

WEMBLEY PARK · LONDON, UK

Shade structures

Shade and shelter for outdoor spaces

Tensile fabric shade structures for schools, playgrounds, terraces, pools, stages and public squares. Ready-designed or bespoke, each one engineered for its site and made in our factory in Chepstow, UK.

architen.com · +44 (0) 1291 638 200

INSPIRE · INNOVATE · PERFORM

ARCHITEN LANDRELL



CARDIFF BAY BARRAGE · CARDIFF, UK

Who we are

Tensile fabric and ETFE structures, designed and made in the UK

Architen Landrell designs, engineers, fabricates, installs and maintains tensile membrane structures. Since 1983 we have built shade structures and canopies for schools, parks, hotels, venues and town centres on six continents.

We work hand in hand with architects, landscape designers, schools and contractors, from the first sketch to maintenance. Every fabric panel is cut and welded in our own factory, and our group company, Metafab Structures, makes the steelwork that holds it up.

Inspire

We draw on our experience, other industries and the natural world to create inspiring designs.

Innovate

We challenge existing ways of doing things to push boundaries, improve structural and environmental performance, and make the seemingly impossible possible.

Perform

We deliver high-quality products that meet the design and performance requirements of every project.

1983
founded in Chepstow, South Wales

6 continents
where our structures stand

2,000 m²
of production space in our Chepstow factory

In-house
design, engineering, manufacture, installation and maintenance

Company information

The Architen Landrell Group

Four specialist companies, one integrated offer: from bespoke landmark roofs to modular structures, steelwork, coatings and the keder that holds it all together.

Bringing these capabilities together under one group means clients, architects and contractors can come to a single partner for the membrane, the structure that supports it and the components that fix it.

Architen Landrell

ARCHITECTURAL TENSILE FABRIC AND ETFE

Tensile fabric and ETFE architectural structures. Complex and bespoke projects around the world.

architen.com

Metafab Structures

STEELWORK AND COATINGS

Advanced architectural and structural steelwork fabrication for strong modular buildings, tensile structures and rapid construction. Advanced coatings with Metacoatings.

metafabs.com

Fabric Architecture

MODULAR AND SMALL-SCALE STRUCTURES

A standard range of tensile fabric canopies and shade structures, popular with schools and colleges. Full turnkey solution including groundworks.

fabricarchitecture.com

UK Keder

KEDER PRODUCTS

Supply of high-quality keder products for a wide range of applications, from tensile structures to caravans.

uk-keder.com

Our services

From concept all the way through to handover, then maintained

We design, engineer, make, install and maintain every shade structure ourselves, so one accountable team carries the design intent from the first sketch to the finished structure and beyond.

Runs through every stage — **Project management** — One dedicated project manager and a single point of contact, from design to maintenance

Design
Beautiful, buildable concepts

Engineering
For wind, snow and extreme weather

Manufacturing
2,000 m² in-house production

Support structures
Steel, aluminium or timber

Installation
Safe, skilled site teams worldwide

Maintenance
Inspection, cleaning and repair

Overview

What is a tensile shade structure?

A tensile shade structure is a sail, cone or canopy of architectural fabric, pre-stressed between masts, posts, cables or arches. It shades people from the sun and, with a solid fabric, keeps the rain off too, so a playground, terrace or courtyard can be used in more kinds of weather.

The curved shape keeps the fabric taut, so a shade structure needs few supports and leaves the space below open. A sail twists between high and low corners: the high points carry the downward loads and the low points resist wind uplift. Fabrics come in white and colours, can be printed and can be lit at night.

Up to 42%

of daylight through white silicone glass, for bright shade

30+ years

design life of PTFE glass, for landmark structures

15–30

years' life for PVC polyester, in colours and printable

Mesh

fabrics give shade and let air through, but not keep rain off

8 designs

in our ready-designed range

Yearly

inspection recommended, with cleaning as needed

Bespoke shapes

A shape designed from scratch for your space



Sails

Twisted sails with high and low corners, alone or overlapping, as at Christ the King: St Mary's, the Cardiff Bay Barrage and College Road, Harrow.



Cones

Fabric pulled up to a mast or a flying mast, singly or in groups, as at Merry Hill, Glyndebourne and Kennewick.



Inverted cones

Cones that dip to a single column and take the rain down it, as at Orchard Square and Swindon Parade.



Arches and vaults

Fabric stretched over steel or timber arches, as over the stages at Whatman Park and CBeebies Land.

