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comar
ARCHITECTURAL ALUMINIUM SYSTEMS

comar 1,3,4&8

Ground Floor Treatment

Innovative, integrated aluminium ground floor framing suites.



complementing architecture

Design

Solution

Perform

Deliver

On-time

Sustainable



comar

Comar Architectural Aluminium Systems is the largest British, privately owned aluminium systems company in Europe.

Comar designs, extrudes and distributes over 700 integrated profiles to a Nationwide approved fabricator network for use in aluminium ground floor treatment, window, door and curtain walling applications.

Comar has built its reputation on delivery; over £6M of mill finish, standard white polyester powder coating, silver and bronze anodised profiles are kept in stock. This means that 99% of orders are fulfilled by our customers next weekly delivery. Single and dual colour polyester powder coating can be delivered in 15 working days. For architects and specifiers, a Nationwide team of specification consultants provide project-by-project advice on design, building regulations, U-value and wind loading calculations as well as NBS specifications, budget pricing and approved fabricators. This service to specifiers ensures that projects run smoothly from concept to installation.

Comar Architectural Aluminium Systems is an ISO 9001 registered company. Comar is a sponsor member of the CWCT; is a member of the Council for Aluminium in Building (C.A.B), at which we are a Technical Committee member. Comar provides CPD seminars to architects and designers through the RIBA CPD network and offers CWCT training courses and seminars through its own Training Centre at Mitcham in Surrey.

Membership with these Associations ensures that customers are kept up to date with the very latest in building technology and regulations.

Comar Designed for Performance, Backed by Delivery.



design

Comar Ground Floor Treatment

Comar's four integrated suites of ground floor framing provide distinctive façade solutions to schools, retail outlets, shopping centres and corporate headquarters. The extensive profile range incorporates variable angle corners, three way glazing options and high span mullions that provide design solutions for single storey projects which are curved or angled, with large expanses of glazing, such as car showrooms, or entrances that create a focal point to a building.

To complete the envelope the four suites integrate with Comar 7 high performance doors and Comar 5 windows to provide opening lights.

Comar 1 and Comar 3 are single and double glazed ground floor framing suites. A two part channel and plate clip together to form a 100mm x 45mm box section enabling modular sash construction. Both systems include three way glazing options, corner profiles to allow 90° and 135° returns, variable angle corners with special beads and carriers to accommodate glass and panels from 4mm to 36mm.

Comar 4 is a 45mm x 45mm system which integrates fully with Comar 1 and is often the perfect solution for partitions or less demanding façades. Glazing pockets suit 4mm to 13.5mm glazing and a wide range of profiles and components are available to support aluminium or timber doors.

For a fin and bead system, Comar 8 provides a fast and cost effective store front solutions.

Comar Ground Floor Treatment

Supporting the Comar 1, 3, 4, and 8 suites are Comar's Technical Department who offer advice to architects, specifiers and fabricators on calculations such as wind loading, integration with other Comar systems and envelope materials. This service is offered on a project-by-project basis at any stage of the tender process.

Thermal Performance

Comar 1 and 4 are single glazed systems and can be used where thermal performance is not a major consideration and can be traded off against other elements of the building envelope. If, however, thermal performance is required, Comar would recommend Comar 3 or 4 which permits double glazing. For further information Comar's Technical Department will provide U-value calculations on a project-by-project basis.

Genesis

To our Nationwide network of approved fabricators, Comar supplies Genesis estimating software. Genesis is a powerful estimating tool; it provides fast, accurate pricing from plans and tenders for the entire Comar product range.

Genesis includes the facility to provide section through details which can be exported to CAD so Comar approved fabricators can add detail to design drawings.

All approved fabricators are trained in Genesis, ensuring Comar approved fabricators provide accurate budget pricing and tender returns.

Research and Development

Comar 1, 3, 4 and 8 have been continuously developed to ensure they can be used to complete the most demanding façade. New profiles are regularly introduced. If your project requires new extrusions, Comar's Technical Department will discuss individual projects and develop new profiles to achieve the design brief.



solution

Comar Ground Floor Framing Suites

COMAR 1

Comar 1 is an aluminium single glazed low rise ground floor framing system, with 45mm sight-lines, variable angle returns, expansion facility and 3-way glazing options.

