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comar7

## High Performance Aluminium Doors

Comar 7 High Performance Doors is an extensive range including centre pivot, butt hung swing, rebated, manual or automatic sliding/folding and polyamide insulation, patio and rebated door sets. A range of anti-finger traps, rails and stiles extend the design options to provide the most comprehensive door system on the market.

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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 £3M of mill, 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 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 9002 registered company. Comar is a member of the Council for Aluminium in Building, (C.A.B) and is a Technical Committee member as well as the CWCT (Centre for Window & Cladding Technology).

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 7 Swing, Pivot, Rebated, Sliding/Folding, Armoured Glass & Patio Doors

Comar 7 is the specifier and installer preferred aluminium commercial door system throughout the UK.

The extensive profile range, designed specifically for fabricators and developed through design concepts, provides combinations such as sliding, patio, sliding/folding, rebated, swing, Armoured Glass (A.G.) and pivot doors.

Three ranges are available: Comar 7, Comar 7 high performance Tempest and Comar 7P.i polyamide insulated doors. Where low U-values are required, Comar 7P.i offers maximum thermal efficiency as well as durability.

Comar 7 is face drained and has a variety of drained thresholds, including low ramp thresholds, to comply with the latest building regulations and the Disability Discrimination Act (D.D.A.)

With an extensive range of door stiles with sight lines ranging from 28mm to 110mm and rail styles from 10mm to 200mm, which can be internally or externally beaded up to 40mm, Comar 7 provides the capability to achieve durability, performance and visual appeal.

These profile options allow construction of combinations of single leaf doors up to 2300mm high and 1200mm wide. However, dependent on the location, glass type, hardware and door type, larger configurations such as vehicle access sliding doors can be manufactured. Please contact Comar's Technical Department for advice on specific projects.

Comar 7 integrates into Comar's ground floor framing, curtain walling suites and couples to window suites to provide fixed and opening fan and side light options. Comar 7 Tempest doors have exceeded the requirements of BS 6375 reporting no water leakage at 1200 pa.



## Comar 7 & U-values

Comar 7P.i offers exceptionally low U-values. Supporting this thermally broken suite is Comar's Technical Department who offer advice to architects, specifiers and fabricators on U-value calculations, wind loading and integration. This service is offered on a project-by-project basis.

## V6

Through our Nationwide network of approved fabricators, Comar supplies V6 estimating software. V6 is a powerful estimating tool; it provides fast, accurate pricing from plans and tenders for the entire Comar product range.

V6 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 V6, ensuring Comar approved fabricators provide accurate budget pricing and tender returns.

## Research and Development

Comar 7 has been continuously developed to ensure it 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.

COMAR7

# solution

## Comar 7 Doors

### Description

Comar 7 is a range of commercial doors with an extensive range of durable profiles that provide high performance in retail, public buildings, schools and leisure applications.

### Types

Comar 7 Doors can be sliding, sliding/folding, rebated or swing opening in or out and include A.G. options.

## Comar 7 Tempest High Performance Doors

### Description

Comar 7 Tempest Doors offer outstanding weather performance and durability.

### Types

Comar 7 are rebated open in or open out, with double brush weather seals to offer outstanding weather performance.

## Comar 7P.i

### Description

Comar 7 P.i doors couple high weather rating and polyamide insulation to provide low U-values that offer exceptional thermal efficiency.

### Types

Comar 7P.i is a rebated open in or open out door.

Comar 7P.i HSD is a sliding door patio system.

