

MACEMAIN + AMSTAD



Passenger Transport Infrastructure

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Macemain + Amstad

Macemain + Amstad is a family owned British company specialising in the design and manufacture of architectural structures for the passenger transport industry. This brochure provides a sample of the passenger transport infrastructure for Rail, Bus, Air, Cycle and the Pedestrian that we can design, manufacture and install.

Our extensive experience over 38 years in designing and manufacturing passenger transport infrastructure for clients such as Network Rail, Train Operating Companies (TOCs), Local Councils, Passenger Transport Executives and Airport Authorities has led to high profile design projects. We are currently working with Southeastern Railway on the fit out of new Channel Tunnel Rail Link (CTRL) platforms at Stratford International, Ebbsfleet and St. Pancras Stations. Macemain + Amstad is trusted by leading specifiers in the public and private sectors.

We produce a range of products: shelters; waiting rooms; ticket offices; toilet and washroom enclosures; canopies; covered walkways; cycle parking; seating and associated street furniture products and are designed to be fully compliant with the Disability Discrimination Act. Many of these products are based on a wide range of standard and modular components used to streamline the design and specification process – reducing costs and lead times for our clients.

Our unique bespoke design service, in combination with our modular components, enables specifiers to mix and match, creating a virtually limitless portfolio of configurations. Macemain + Amstad can ‘**achieve** the design **you** need’.

We hope you find this brochure interesting and stimulating. Please contact us for an informal chat about your project requirements.

Andrew Manning
Managing Director





Transport Interchanges

Macemain + Amstad can provide a complete project management service for clients with a major passenger transport project.

From initial design concepts we can work with a client to meet the specific project requirements of a brief, in conjunction with streamlining the manufacturing and installation processes and reducing ongoing maintenance requirements.

Projects can utilise a combination of our standard products and/or standardised components and bespoke design service to deliver a unique and practical solution for our clients. Macemain + Amstad can '**achieve** the design **you** need'.

We have been involved in a large number of transport interchange projects for the rail, bus and air industries where we have provided a range of standard and non-standard products.

The £1.5million Bluewater Transit Centre has been one of Macemain + Amstad's most prestigious transport interchange projects. We worked with Benoy Architects to design over three hundred metres of covered walkways to link waiting shelters to the grand 'Rotunda', a building constructed from two-thirds glass and one-third stone. The design and build contract with Bovis Lend Lease included the provision of all operational services, toilets, automatic doors, lighting and heating to cope with the two million passengers annually. The contract covered all aspects of design, manufacture, finishing, installation and ongoing maintenance and refurbishment.





Rail

Macemain + Amstad has an extensive range of products for the rail industry. These have been developed over a number of years in conjunction with clients to meet the exacting requirements of the rail environment. We are working with YJL Infrastructure (YJLi) for Southeastern Railway on new CTRL platform fit outs at Stratford International, Ebbsfleet and St Pancras Stations. One of our key strengths in winning this contract was our technical capability and flexibility to meet the client's requirements.

Our design team has worked very closely and constructively with YJLi, Southeastern Railway and Bovis Lend Lease to enable all design aspects to be incorporated, as well as defining cost effective solutions. This has given our clients total confidence in our ability to deliver the project.

Macemain + Amstad are Link-up approved and our operations comply with, and are competent against, the following standards:



- HMRI Safety Principles and Guidance on Stations
- Office of the Rail Regulator (ORR) Disability Code of Practice
- Building Regulations
- BS 7671 IEE Regulations
- Construction, Design and Management (CDM) Regulations

Furthermore, Macemain + Amstad is CHAS registered (Contractors Health and Safety Assessment Scheme), all site operatives hold valid CSCS certificates, and at least one site operative is first aid trained.