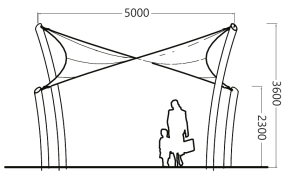
Ready-designed range

Quick to put up, and cost less

Eight designs, engineered in advance and made in our Chepstow factory.

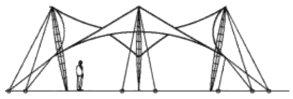
Design	Sizes	Shape	Erected in	Good for
Dune	5 × 5 m, 6 × 6 m	Four-point sail on curved masts	Under 3 days	Play spaces, outdoor classrooms, drop-off
Kalahari	10 m, 12 m, 15 m	Six-sided sail	Under 4 days	Outdoor classrooms, performance, dining, touring events
Sahara	13 m clear span	Sail pavilion for up to 150 people	Under 4 days	Events, performance, dining
Tundra	18 × 14 m	Twin peaks over arches	Under 3 days	Play, outdoor classrooms, performance
Umbrella	6 m, 9 m across	Cone on one column	Under 3 days	Seating, play areas, refreshments
Double conic	11 × 8 m, 19 × 11 m	Twin cones on a frame	Under 5 days	Entrances, drop-off, dining, performance
Shadeplay	5.45 m square	Cone on four posts, modular	Under 3 days	School playgrounds, outdoor classrooms
Inverted conic	7.5 m, 9 m	Inverted cone on one column, modular	Under 3 days	Entrances, drop-off, dining, solar shading

Every design comes in PVC polyester or PTFE glass, on steel masts painted in any RAL colour, with lighting from our specialist lighting partners and graphics available. The Dune, Umbrella, Kalahari, Sahara and Tundra also come as temporary structures. Erection times are for a permanent structure on foundations by others. A ready-designed structure can also be the starting point for a bespoke one.