TYPES

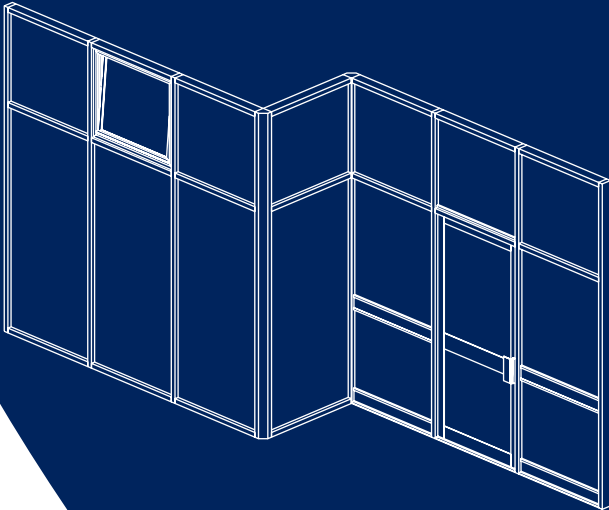
Single glazed façades are dependent on wind loading and should be discussed with Comar's Technical Department.

COMAR 3

Comar 3 is an aluminium double glazed low rise ground floor framing system, with 45mm sight-lines, variable angle returns, expansion facility and 3-way glazing options.

TYPES

Double glazed façades are dependent on wind loading and should be discussed with Comar's Technical Department.



COMAR 4

Comar 4 is an aluminium single glazed system used for less demanding façade work or internal partitions with 45mm sight-lines. A range of profiles and components support aluminium or timber doors.

TYPES

Single glazed façades are dependent on wind loading and should be discussed with Comar's Technical Department.

COMAR 8

Comar 8 is a low rise fin and bead single or double glazed aluminium system, with 45mm sight-lines, used for fast-track installation, with variable angle returns and sash rails.

TYPES

Single glazed façades are dependent on wind loading and should be discussed with Comar's Technical Department.

Combinations

Comar 1, 3, 4 and 8 integrate with Comar 7 doors to create single storey façades. Comar 7 doors can be hung directly from the framework on overhead closers from the AXIM range. Door configurations can be swing, pivot, rebated, sliding and sliding/folding. For automatic store entrances Comar ground floor treatment suites can incorporate Comar 7 Auto Door beams: a single extrusion that supports most major manufacturers bolt-on automatic door gearing. If opening lights are required Comar 5, 5lt and 5Pi integrate directly into Comar 1,3 and 8. Multiple runs of single storey screens can be achieved through various coupling options.

perform

Specification

Comar Architectural Aluminium Systems have a nationwide team of architectural advisors who specialise in providing architects and specifiers with project support, calculations and NBS specifications.

The relevant NBS clauses are:

- H11 Curtain Walling
- L10 Windows/Rooflights/Screens
- L20 Doors/Shutters/Hatches

Nationwide Approved Fabricator Network

Once Comar 1, 3, 4 and 8 has been specified, a nationwide network of approved fabricators ensures the successful completion of projects. Your Comar Architectural Advisor can provide fabricators who specialise in commercial, new, refurbishment or public building work.

Calculation

Calculations, such as wind-loading, U-values, size and weight limitations for projects, can be obtained from Comar's Technical Department.



Finishes

Comar 1, 3, 4 and 8 finishes are available in all RAL, Syntha-Pulvin and anodised colours.



Weather Performance

In the absence of a British Standard for framing systems, Comar 1, 3, 4 and 8 conform to industry standards adopted by trade associations such as the CWCT.

perform

Gaskets & Glazing

Glazing

Generally, all glazing shall comply with the requirements of the British Standard Code of practice for Glazing in Buildings.

Glass or panels from 3mm to 35mm thick are supported on glazing packers. Optional beads & carriers are available for special conditions. Glazing is set dry against EPDM rubber gaskets.

Where specified, the specification of hermetically sealed double glazed units shall be as stated in the works section.