Macemain + Amstad work closely not only with the TOCs but also their contractors and consultants:

- | | |
|------------------------|--------------------|
| • Balfour Beatty | • Atkins |
| • Osbornes | • Bovis Lend Lease |
| • Galliford Try | • Mott MacDonald |
| • YJLi | • Scott Wilson |
| • Carillion | • Mouchel |
| • Dean & Dyball | • Ruddle Wilkins |
| • Serco | • Morgan Est |
| • Parsons Brinckerhoff | • Cyril Sweett |



Shelters

The Paragon Anti Vandal (AV) Shelter is Macemain + Amstad's most widely utilised shelter within the rail industry and is available in a variety of configurations. The shelter was developed from an original brief in conjunction with Railtrack in 1998 (now Network Rail) and is distinguished by a number of key features that withstand vandalism and reduce maintenance costs. For example, the utilisation of solid embossed stainless steel in tandem with the small glazed panel framing system, which is then subdivided into 9 panels (AV9) and specially rebated with all edges rubber cushioned, provides for maximum resistance to vandalism.

The recently launched Paragon II Anti Vandal (AV) shelter has been designed to complement the existing Paragon AV and provide clients with a completely weatherproof shelter option. The potential for extreme weather in Scotland required Macemain + Amstad to work very closely with IDP architects to modify the design of the Paragon AV in order to remove the distinctive wishbones and enable a complete seal between the roof and glazing frames, in turn preventing the ingress of severe weather into the shelter. The Paragon II AV is also available in two glazing formats: AV3 (subdivided into 3 panels) and AV9 (subdivided into 9 panels).

Macemain + Amstad has undertaken extensive shelter refurbishment programmes for all major TOCs such as South West Trains; Southern Railway; First Great Western; First ScotRail and East Midlands Trains, where the Paragon AV9 has been the shelter choice for all of them. Increasingly, we are providing a complete project management service to the TOCs, undertaking all pre-site survey work, design, manufacture and installation, which incorporates site preparation works (concrete foundations and bases), electrical works and groundwork reinstatement (tarmac, block paving, and so on). This provides continuity and consistency for our clients throughout the duration of the project, enabling them to free up valuable internal resources.

For technical information on the Paragon AV and our complete range of shelters, please refer to our Shelter Brochure.





Waiting Rooms

Macemain + Amstad produce a range of standard and bespoke waiting rooms that can include any combination of the following:

Materials

- Hot dip galvanised columns with or without polyester powder coating
- 316 or 316L brushed or embossed stainless steel
- Aluminium

Glazing

- AV9 or AV3 aluminium glazing frames (stainless steel finish)
- Tab fixed glazing
- 10mm toughened glass
- Trespa™ infill panel
- Stainless steel solid panels
- Etched vision strips or logos

Roof Structure

- Barrelled polyester powder coated aluminium roof
- Insulated ceiling cavity or single skin roof

Services/Accessories

- Heating – tubular, air, curtain
- Touch timer operating systems
- Containment provision for Ticket Vending Machine (TVM), Closed Circuit Television System (CCTV), Help Point and Customer Information System (CIS) and integrated systems.
- Flooring – entrance mats, tiled, carpet
- Seating and perch seating

Doors

- Swing doors – manual or automatic
- Automatic push button sliding door, with integrated electro-mechanical lock linked to remote time clock. Full height pocketed safety screen

Lighting

- Recessed fluorescent lighting link to photocell and PIR activation (Stationmaster override)
- Light Emitting Diode (LED) lighting systems





The successful Paragon design has been utilised to develop a range of DDA compliant waiting rooms for the passenger transport industry. The flexibility in the design of these waiting rooms enables us to meet our clients' requirements and provide passengers with a safe waiting environment. The Paragon design features utilised within our shelter options and waiting rooms provide our clients with strong design continuity and options for branding.

The Paragon modular automated waiting room is a fully enclosed unit based on a nominal module size of 1500mm x 1500mm, utilising the AV9 or AV3 glazing frame system. A variety of different sizes and configurations can be provided based on this module unit to maximise the use of a site and reflect a client's requirements.

Where there are specific design requirements or restrictions such as existing roof canopies and limited platform depths, the use of our bespoke design service can provide practical and workable solutions. These solutions can be based on the Paragon modular automated waiting room or may require a unique waiting room solution.