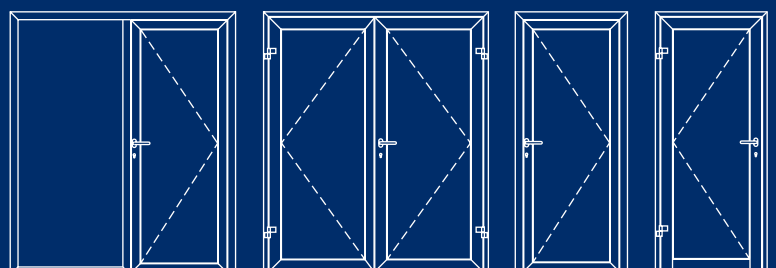
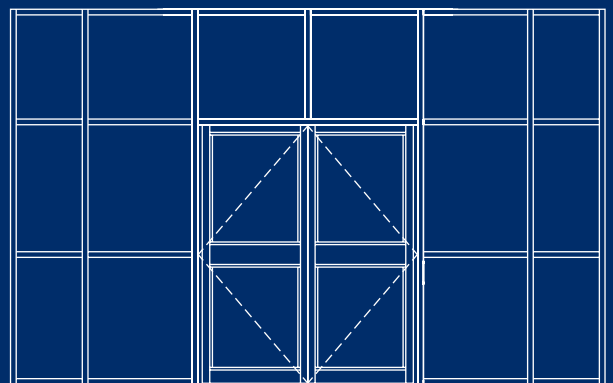
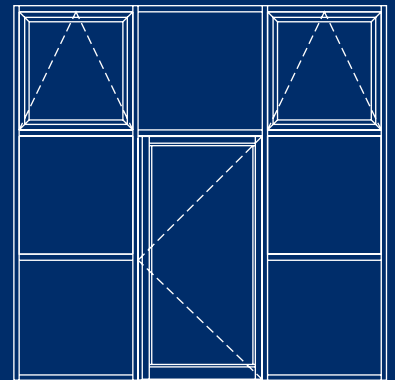
## Comar 7, Tempest & 7P.i Configurations

### Configurations

Doors can be coupled together to form multi-entrances in a variety of configurations.

## Combinations

Comar 7 can be installed directly into Comar 6 curtain walling and Comar 2 window walling. For applications that require entrances for ground floor framing, Comar 7 integrates into Comar 1, 3, 4 and 8.



# 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 7 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 7 finishes are available in all RAL, Syntha-Pulvin and BS colours. Aluminium profiles are finished to the following specifications: silver, bronze and black anodising AA 25 to BS EN 12373-1 : 2001 or BS 3987. Liquid organic coating to BS 4842 : 1984. Polyester powder coating to BS 6496 : 1984.



## Weather Performance

On test, Comar 7 Tempest Doors exceeded the requirements of BS6375 Part 1:

2000Pa	Special Resistance to wind load.
1200Pa	Water tightness
600Pa	Air tightness

## Comar 7P.i Doors Thermal Performance

U-value Centre Pane

Single Leaf Doors	1.7	1.5	1.2	1.1
Open In	2.48	2.35	2.16	2.10
Open Out	2.48	2.35	2.16	2.10

U-value Centre Pane

Double Leaf Doors	1.7	1.5	1.2	1.1
Open In	2.42	2.28	2.08	2.01
Open Out	2.42	2.28	2.08	2.01

*Please note: Door sizes are based on the CEN door size recommended in Approved Document L1 & L2 legislation:*

- Single Leaf Doors 1.0m x 2.0m no side or top panels
- Double Leaf Doors 2.0m x 2.0m no side or top panels



COMAR7

# perform

## Hardware, Glazing & Gaskets

Comar 7 utilises a range of hardware such as handles, locks, panic exit devices and flush bolts available from the AXIM range of architectural hardware. Comar 7 doors can be fabricated to incorporate all major manufacturers automatic door gearing and panic exit devices.

### Glazing

Generally, all glazing shall comply with the requirements of BS 6262: 1982, British Standard Code of Practice for Glazing in Buildings.

External glazing beads are mechanically fixed to rebates for security. Glass is set dry against glazing tape or EPDM gasket and retained by a variety of clip-in beads which permit glazing thicknesses from 4mm to 40mm.

Where specified, hermetically sealed double glazed units shall comply with the requirement of BS 5713 : 1979. The specification of hermetically sealed double glazed units shall be as stated in the works section.

### Gaskets

Glazing materials are high performance pre-formed non-structural gaskets complying with the requirements of BS 4255, Part 2.

## Security

Comar 7 has been designed to conform to the relevant industry standards, such as BS 7950 and, where applicable, PAS 24.

## Materials

Extruded aluminium profiles are of aluminium alloy 6063 T5, T6 to BS EN 755-1 : 1997. Comar 7Pi has a thermal barrier 22mm polyamide strip. Double-sided brush seals are polypropylene brush seals woven backed for inside and outside weather protection. Wool-piles meet the severe weather rating requirements of the British Standard Institute and also comply with the Architectural Aluminium Association of the U.S.A. (AAMA 701.2:1974). Gaskets are extruded from E.P.D.M. rubber.



## System Limitations

Width Maximum	1200mm*
Height Maximum	2300mm*

*\*The above limitations are dependent on the project application. Larger or smaller sizes may be achieved, please contact Comar's Technical Department for project-by-project advice.*



# on-time



## Construction

Standard stiles and rails incorporate twin wool-piles to bypass the lock and pivot hardware, providing a double seal around the perimeter of the door.