Glazing Options

System	Minimum	Maximum
Comar 1	4mm	13.5mm
Comar 2	22.5mm	32mm
Comar 3	4mm	13.5mm
Comar 4	6mm	35mm



Security

Comar 1, 3, 4 and 8 have been designed to conform to the relevant industry standards, such as those laid down in the CWCT's "Standard and Guide to Good Working Practices".

Materials

Extruded aluminium profiles are of aluminium alloy 6063 T5, T6. Glazing gaskets are extruded from EPDM rubber.

System Limitations

The critical limiting factor in specifying ground floor framing is wind loading. Comar's Technical Department are able to offer guidance on wind loading on a project-by-project basis.

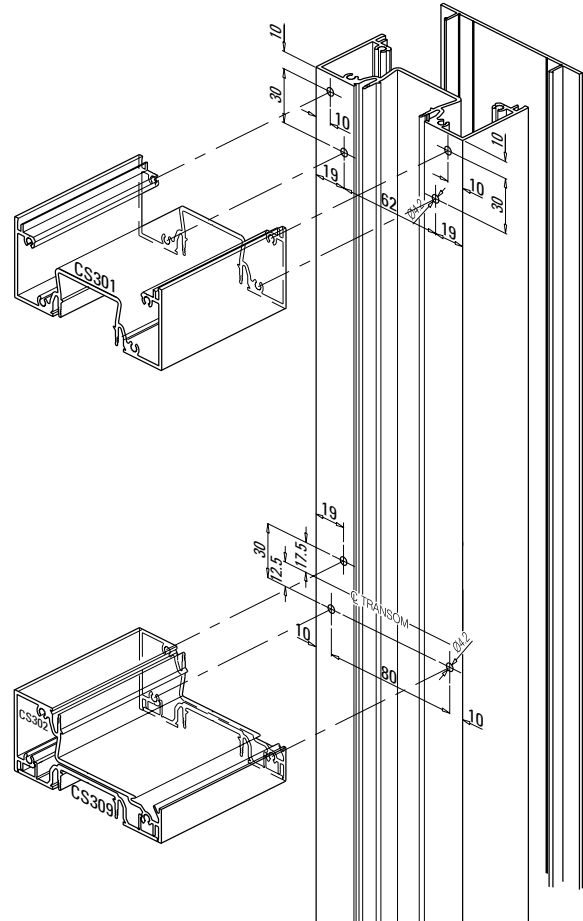


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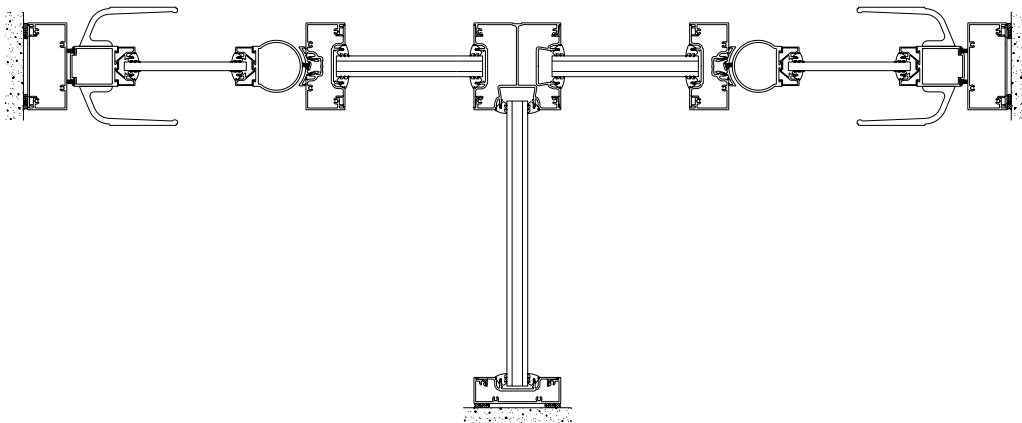
Construction

Comar 1, 3, 4 & 8

A two part channel and plate mullion clip together to form a 100mm x 45mm box section enabling modular sash construction. All main extrusions have four fixing screw ports for superior joint strength. Additional corner profiles allow for 90° and 135° returns, variable angle corners and three way glazing. Various cill sections provide drainage to the exterior.