Our installation crews are highly experienced and fully trained to work within a range of environments. On the 'Northern Over Ground Refurbishment Programme' we worked with Tube Lines at Brent Cross, Hendon, Burnt Oak and Golders Green to design, manufacture and install a number of passenger waiting rooms within a tight project programme. All our installation work was undertaken during limited night-time hours, in conjunction with challenging platform access issues.

Please contact our Sales Team with details of your requirements and project brief. Preliminary outline designs and specifications can be provided upon request.



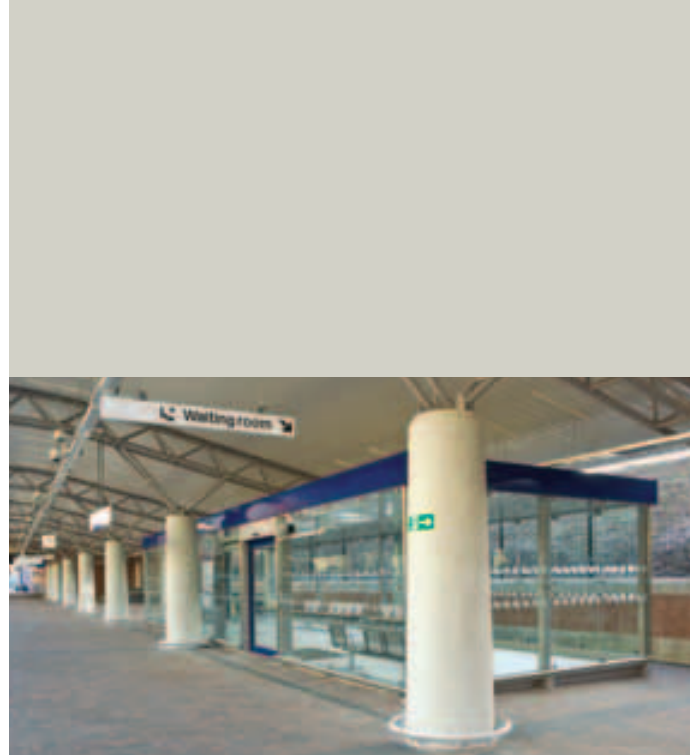


The flexibility in the design of our waiting rooms and the experience of our design team enabled us to work together with Mott MacDonald to provide Transpennine Express with a unique, contemporary waiting room on a new platform at Manchester Airport Station. We utilised our standard components and established technology to design and deliver a modern waiting room.

The key features of the waiting room are as follows:

- Full height 10mm toughened glass - tab fixed
- 316L brushed stainless steel columns and bumper rails
- Auto slide door with full height pocketed safety screen (toughened and laminated glass in door)
- Insulated flat sloping steel rib polyester powder coated aluminium roof
- Piemonte (anti-slip) tile flooring
- Recessed entrance mat wells
- Provision for CCTV and CIS screens
- Recessed heating situated within ceiling - touch timer operated

The result is a very striking, contemporary waiting room for First TransPennine and a safe and attractive waiting room for the passenger.





Ticket Offices

The design concepts of the waiting room have been taken to the next level by Macemain + Amstad to provide the client and passenger with a greater variety of potential services and facilities within a single unit.

At Cwmbran Station, Macemain + Amstad has provided Arriva Trains Wales with a fully fitted ticket office, employing the AV9 glazing frame system. The ticket office, with full length 22m platform canopies, includes for a variety facilities, fixtures and fittings: heating, seating, disabled unisex toilet, staff toilet, auto slide doors, retail area with roller shutter, staff room area, ticket office (sonic window and hearing loop), small kitchen, washroom area and store room.

Macemain + Amstad can also provide a 'Standalone Virtual Ticket Office' facility for a smaller, non-manned station, that includes for the following:

- Provision for a ticket vending machine
- Integrated into the glazing system, full provision (mechanical and electrical) for a customer information system
- Integrated and recessed into the insulated ceiling cavity ceiling:
 - Warm air heater
 - Personnel announcement system
 - Closed Circuit Television System (CCTV)
 - Light Emitting Diode (LED) or fluorescent tubular lighting
- Integrated into modular structure:
 - Automatic push button sliding door
 - Electro-mechanical lock, linked to time lock
- Integrated into modular structural columns:
 - Timed switch for warm air heater
 - Help point in direct line of sight for CCTV
 - Door operator buttons
- Option to include a modular design-integrated toilet facility

For an informal chat on ticket offices, please contact the Sales Team.