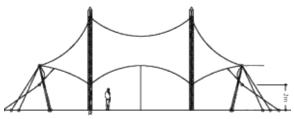
Dune

5 × 5 M OR 6 × 6 M



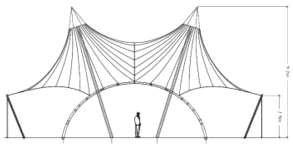
Kalahari

10 M, 12 M OR 15 M



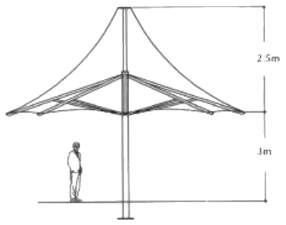
Sahara

13 M CLEAR SPAN



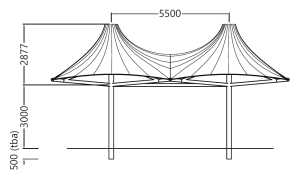
Tundra

18 × 14 M



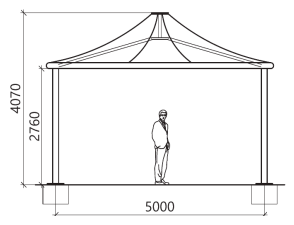
Umbrella

6 M OR 9 M ACROSS



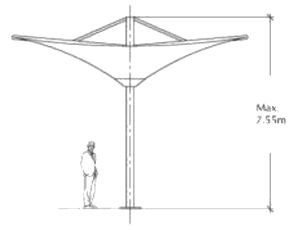
Double conic

11 × 8 M OR 19 × 11 M



Shadeplay

5.45 M SQUARE, MODULAR



Inverted conic

7.5 M OR 9 M

Materials

Choosing a fabric for shade

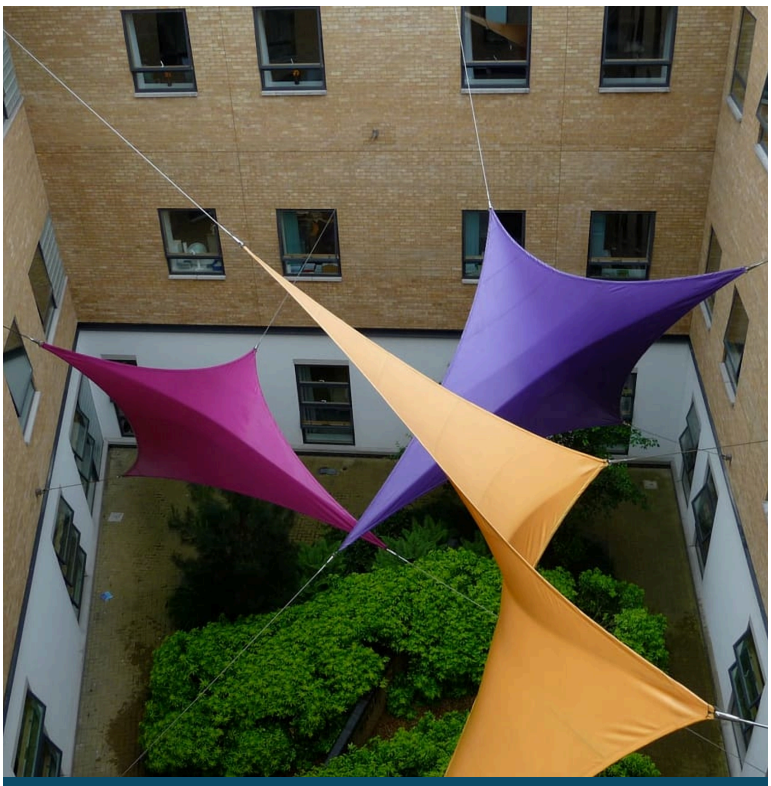
The fabric sets how much light and shade you get, how long the structure lasts, how it looks and what it costs. Our engineers will recommend one for your site and budget.

Fabric	Design life	Light and look	Best for
PVC polyester	15–30 years, by grade	White or colours; highly translucent grades for bright, high-end spaces; can be printed; self-cleaning top coats	Most sails and canopies: schools, play areas, terraces, hotels
Silicone glass	20–25 years	Up to 42% light in white, for bright, daylit shade	Courtyards and outdoor classrooms that need daylight
PTFE glass	30+ years	White or coloured; rain washes it clean	Large and landmark structures
Mesh fabrics	15–20 years	Shade with air moving through; does not keep rain off	Shade-only sails and side screens

Source: Architen Landrell materials pages.

Colour, light and print

Brighten a space by day and make a feature after dark



Bromley Hospital

BROMLEY, LONDON, UK · PVC POLYESTER

Pink, purple and orange hypar sails tensioned against the walls of a hospital courtyard, to enliven the view from the wards.

Colour

Coloured fabrics lift a space, like the pink, purple and orange sails we made to brighten the view from the wards at Bromley Hospital.

Lighting

Lights on the masts or below the fabric make a shade structure glow after dark, as at Whitewater Shopping Centre and Swindon Parade.

Projection and print

White fabric makes a screen for light and images, as at CBeebies Land, and PVC fabric can carry a printed design or a logo.

GLYNDEBOURNE OPERA HOUSE · EAST SUSSEX, UK

Featured project

Glyndebourne: a foyer without walls

When Michael Hopkins and Partners rebuilt Glyndebourne Opera House, the brief was to enlarge the auditorium and improve conditions for audiences without losing the magic of an evening at the opera in the English countryside. Between the new theatre and the old backstage buildings, our PVC polyester cones form a covered, open-air foyer.

The cones curve around the brick and concrete apron of the theatre and are held up by flying masts on cables, so there are no masts at ground level and nothing for guests to trip over. Radiant heaters keep the space comfortable on cooler nights.

Because the opera season runs through the summer, the foyer can stay open to the gardens, and the soft curves of the fabric suit the house's rural setting. The cones we installed in 1994 are still in use more than 30 years later.



1994
year the fabric cones were installed

30+ years
in use, and still going

Architect	Michael Hopkins and Partners
Fabric	PVC polyester
Form	Cones on flying masts
Comfort	Radiant heating; open to the gardens

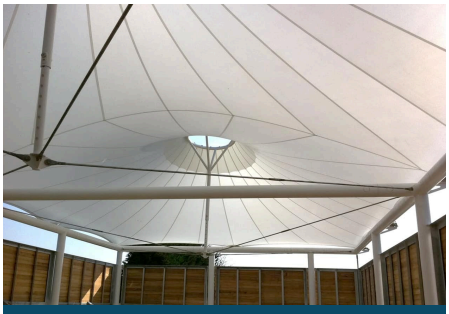
Lessons, play and lunch, outside in sun or rain



Shade and shelter for schools

PRIMARY SCHOOLS, ACADEMIES AND COLLEGES

- **Outdoor classrooms:** at Cotham School and Elmlea School in Bristol, and Christ the King: St Mary's in Sidcup.
- **Playground shelters:** at Shirland Primary School the canopies have thick curved masts and no tie-down cables across the playground.
- **Dining and lunch queues:** a canopy at Benfield Primary School shelters pupils queuing for lunch.
- **Pick-up and drop-off:** the double cone at St Matthew Academy.
- **Stages and amphitheatres:** at John Henry Newman Catholic College, Runshaw College and St Anne's Primary School.
- **Courtyards:** a 400 m² free-standing canopy at Cottenham Village College, with no loads on the buildings around it.