For single action rebated doors, multiple E.P.D.M. seals between the door and frame along with a drip profile on concealed fixings, provide a truly weather tight door.

Comar 7 rail and profiles are square cut and fixed into the stiles for virtually invisible joints and assembled with the following jointing options:

### Tie Rod

- Cut-out in stile and holes in stile are punched and corners assembled by securing with 8mm tie rod and M8 hexagon nuts.

### Welded

- Holes are punched and rail plug welded to top and underside of cleat. Rail ends are welded to the cleat/stile.

### Glued & Pinned Options:

Externally bolted & pinned.

- Holes are punched and corner assembled by taper pins and secured with aluminium glue.

Internally Bolted & Pinned.

- Cut-out in stile and holes in stile are punched and corner assembled by taper pins and secured with aluminium glue.

## Door Stiles Available

In order to maximise the design flexibility of Comar 7, a wide range of door stiles, top and bottom rails and mid-rails are available.

- Rails 18 types 10mm to 200mm
- Stiles 11 types 28mm to 110mm

## Safety Anti-Finger Traps

In applications where safety concerns are paramount, Comar 7 can be fitted with a range of anti-finger traps. Anti-finger trap arrangements are achieved by specifying specially extruded single section door stile profiles and jamb liners.

## Threshold

For different levels of performance to suit the application, e.g. high weather performance or Disability Discrimination Act, Comar 7 offers the following options:

- Non-drained threshold Single & double ramp low-rise threshold
- Drained Threshold Single & double ramp drained low-rise threshold
- Rebated Threshold Drained Threshold

## Automatic Door Applications/ Automatic Door Beams

When automatic door operation is required, Comar's unique automatic door beams enhance the aesthetic appeal of automatic sliding doors by eliminating the need for aluminium panels and timber packing.

Comar's range of automatic door beams accept virtually all major manufacturers bolt-on automatic door gearing.

## Automatic Door Guide Profiles

Guide rail channels to keep the door in alignment with double brush seals that increase weather performance.

## Automatic Rail & Stiles

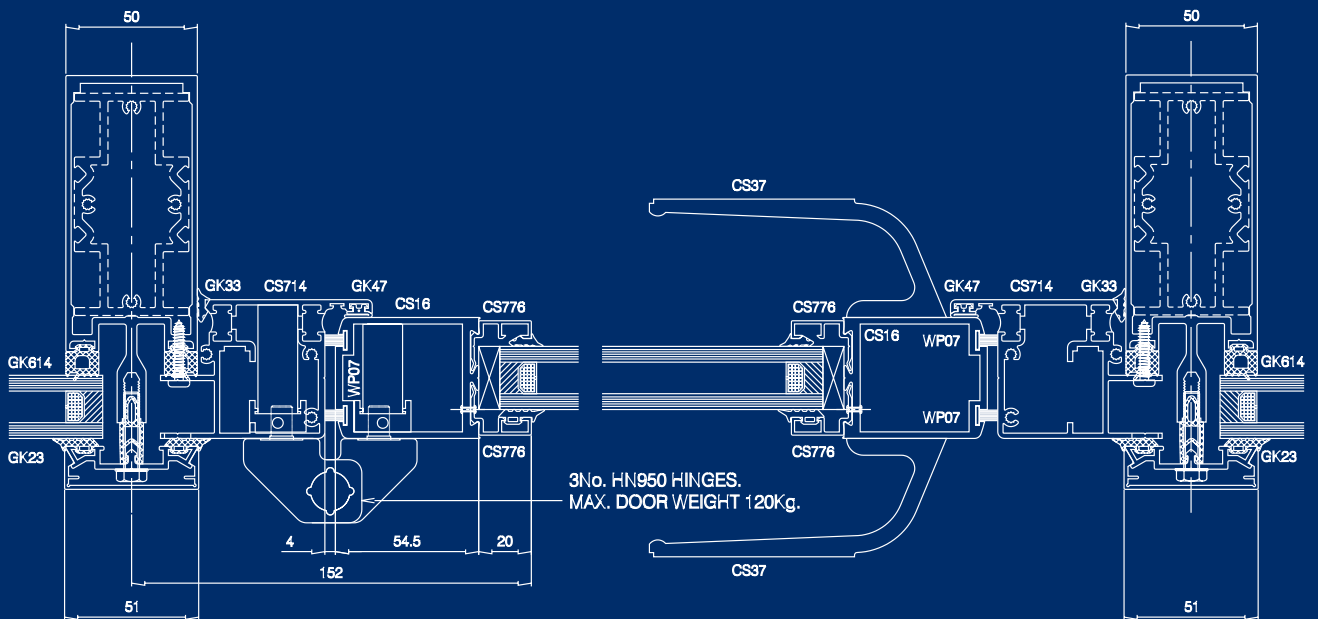
Special rails and stiles to suit the housing of major manufacturers automatic door gearing.