Toilet & Washroom Enclosures

The modular automated toilet and washroom is designed by Macemain + Amstad to be fully compliant with the DDA. The self-contained toilet unit (2520mm x 1800mm) can be provided as a standalone unit within a 3000mm x 3000mm enclosure with a service area, or fitted into an existing building.

The standalone module unit (3000mm x 3000mm) comprises hot dip galvanised polyester powder coated columns and a 316L brushed stainless steel glazing system with Tespa™ acrylic infill panels (other finish options are available).

The modular automated toilet and washroom encompasses the following key features:

- Automatic push button door
- Integrated panic alarm system with external beacon and audible alarm
- Internal and recessed hand wash/dryer
- Stainless steel 'hands free' flush toilet
- Recessed warm air space heater, lighting, PIR-controlled, time and thermostatic link
- Wash-down facility
- Service door and fully equipped service area
- Fully insulated
- Document 'M' toilet pack
- Capture and utilisation of rainwater in the functioning of the toilet (mains supply back-up provided)

The self contained toilet unit can be craned into position in a single manoeuvre, and services can be connected to produce a fully operational unit within a single day.



Canopies

Macemain + Amstad produce a range of canopies for the passenger transport industry from small ticket vending machine (TVM) canopies to large, bespoke station platform canopies.

The TVM canopies provide weather protection for the automated ticket vending machines that are now employed throughout the rail industry. They can easily be retrofitted over existing ticket vending machines.

The 'Gate Line Canopy' is a semi-enclosed modular unit that provides weather protection for the electronic ticket turnstiles used by the rail industry. The key design attributes are:

- Hot dip galvanised polyester powder coated columns
- Opal polycarbonate curved roof
- Tab fixed 10mm toughened glass glazing system, with etched vision strip
- Vandal resistant fluorescent strip lighting (LED format available)

The flexibility of these key design attributes enable the canopies to be fitted within very restrictive environments. At Acton Central Station, the Gate Line Canopy was designed to site within an area that was severely restricted by the existing station building, platform roof and a large electrical transformer.

Macemain + Amstad can also provide bespoke station platform canopies. At Twickenham Station, the existing concrete canopy was over-clad in aluminium panels, integrating CCTV, a PA system and lighting. Architectural roof ties were roof-mounted, with stainless steel wire rope supports to a feature front rail.

For further detailed information on our range of canopies, please refer to our Walkway and Canopy Brochure.



Screens

In certain locations where an existing canopy or structure exists, the need for a roof with integrated drainage is often not required. Macemain + Amstad shelters can be supplied without roofs to provide a screened seating area. Popular configurations are 'C' or 'H' shaped units.

At Nelson Station, we provided 'C' shaped screens using the AV9 glazing panel system. We also undertook all groundworks for Northern Rail including site reinstatement and a block paving finish.





Bus

Macemain + Amstad offers six ranges of shelter for the roadside under the following brand names:

- Paragon
- Paragon Anti Vandal
- Clifton
- Chiltern
- Roadside
- Devizes

Within each shelter range there is a wide choice of configurations and styles covering glazing, roof shapes, seating, services and accessories which complement both urban and rural environments. Our bespoke design service is available to specifiers and clients for non-standard and special projects where a particularly sensitive environment or restricted location requires a unique solution. Many of the shelters use common or compatible components, enabling specifiers to mix and match – creating a virtually limitless portfolio of configurations.



Reading Borough Council benefitted from our 'Project Management Service' when redesigning Reading Bus and Rail Interchange. We were appointed to undertake all the design, manufacture, finishing and installation works as well as site preparation works and all groundworks, which included electrical connections for the provision of a 120 metre bespoke stainless steel glazed walkway. As the main contractor and project manager for this project, Macemain + Amstad was involved in the project from its very initial concept through to completion.

