REIDsteel
established 1919

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AIRCRAFT HANGARS
AND THEIR DOORS
for the largest and smallest aircraft flying today
6900m² helicopter maintenance facility
for Summit Aviation at Manston Airport, Kent UK

This helicopter maintenance facility consists of a 52 metres by 115 metres main hangar and a reception area 22 metres by 42 metres. The curved roof consists of standard trapezoidal cladding and the waveform roof over the reception area is in colour matched aluminium standing seam.

The wall cladding is a mixture of box profile double skin and microrib profile composite panels in Sargasso Blue and Metallic Silver. The main contractor was GSE Design & Build.

25 metre clear span helicopter hangar
at Nouakchott in Mauritania, North West Africa

The hangar is 5 metres high with a lean-to on either side, together with cantilevered upper tracks on each side of the doorway so that the manual doors can be rolled back to give maximum clear entry of 25 metres.

The hangar doors, cladding, windows and personnel doors were also designed and made by us and we supplied a 2 tonne EOT crane as well as incorporating crane beams and rails into the steelwork.

From Blériot to Jumbo
Louis Blériot, intrepid French aviator was the first man to fly across the English Channel and his first hangars, at Lamotte-Beuvron near Orléans, were supplied by us in the 1920's
Lufthansa Technik Malta specialises in the maintenance and repair of Airbus, Boeing and other large aircraft. The hangar is 280 metres wide in three clear spans of 91.5 metres. It is 90 metres deep with a clear height of 26 metres under all the steelwork, fronted with 18 electrically operated door leaves, the largest two doors being 26 metres high by 91.5 metres wide.

The new facility will be able to accommodate two Airbus A380s and many narrow body aircraft simultaneously as well as having a number of workshops within it.

In addition to Lufthansa and Air Malta aircraft, customers include: Spanair, AirOne, BMI, Germanwings, Fly Niki, Privat Air, Arik Air, Wizz Air, SunExpress and Livingston Energy Flight.

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All steelwork connections by bolts and nuts
89 metre clear span hangar with extensive office and maintenance facilities for Rizon, Biggin Hill Airport, Kent UK

Rizon Jet is a new charter operator in the Gulf region, with FBO and maintenance facilities in Europe, focusing on travel for senior executives, high-ranking government officials and professionals.

This 4300m² hangar has an 89 metre door width consisting of six 14.9 metre x 9.6 metre electrically powered doors, which can be operated in unison or independently.

The hangar is also served by two 2T overhead travelling cranes, which run the whole length of the 90 metre building.

A striking visual feature of the hangar is the natural light in the two floor office areas, made possible by curtain walling running the whole of one end of the building.

All the steelwork, the glazing and curtain walling was designed, made and installed by Reidsteel.

The six slab, three track doors allow 58 metres to be opened left, right or centre at any one time and are clad in the same architectural panels as the building.
88 metre clear span TEC International hangar for the Presidential Flight in Malabo, Equatorial Guinea

TEC is a private company operating in Equatorial Guinea, Chad and Cameroon run by a resourceful Frenchman, Monsieur Bernard Queyroix. When the President of Equatorial Guinea wanted a big hangar for the Presidential Flight in Malabo, 88 metres by 90 metres by 20 metres, he came to us. Monsieur Queyroix was amazed by the quick reaction, our can-do attitude and speed of shipment and erection. The client required a decorative fascia which featured non supportive steelwork sitting proud of the cladding. Our erection supervisors Jimmy Wiltshire and Nick Bartlett were responsible for the erection team and commissioning of the eight 17 metre high by 11 metre wide electro mechanical doors.

Outriggers allow for clear span door openings.

76 metre span maintenance hangar for UPS Courier Services, Shannon Airport, Co Claire Eire

5700m² maintenance hangar at Shannon for Aer Rianta to keep the world renowned UPS Courier Services airborne and carrying cargo to the four corners of the globe. This customer specified the use of lifting fabric type Megadoor, 76 metres wide by 20 metres high. We also made the structure for the administration building on the side of the hangar, including all the curtain walling, windows, glazing and entrance doors.
55 metre span hangar for the Royal Air Force, Valley Airport, Anglesey UK

This 55 metre span, 155 metres long hangar will house the latest generation of Hawk trainers for use by the RAF, Royal Navy and Army Air Corps. We also designed and constructed the Squadron Building containing two simulators, classrooms, gym and changing facilities. The main contractor was Morgan Ashurst and the client is VT Aerospace.

