering challenges, in particular, the extended travel distances for fire evacuation.

Tenos used advanced fire safety engineering techniques to deliver a cost-effective fire engineered solution to ensure the client satisfied their statutory obligations during the master planning and conceptual design phases.

Computational Fluid Dynamics modelling was used to develop a highly advanced smoke control system utilising jet-fans.

The development was opened in phases in May and October 2008, with the final residential development opening in early 2009.

“Tenos’ innovative and cost-effective solutions helped us achieve our project goals. They are a valuable asset to any design team.”

Paul Smith – Head of Development, The Grosvenor Group

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## John Lewis Oxford Street, London

Leading national retailer John Lewis appointed Tenos to provide strategic fire safety advice for the refurbishment of their flagship store on Oxford Street.

Through our collaborative approach with the lead designer, client and statutory authorities, Tenos successfully reappraised the existing fire safety arrangements. This enabled the development of an open selling environment spanning six-storeys and two atria, creating an entirely new shopping experience whilst satisfying all statutory requirements.

The store remained open during the renovation works. Tenos was retained during the construction phase to ensure appropriate levels of fire safety were maintained.



## Waitrose, Channel Islands

In 2010, Waitrose acquired five existing supermarkets on the Channel Islands of Jersey and Guernsey. These would be the first Waitrose operated supermarkets outside of the UK.

Tenos was appointed by Waitrose to undertake a survey of all five stores to evaluate provision of fire safety arrangements.

From these surveys, our recommendations provided significant cost savings, met Waitrose's stringent logistical demands and ensured the stores complied with statutory fire safety requirements.



## IKEA, UK & Ireland

IKEA takes fire safety seriously. All of their retail stores are protected by sprinklers and smoke ventilation.

However, in order to maximise retail floor space by increasing their footprints and introducing mezzanines, IKEA approached Tenos to provide an alternative fire engineered solution for their stores. Tenos provided IKEA with a cost-effective fire engineering strategy that enabled them to extend reservoir sizes without increasing smoke ventilation provision, use open grid floors to vent smoke between ground floor and roof level without the need for smoke shafts, and utilise existing mechanical ventilation systems provided for day-to-day ventilation for smoke extract.



## Bridgeway Development, Abu Dhabi

Bridgeway is an AED500m multi-use development comprising a shopping centre, apartments and a hotel (Rocco Forte Collection Hotel), transforming the area around Zayed Sports City in Abu Dhabi.

Our remit was to provide fire safety advice to the lead designer through the concept, preliminary and detailed design stages. Tenos also produced a fire safety report outlining fire safety measures for the construction phase.

Using advanced fire engineering techniques, we were successful in developing a fire safety solution for this contemporary and uniquely shaped development. This enabled the design to incorporate a large atrium and justified the omission of applied fire protection to large amounts of steel structure.



## City Centre Doha, Qatar

City Centre Doha is considered the largest mall in Qatar with a 300,000m<sup>2</sup> total build area. Spread across five floors, the mall houses a variety of famous international, regional and local retail brands including anchor stores Carrefour and Debenhams.

It also features a 14 screen cinema complex, ice skating rink and a car park with 1,600 spaces.

Tenos was appointed to develop a smoke control strategy for the mall to provide life safety for the 45,000 plus visitors each day.



## The Exchange Ilford, London


Tenos has acted as fire engineering consultants for The Exchange Ilford for more than five years. During this time, the shopping centre has undergone a number of renovations and refurbishments.

Initially, we were appointed to undertake a full review of the fire safety strategy which would facilitate any future development projects.

For each project, we worked closely with the design team to ensure the fire safety strategy for the shopping centre was not compromised.

We successfully negotiated an agreement for the proposed alterations with the statutory authorities. This ensured that our clients' aspirations for continual improvement of the shopping centre was achieved whilst ensuring life safety and without compromising on design or functionality.





“Tenos delivers cost-effective fire engineering solutions for the built environment.”

## About us

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Tenos is a leading independent firm of fire engineering consultants. We provide a fully integrated fire engineering solution to protect people from the harmful effects of fire.

Our expertise is recognised nationally and internationally by leading architectural firms, developers, private companies and public sector organisations. They trust in Tenos to design safe buildings, manage risk and deliver innovative cost-effective fire engineering solutions for the built environment.

Tenos has a proven track record in providing fire engineered solutions for landmark buildings worldwide. We have experience across many sectors including retail and leisure, commercial and industrial, education and healthcare, sports stadia and residential.

We employ highly qualified and experienced Chartered Fire Engineers who are fully conversant with the requirements of UK, US and other international fire codes.

Our systems and processes are ISO 9001 accredited. We guarantee a personal, responsive and professional service for all of our clients.

Tenos – the fire engineering consultancy you can trust to deliver every aspect of fire safety.



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Think about the value added benefits that your retail development project will gain when you work with an experienced fire engineering consultancy.

For more information or to discuss your project, call us now on:

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