Our strong ongoing performance for clients in meeting their requirements, particularly in terms of timely delivery and high quality installation, ensures that many clients return to Macemain + Amstad for our products.

For further detailed and technical information on our complete shelter range and accessories, please refer to the Shelter Brochure.



The Paragon Shelter range, in its various configurations, is widely used as a roadside shelter.

Macemain + Amstad provided waiting shelters for the award winning Norwich Bus Station. The design team at Macemain + Amstad worked very closely with NPS Property Consultants to ensure the Paragon Shelter could incorporate all of the very specific design requirements with regards to electrical management for the RTI systems, PA system and gate control system. In excess of ten Paragon bus shelters were designed, manufactured and installed by Macemain + Amstad. The Paragon Shelters ranged in size from nine to three bays and comprised of enclosed and cantilever shelters.

Macemain + Amstad worked closely with Plymouth Development Council and Plymouth City Council to design a range of bespoke glass bus shelters for a number of prestigious town centre locations including Royal William Yard. The Devizes shelter was developed from a unit originally designed for Royal William Yard by Forum Design, and uses full height 10mm clear toughened glass with a minimal structural framework, giving a modern contemporary feeling to the shelter design. The shelter is available in stainless steel or mild steel, which can complement modern environments or traditional high street locations.

At Bath Spa University, the Devizes unit with its modern transparent qualities has been used in a traditional University setting. The unit harmonises with its surroundings – complementing and not overpowering a sensitive location.





Air

Macemain + Amstad have provided a range of products to Airport Authorities from shelters to covered walkways and extensive canopies. The Paragon range is the most widely used walkway and canopy system and is suitable for simple or complex structures from roof only to fully enclosed and carpeted links.

Macemain + Amstad worked closely with BAA and TPS Consultants to provide a modern, functional walkway for Gatwick Fastway, which was designed specifically to take account of the high security risks associated with an airport environment. The walkway incorporates an 80m x 3.2m faceted walkway and waiting area, with laminated glass. Blue polycarbonate was used as a roof infill to reduce glare and give corporate identity to the unit.

Macemain + Amstad has also worked with BAA at Heathrow Airport. Alongside Pascall + Watson Architects, Macemain + Amstad designed a walkway at Heathrow Bus Station that specifically needed to be quick to install given the ongoing operation of the bus station, high passenger numbers and a very limited working area.

For a full range of products and technical information, please refer to the Shelters Brochure and Walkways and Canopies Brochure.



Cycle

Macemain + Amstad offers a range of contemporary cycle parking products from cycle stands and racks to high security compounds. Our bespoke design service is offered for non-standard or special projects requiring a unique solution.

Macemain + Amstad offers three standard ranges of modular cycle shelters to complement the receiving environment:

- Ashford Shelter
- Devizes Shelter
- Paragon Shelter

The modular nature of these shelters also enables an infinite number of configurations for high security compounds and lockers. A range of locking mechanisms is available to meet customer requirements.

The Ashford Shelter generally comprises an aluminium framework and 'H' rib securing UV stabilised 3mm clear polycarbonate, polyester powder coated in any standard RAL colour. The Devizes Shelter comprises a mild steel or 3mm clear polycarbonate roof, front and rear rails with columns in a galvanised finish. Alternative materials and finishes are available.



The Paragon Cycle Shelter adopts all the design attributes of the standard Paragon design: three glazing system options, integrated drainage and optional lighting.

The Sheffield Cycle Stand is available singularly or in a toast rack design of varying lengths. Signage boards and contrasting materials can be incorporated as required.

The unique 'cycle pin' provides for a contemporary cycle stand available in stainless steel, galvanised mild steel and polyester powder coated. The cycle pin is capable of front wheel mounting for restricted spaces or central mounting for frame and securing.





Pedestrian

Macemain + Amstad offers a range of walkways and canopies based on the modular components of the following shelter ranges:

- Paragon
- Paragon Anti Vandal
- Clifton

Within each range there is a wide choice of configurations covering spans, roof shapes, structural posts, glazing, services and accessories. By working with these modular systems we can offer the benefits of reduced costs and simplified specifications through the use of standardised components, sections and details.