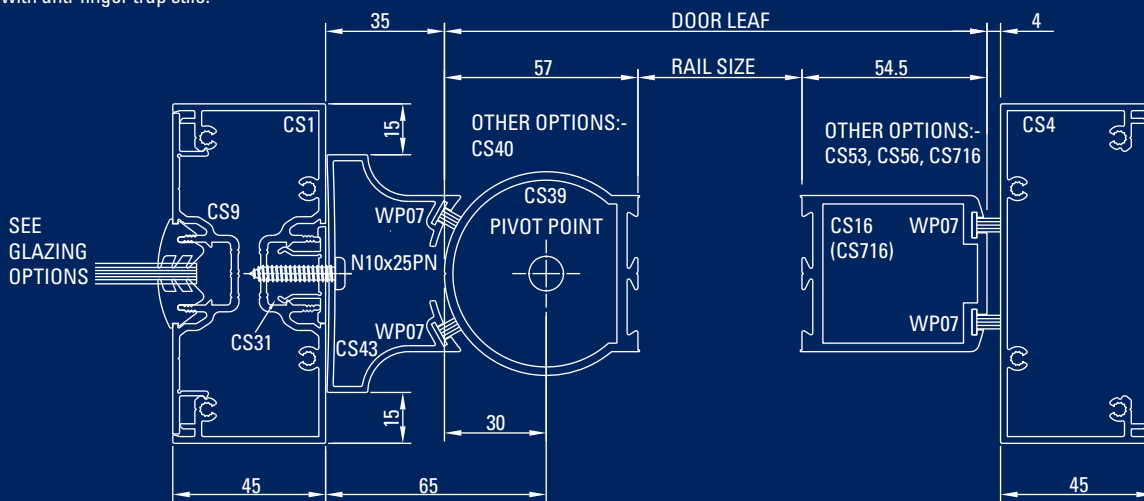
Three Way Glazing



on-time

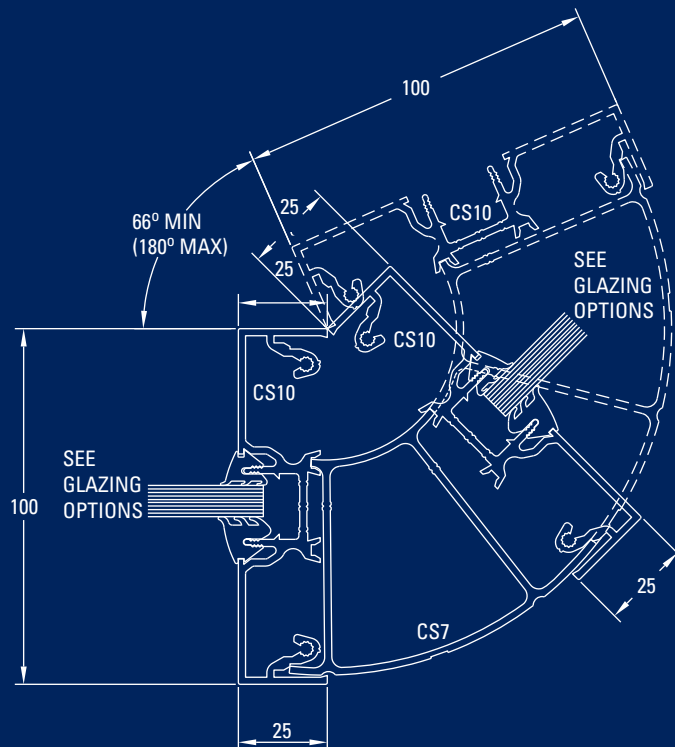
Comar GFT Integration with Comar 7

General arrangement showing integration on the Comar 7 door range with anti-finger trap stile.