Cottenham Village College

CAMBRIDGESHIRE, UK · SILICONE GLASS

About 400 m² of silicone glass canopy sails over the technology block, tensioned by 12 perimeter cables: a focal point for the campus.



Cotham School

BRISTOL, UK · PVC POLYESTER

A tensioned fabric outdoor classroom on a steel frame, set into the existing playground, so lessons and breaks can spill outside in sun or rain.



John Henry Newman Catholic College

BIRMINGHAM, UK · SILICONE GLASS

A three-bay amphitheatre canopy forms the focal point of a courtyard, designed with Bond Bryan.

Fitted around the timetable

The double cone at St Matthew Academy went up in a few days around the school holidays, with little disruption to the school day. Most ready-designed structures go up in three to five days once the foundations are in, so work can be planned for half-terms and holidays.

Phased with the build

On new school buildings we work to the main contractor's programme. At Cambourne we installed the columns, the frame and then the fabric on three visits, so the fabric went in clean at the end, ready for the courtyards to be used for reading, dining and meeting.

School colours and logos

PVC fabrics come in bright colours and can be printed with a design or the school's logo, and the steel can be painted in any RAL colour to match. Safety matters too: free-standing canopies with thick curved masts need no tie-down cables across the playground.

Cover for play, performance and relaxing



Wembley Park

LONDON, UK

A double cone over the children's play area beside the London Designer Outlet, with Applied Landscape Design. Clear domes at the peaks let daylight in, self-cleaning fabric sheds dirt when it rains, and the masts stand in steel sandpots so the canopy can be re-tensioned easily.

Canopy	36 m × 20 m double cone
Fabric	Self-cleaning PVC polyester
Use	Children's play, sun and rain cover



CBeebies Land, Alton Towers

STAFFORDSHIRE, UK

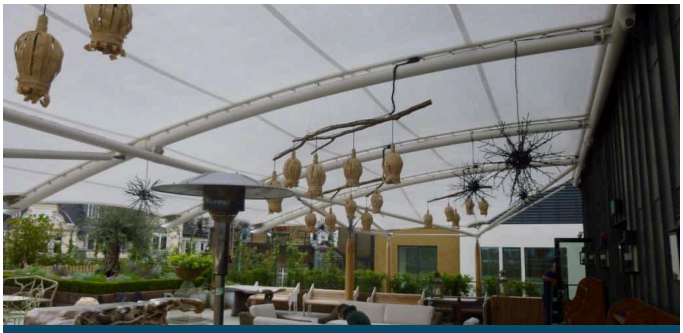
An 18 × 12 m barrel-vault roof in self-cleaning fabric on a colourful frame covers an outdoor stage. The white fabric doubles as a screen for light.



Whatman Park

MAIDSTONE, UK

Five fabric barrel vaults on two steel arches cover a 192 m² stage in a regenerated town park.



Ham Yard Hotel

SOHO, LONDON, UK

A 130 m² barrel vault on glulam posts and steel arches covers the roof terrace, in a highly translucent fabric.



All England Lawn Tennis Club

LONDON, UK

Three terrace canopies give members shade, shelter and daylight, with clear views of the practice courts.

Squares, shopping streets and resorts

Shelter that keeps a place busy

Shade and shelter for town centres, landmarks and hotels, engineered for the wind at each site and often lit at night.



Swindon Parade

SWINDON, UK · PVC POLYESTER

Inverted fabric cones on stainless steel columns shelter shoppers in the open precinct at the heart of the town. Each cone collects rain at its centre and pipes it down to drains at ground level, and lights on the columns make the canopies glow at night.