Our bespoke design service is available to specifiers and clients for non-standard and special projects, where a particularly sensitive environment or restricted location requires a unique solution. We utilise computer-aided design throughout the bespoke design service to ensure consistency across even the most complex special project designs.

We provided a unique solution to a challenging brief at Lancaster University, where a covered walkway was required to link University buildings. The brief was for a faceted and stepped walkway with an angled roof and restrictive fixings. The low barrel Clifton system was utilised to overcome these problems. A detailed site survey was required to enable a 3D model to be created to achieve the final result. During this process, we and the client were able to see the 3D problems not easily visible in a 2D format, thus eliminating costly redesign and manufacture and enabling smooth installation.

For our full range of walkways and canopies, please refer to the Walkways and Canopies Brochure.





Sustainable Design

Macemain + Amstad seeks to continually improve its environmental performance by preventing pollution, minimising waste and increasing energy efficiency.

Solar Power

Macemain + Amstad promotes the use of Light Emitting Diode (LED) systems. Photovoltaic cells are used to convert light from the sun directly into electricity. This electricity is used to illuminate LED and charge a battery system which provides power to the LED system in hours of darkness.

LEDs use 75% less power than conventional fluorescent lighting and have a life span of up to 80,000 hours.

In a Paragon AV Shelter, two parallel strips of LED lighting are required per modular bay. The LED lighting is powered by two photovoltaic cell packs per bay, fixed to the external roof bays as illustrated at Swanscombe Station in the above photograph. A self-recharging battery pack is included within the ceiling recess and linked to the photovoltaic cells.

The light operation within the shelter is linked to a photocell to ensure lights are only fully illuminated when required. A PIR system activates the lights to full power when the unit is occupied and returns to half power when the unit is empty. A timer facility is available to enable complete switch off.

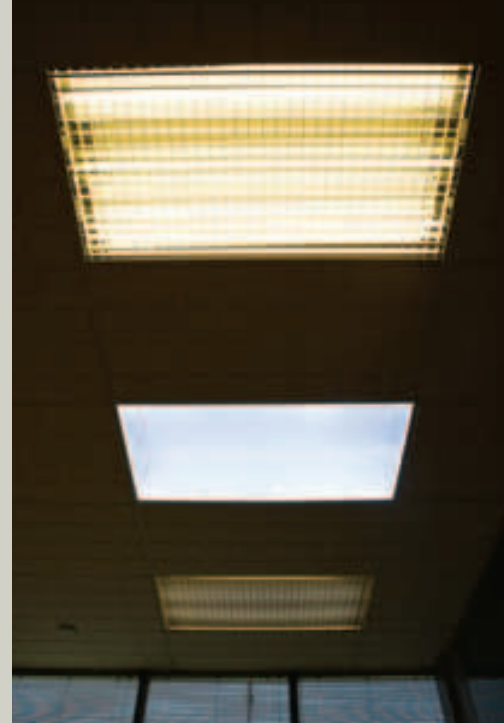
Recyclable Materials

The following key construction materials are employed by Macemain + Amstad within the Paragon products:

- Mild steel galvanised polyester powder coated columns:
 - Contain 10% recycled materials
 - The installed column is 100% recyclable
- 316L (marine environmental grade) stainless steel brush finished columns:
 - Contain 5% recycled material content
 - The installed column is 100% recyclable
- Aluminium glazing frame system containing 10mm thick toughened glass:
 - Aluminium content contains 10% recycled material
 - The glass content and aluminium frame is 100% recyclable
- Aluminium polyester powder coated insulated roof structure:
 - Aluminium content contains 10% recycled material
 - The aluminium roof structure is 100% recyclable
 - The installed 150mm thick insulation is manufactured from Warmcel 100 – a natural cellulose fibre insulation made from recycled newspaper

Water Management

Rainwater management is standard on all Paragon products and can be collected to be recycled as the client requires. Rainwater is collected and channelled down the corner module columns. This facility is internal to the column and completely hidden from external view. Integrated within the groundworks, the option exists to collect this water for subsequent use as required, for example in an integrated modular toilet.



Achieve the design **you** need

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