Comar Variable Angle Returns

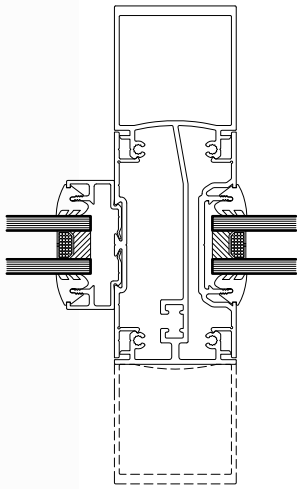
General arrangement showing 90° to 135° variable angle return option.



on-time

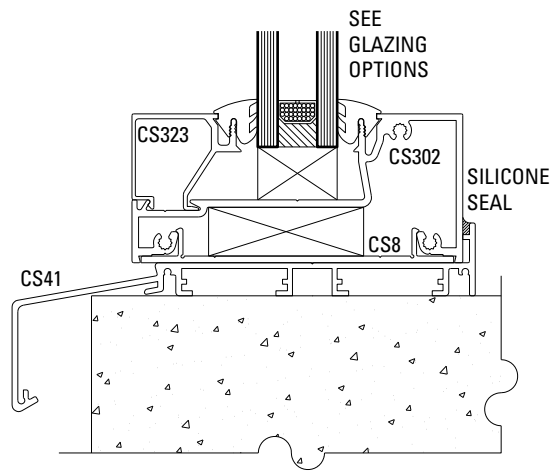
Comar GFT High Span Mullion

General arrangement showing High Span Mullion.



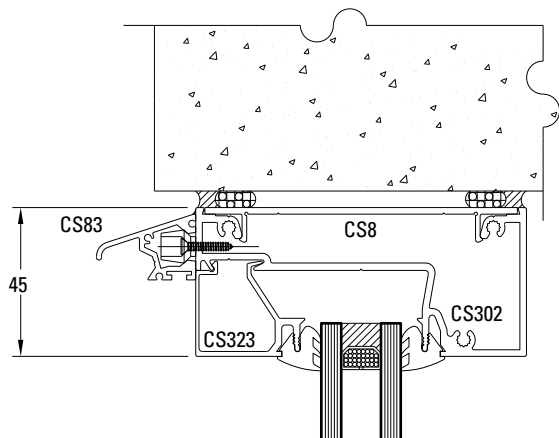
Comar 3 Sill Detail

General arrangement showing Sill details of Comar 3 Ground Floor Framing.



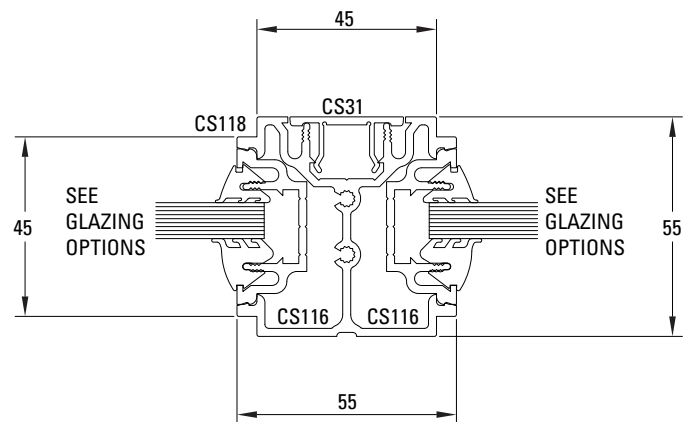
Comar 3 Head Detail

General arrangement showing head details of Comar 3.



Comar 4 Mullion Detail

General arrangement showing 45mm Comar 4 Mullion detail.



sustainable

Today's world calls for us all to be more conscious of our environment. In 1998 the world recognised this by signing the Kyoto Agreement. The Kyoto Agreement directly affected the construction industry by demanding that buildings become more thermally efficient. With these demands longevity, thermal efficiency, sustainability and recyclability are now critical factors in construction.

Why Aluminium...

Aluminium provides a unique solution for today's construction needs. Aluminium is light, strong, durable and flexible which provides tremendous potential for achieving even the most demanding design brief. Two thirds of the energy required to extract aluminium is supplied by environmentally friendly, hydroelectric power. Couple this with the recyclability of aluminium and aluminium is the ideal choice for Windows, Doors and façades.

Sustainability...

The recycling process now produces high quality aluminium, which is very cost effective and can be carried out on an indefinite number of occasions without impairing the quality in any way. It is a very durable material and has very low maintenance requirements, therefore reducing the whole-life cost. It is long lasting and can withstand the ravages of the most extreme conditions. Aluminium is an excellent material to use in marine and coastal environments, as the effect of sodium chloride is minimal.