37 metre span hangar for the Royal Naval Air Station Culdrose, Helston, Cornwall UK

This 2000m² hangar was built to house the Royal Navy’s new Merlin search and rescue helicopter. It took only twenty-five weeks to design, make and erect in spite of high winds and generally wet conditions. The hangar has two sets of six leaf Cascade type rolling doors made by us, one set at each end, with outriggers to allow full width access. The doors are each driven through a cable and gearbox mechanism turned by one large handle, so the slabs all operate together.
Three 42 metre span hangars two for the Chilean Air Force at Fuerza Aerea del Chile, Santiago and one for the Chilean Navy at Vina del Mar, Chile

2300m² hangars designed and made by us for the Chilean Air Force, incorporating two storey offices, workshops and stores on three sides. At the rear, to accommodate the aircraft nose, there is a specially built extension complete with door to allow exit and entry of tow vehicles. The complete erection and cladding was undertaken by a local construction company under the supervision of our engineer.

Hangar for the Chilean Navy at Concon was specially constructed to house and maintain the Orion P-3 turbo-prop long range aircraft that patrol Chile’s long Pacific coastline.
80 metre span hangar with an overall height of 20 metres allowing 13.5 metres clearance under four overhead travelling cranes for British Aerospace (now part of BAe Systems), Hatfield UK

This was a precision built hangar for building BAe 146 ‘Whispering Jet’ airliners and contained sophisticated equipment such as four 3.2 tonne overhead travelling cranes with rails levelled by laser beam to fine limits. A constant temperature heating plant and a fire protection system were built in. The structure also incorporated a structurally independent annexe with design and administration offices and stores. The electrically operated doors, with built in personnel doors and patent glazing, were fully insulated and had anemometer controlled cut-outs to prevent opening in high winds.

120 metre span hangar for the Nigerian Air Force Hercules C-130 aircraft at Kainji, Northern Nigeria

This hangar has been designed to allow its doors to be stacked inside at either end to give a full 90 metres clear opening with no obstructions. There are two underslung overhead travelling cranes, one of 10 tonnes capacity and one of 5 tonnes. We designed, made and erected the complete structure.
90 metre span hangar for Inflite Limited – Stansted Airport, UK

This maintenance hangar is 90 metres clear span, 48.8 metres long with a 13.7 metre clear height. Its six, 15 metres wide, door leaves are electrically operated giving a clear opening of 60 metres and are clad in horizontally laid composite panels complete with preformed corners. The roof is fitted with permanent edge protection to protect workers during construction and for future maintenance. The rear elevation has a two storey lean-to ancillary building.

132 metre wide hangar for Emirate Airlines at Dubai International Airport designed to accommodate two Airbus A320-200’s

This hangar has two 66 metre spans with a clear entry height of 20 metres. The whole structure was designed, made and shipped by us in only eight weeks and erected by local engineers in record time. We also designed, made and shipped the 1300 tonne structure for the Air Cargo Terminal at Dubai in twelve weeks this was also erected in record time.
80 metre wide helicopter hangar for Scatsta Airport, Shetland Isles, UK

Shetland Leasing & Property Company (SLAP) called us in to design and build a hangar to house and maintain their helicopters servicing North Sea oil platforms. This new facility has greatly enhanced the working conditions, allowing maintenance engineers to provide a much better service. The hangar is a two span propped portal frame building measuring 80 metres x 41 metres with a 7.5 metre clear height. It’s manually operated doors are clad in vertically laid composite panels. The rear elevation has a full gable frame to permit future end extension. Note the permanent all round roof edge protection to enable the client to maintain the building safely. The structure resists the howling winds blowing straight off the North Atlantic.

945m² hangar for Newcastle Aviation Academy, UK

We designed, fabricated and erected this hangar in conjunction with the civil contractor Morgan Ashurst. The building has extensive facilities, including a three storey accommodation wing, classrooms, workshops and a canteen.