Orchard Square

SHEFFIELD, UK · PVC POLYESTER

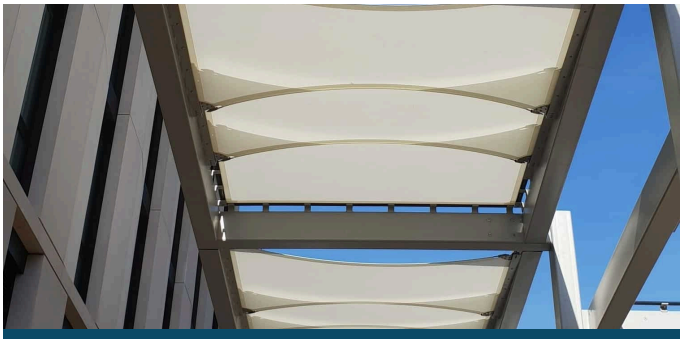
Inverted fabric cones for the 2023 revamp of an open-air shopping centre, in a high-performance fabric for large spans.



Chester Racecourse

CHESTER, UK · PVC POLYESTER

Two twin-coned canopies give the bar terrace an upmarket look and keep racegoers dry while they watch the racing.



College Road

HARROW, LONDON, UK · SILICONE GLASS

41 overlapping silicone glass panels calm the wind between two tall buildings and let daylight into the courtyard.



Hemingways Hotel

WATAMU, KENYA · PVC POLYESTER

A hyperbolic sail shades the poolside bar, engineered for both the fierce sun and the monsoon season on the Kenyan coast.

For architects, schools and clients

Planning and specifying a shade structure

The earlier we are involved, the simpler the structure and its foundations. These are the questions our engineers will ask, so it helps to have a view on them.

01

What needs shade or shelter?

A play area, outdoor classroom, seating, a stage or a pool terrace, and how many people use it.

02

Shade only, or rain too?

Mesh gives shade and lets air through. To keep rain off you need a solid fabric and a route for the water.

03

When is the space used?

We can check the sun's path, so the shade falls in the right place at the right time.

04

Ready-designed or bespoke?

Our range keeps cost and time down; bespoke suits a landmark or awkward space. We can guide you.

05

Free-standing or fixed to a building?

Whether the building can take the loads, or the structure needs its own masts and foundations.

06

Foundations and planning

We supply engineering information for your groundworks contractor, and drawings for planning.

07

Access and timing

Crane access, a live school or venue, and any holiday or out-of-hours windows for installation.

08

Colour, lighting and branding

White or coloured fabric, lighting, a logo or a printed design.

Frequently asked questions

Will a shade structure keep the rain off?

Yes, if it uses a solid fabric such as PVC polyester, silicone glass or PTFE glass and is designed with a route for the rainwater. Mesh fabrics give shade and let air through, but do not keep the rain off.

Which fabric is best for shade?

PVC polyester is the most common choice: it comes in white and colours, can be printed and lasts 15 to 30 years, depending on the grade. Silicone glass lets more daylight through; PTFE glass suits large and landmark structures.

Are shade structures safe in school playgrounds?

Yes, when they are designed for children. Free-standing canopies with thick curved masts need no tie-down cables, and flying masts leave the ground below clear. We recommend an inspection every year.

Can a shade structure cope with strong winds?

Each one is engineered for the wind and snow at its site. We have built shade canopies for hurricane-force winds at the Caleta Hotel in Gibraltar and for the monsoon in Kenya.

Do I need planning permission?

Not every shade structure needs it, so check with your local planning authority before you order. We can provide drawings to support an application.

How long does installation take?

A ready-designed structure goes up in under three to five days once the foundations are in. A 15 m Kalahari at Cayman International School took three days.

How long does a shade structure last?

PVC polyester lasts 15 to 30 years, depending on the grade, silicone glass about 20 to 25 years and PTFE glass more than 30. A yearly inspection, with cleaning and re-tensioning as needed, helps them last.

How much does a shade structure cost?

A ready-designed structure costs less than a bespoke one, but the price depends on the size, fabric and site, so we don't publish a budget price per m². Send us a sketch or photos and we will price your project.



Let's talk about your outdoor space

Working hand in hand with design and engineering teams to find solutions

Maintenance and repairs

Already have a shade structure?

We inspect, clean, repair and re-tension shade structures and fit new fabric, including structures built by other companies, with a 24-hour emergency response. At Wembley Park the two central masts stand in steel sandpots below the ground, so we can go back and re-tension the canopy easily.

- Yearly inspections and condition surveys
- Professional cleaning, including by rope access
- Re-tensioning, so the fabric stays taut and sheds water
- Repairs on site, or new panels from our factory
- Work planned around school terms and opening hours

Maintenance team: maintenance@architen.com

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ARCHITEN LANDRELL

INSPIRE · INNOVATE · PERFORM

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