Sustainability concerns are alleviated by the knowledge that we have at least 300 years of known reserves of the raw material, Bauxite, and this does not allow for the fact that 70% of all aluminium used is recycled at the end of its product life.

Thus with ever increasing proportion of recycled material in use, aluminium can be accurately described as the ultimate sustainable material.

Longevity...

Unlike some alternative building materials, aluminium offers an almost unlimited life expectancy. A notable example of this is the Statue of Eros in London's Piccadilly Circus, which has only just been cleaned and renovated, and The Empire State Building, the latter being the first building to use anodised aluminium. Aluminium does not age like other organic materials and needs no protection from ultra-violet light. Aluminium can be polyester powder coated or anodised to a variety of colours, which enhances the materials natural durability. Comar's powder coater's guarantee their finishes for 25 years and anodiser's for 30 years.

Recycling Check List

"The recyclability of aluminium – one of its unique properties along with strength, durability and corrosion resistance – has led to its increased use in construction over recent years. Used aluminium is valuable and is easily and endlessly recycled without quality loss. The material is very rarely 'lost' entirely because of this."

Important issues to note are:

- The quality of aluminium is not impaired by endlessly recycling
- Re-smelting aluminium saves up to 95% of the energy needed to produce the primary product
- It is the most cost-effective material to recycle
- The overall market for used aluminium is steadily growing, so the more aluminium there is in a product, the more chance it has of being recycled
- The recycling rate of used aluminium products in building is over 80% (over 95% in transportation and 30% in packaging)
- 30% of the 1.9 million tonnes of aluminium used in Europe in 1997 came from recycling

Source: Council for Aluminium Building & The European Aluminium Association.



Standards

BS ISO 9001	Quality management systems – Requirements. Certificate FM553615.
BS ISO 14001	Environmental management systems – Requirements. Certificate EMS 555373.
BS ISO 45001	Occupational health and safety management systems. Requirements. Certificate OHS 613332.
BES 6001: issue 3.1	Responsible Sourcing. Certificate RS0041.
BS EN 485	Aluminium and aluminium alloys - Sheet, strip and plate.
BS EN 515	Aluminium and aluminium alloys - Wrought products temper designations.
BS EN 573	Aluminium and aluminium alloys - Chemical composition and form of wrought products.
BS EN 755	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles.
BS 3987	Specification for anodic oxidation coatings on wrought aluminium for external architectural applications.
BS EN 1991	Eurocode 1 - Actions on structures - General actions - Wind actions.
BS EN 1279	Glass in building - Insulating glass units.
BS 4255	Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets.
BS 4873	Aluminium alloy windows and door-sets – Specification.
BS 6262	Glazing for buildings.
BS 6375	Performance of windows and doors.
BS EN ISO 7599	Anodizing of aluminium and its alloys - Method for specifying decorative and protective anodic oxidation coatings.
BS EN 12020	Aluminium and aluminium alloys - Extruded precision profiles in alloys EN AW-6060 and EN AW-6063.
BS EN 12206	Paints and varnishes - Coating of aluminium and aluminium alloys for architectural purposes (powder coating).
BS EN 12365	Building hardware - Gasket and weather stripping for doors, windows, shutters and curtain walling.
BS EN 14351	Windows and doors - Product standard, performance characteristics - Windows and external pedestrian door-sets.
C.W.C.T.	(Centre for Window & Cladding Technology)

Certificates

KM 578160	Kitemark for BS 4873 / PAS24 Enhanced Security Aluminium Windows System Supplier.
KM 578159	Kitemark for BS 4873 Systems Supplier Aluminium alloy windows.
KM 593756	Kitemark for BS 4873 / PAS24 Enhanced Security Aluminium Door System Supplier.
Q-Mark 162	Q-Mark Window General Performance to BS 4873: Aluminium.
Q-Mark 154	Q-Mark Enhanced Security Window scheme to PAS 24:2016 and BS 4873: Aluminium.
Q-Mark 185	Q-Mark Enhanced Security Door scheme to PAS 24:2016 and BS 4873: Aluminium.

Secured by Design Licence Holder

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