The 33 metres by 7.7 metre high hangar door was also made and installed by us. It is made up of two steel framed and clad slabs driven by hand gears on two tracks.
85 metre clear span hangar with clear entry height of 19.8 metres, big enough to take most aircraft flying today. FR Aviation, Bournemouth International Airport, UK

This hangar was designed, fabricated and erected by us. We also did all the civil work, including foundations, floor slabs and apron.

It is used by FR Aviation in association with sister company Flight Refuelling Ltd (now known as Cobham PLC, who pioneered inflight refuelling) to convert big commercial jets into fuel carrying tankers.

85 metre clear span hangar for maintenance of airliners up to 747-400 size, built for Monarch Aircraft Engineering, Manchester International Airport, UK

We designed, made, erected and clad the complete structure, including the electrically operated doors, the two storey office at the side as well as making and fitting the double glazed aluminium windows for the offices and main doors.

Unusual doors open all to one side, having to ‘jump the gap’ where the tailgate entry interrupts the upper door track and conductor systems.
80 metre span hangar for servicing a fleet of Boeing 747 series freighters for Polar Air at Prestwick International Airport

We designed, fabricated and erected the complete structure using our patented segmental tied portal concept. Design, fabrication and erection took twenty six weeks. Reidsteel also designed and made the electro-mechanical doors complete with outriggers to allow full width opening. A safety feature is the permanent all round roof protection for use during construction and for future maintenance. As with all our work we ensured that Health and Safety and CDM Regulations were met during construction and for the design life of the structure.

Electric motor and reduction gearbox installation in every door leaf.

68 metre span hangar for European Airbus A330 for Aer Rianta PLC at Shannon International Airport, Eire

The hangar has a 20 metre clear height to tailgate top with electro-mechanical doors and a remotely operated tailgate door made by us. We also made the office and workshop structures. Permanent roof edge protection and access was designed into the structure to protect workers both during construction and for future inspection and maintenance. We also designed and made a full span protected walkway at upper track level, accessed by protected ladders from ground level, to install and align the upper door guides and electrical pick-up track. The walkway will also be available for future inspection or maintenance when required. As usual full Health and Safety and CDM Regulations were met during construction.

Permanent roof edge protection system for workers both during construction and for future inspection and maintenance.
New T2 hangar door & extension to house two new aircraft, Biggin Hill Airport, UK

In order to house a BAe 146 with a 26.2 metre wing span and a Dassault Falcon 900 with a 19.3 metre wing span, new doors and an extension were required for the T2 hangar at Biggin Hill Airport.

The new doors have six slabs on three tracks, giving an entrance 30 metres wide by 9.25 metres high. These doors are all electrically operated with a fail-safe system which allows each door slab independent movement via hand held control pendant. The system also allows manual operation when required.

The doors are insulated with horizontally laid microrib composite panel cladding complete with preformed corners. The door hood steel frame was erected independently from the existing hangar steel frame. We erected the steel, fitted the cladding and wired and commissioned the electrically operated doors whilst maintaining access into the hangar for plant etc.

42 metre hangar door & housing for Inflite Ltd, Southend, UK

Inflite Ltd wanted to increase the size of the hangar doors to enable larger aircraft to be maintained and repaired within the hangar. We designed, supplied and erected the steelwork and insulated cladding for the door housing as well as the hangar door itself.

The door housing is 42 metres wide, 2 metres long and 12.5 metres high to offer clear door truss height to suit a 11.85 metre door.

The hangar doors have six slabs on three tracks, giving an entrance 38 metres wide by 11.85 metres high, each door slab being electrically operated. There are also 4.5 metre outriggers on either side.
32 metre clear span hangar for Malta Aircraft Museum

We built this beautiful little hangar for the Malta Aircraft Museum in 2005. The style had to reflect the era of the Second World War and houses a Supermarine Spitfire, a Hawker Hurricane and period Anti Aircraft Guns as well as other WW2 memorabilia.

Malta, the George Cross Island, is rightly proud of its steadfast resistance to the fascist tyranny that swept across Europe during the 1930’s and 40s.

The electrically operated Megadoor is split into three door leaves, separated by swing-up columns, which allows a full width of 45 metres. The two outer door leaves are 9 metres high; the centre 13 metres, when fully opened. For full flexibility the door leaves can be individually opened. One row of vision panels allows daylight to illuminate the hangar interior.

Hangar extension for KLM, Norwich International Airport, UK

KLM UK Engineering who specialise in the maintenance, repair and overhaul of aircraft, have their main base at Norwich International Airport. Due to existing and new contracts KLM were in need of more space. They decided to refurbish a disused hangar which included a 10 metre hangar extension supplied and erected by us. The hangar doors are of the Megadoor type. The hangar can now house the new version of the Boeing 737.
the future single Archspan 200 metres wide

Archspan is not a new system, but the concept has been refined over the years allowing us to progressively increase the clear span. The increasing size of civil and military aircraft has given hangar designers no option but to follow suit and build even greater clear spans. Spans of 200 metres are now possible.

Three Boeing 747's parked wing to wing require a clear door opening of 200 metres which is possible with Archspan frames.

Hangar Doors

The doors are the most used and therefore the most important part of an aircraft hangar. In our standard design each door leaf has its own motor, independently driving the ground wheels via a reduction gearbox. Each leaf has a fail safe opening and closure system which is controlled by two handheld pendants so that the operator is well clear, ahead of the leading edge of the door.

Electro-mechanical brakes are applied automatically; if the operator should let go of the pendant or fall over, the door would immediately stop. The doors are of steel framed bolted construction and clad in materials similar to the wall cladding of the hangar, single skin or insulated. The vertical top rollers, two on each door, have sealed roller bearings and run between two full span steel guide rails. There is an enclosed conductor rail running the width of the door opening and connection of electrical power is achieved by a four wheeled trolley with spring loaded power pick-ups on each door.

Multiple door installation for 85 metre wide hangar built by us for FR Aviation at Bournemouth International Airport. We also made the remotely controlled tailgate roller shutter door.
In the event of an electrical failure the doors can be declutched and pushed manually or towed because the low friction sealed ball-bearing system in the ground-wheel hubs makes them easy to move. Manually operated doors can be designed to be pushed; or moved with a turning handle; or towed. They are also strongly recommended where the electrical supply is unreliable; our doors open and close so easily that power is a luxury rather than a necessity.

REIDsteel hangar doors are designed, fabricated and erected by our own structural, electrical and mechanical engineers. The photo below shows the electric motor and reduction gearbox installation in every door leaf, which allows them to be moved independently.

Hangar doors in course of erection at Manchester International Airport. On completion the hangar will accommodate DC 10 Aircraft. Each door leaf is 18 metres high and weighs 8 tonnes.
Fabric Hangar Doors

Fabric doors can be used where the whole width needs to be open at the same time, but there is no space for outriggers.

Bifolding Doors

Bifolding doors are adaptable to fit most hangars. Small hangars like these benefit from full width opening as well as no bottom door tracks.

Sliding Folding Doors

These are a useful alternative to fabric doors on very small hangars. We can supply doors to your own individual specifications.

All structural design is completed in-house
Here are just a few examples of hangars, large and small which we have designed, made, shipped and erected, world-wide.


**UK** – Aircraft hangar at Biggin Hill with 2 integrated two-tonne overhead travelling cranes.


**UK** – Replacement insulated hangar doors to existing hangar at Scatsta Airport, Shetland Isles.

**AFRICA** – Small hangar for hovercraft for Hoveraid, which is helping people in the Western Zambezi.

**SEYCHELLES** – Aircraft hangar for Air Seychelles Limited.

**UK** – Museum hangar showing two magnificent vintage aircraft, the Mk9 Spitfire and the Mustang P41.

**UK** – 16 metre span hangar with six leaves 5 metre high manually operated doors, built for the Surrey Air Ambulance.

**MADAGASCAR** – Aircraft hangar for Tiko.

**UK, Cranleigh** – 16 metre span hangar with six leaves 5 metre high manually operated doors, built for the Surrey Air Ambulance.
This 280 metre wide hangar has eighteen door slabs with the largest being 26 metres high by 15 metres wide (each slab weighs 16 tonnes), all electrically operated and clad in single skin sheeting with windows, louvres and threshold-less personnel doors.