# on-time

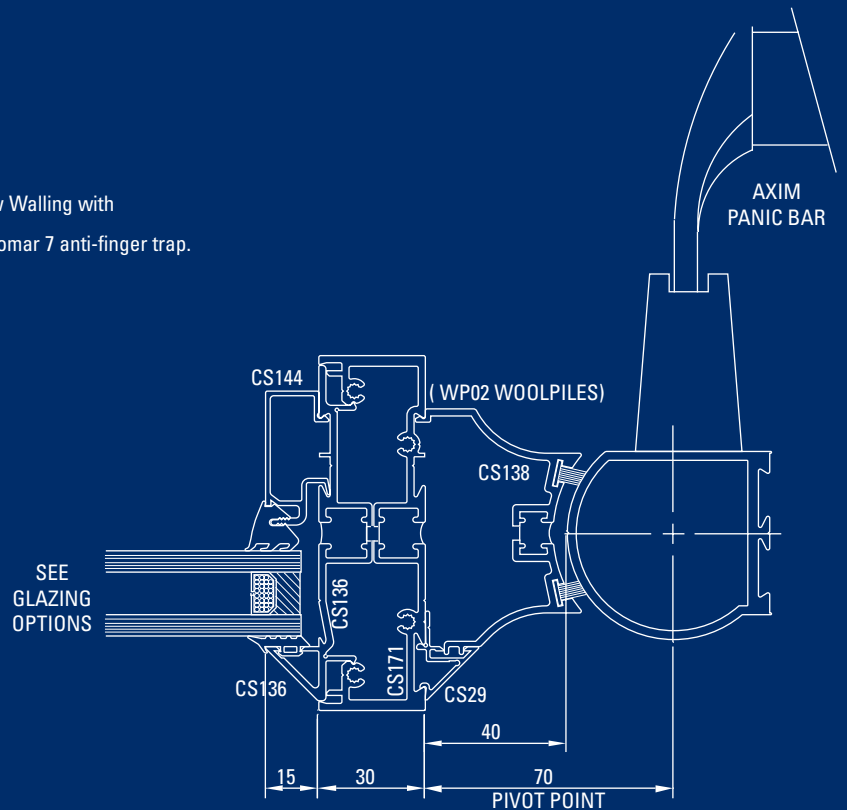
## Integration Door into Curtain Wall

General arrangement showing integration of Comar 7 Tempest rebated door into Comar 6 Curtain Walling.



## Anti-finger Trap

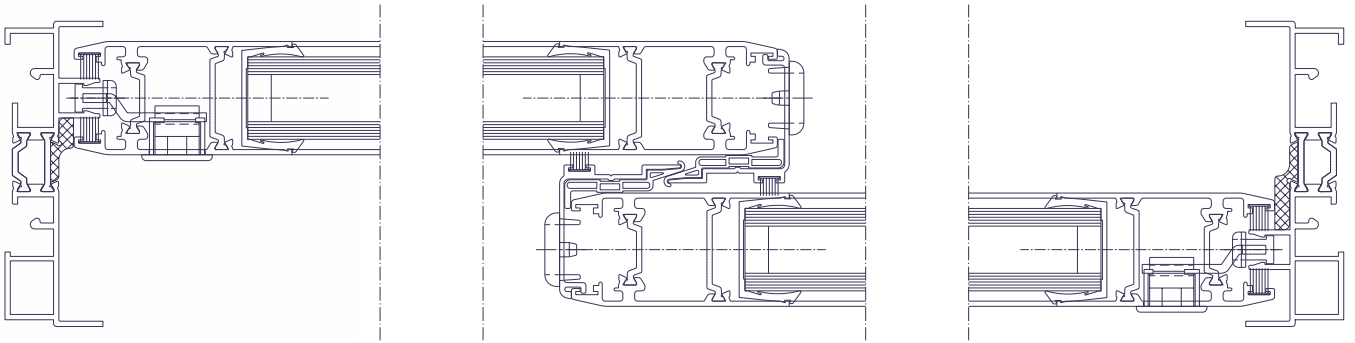
General arrangement showing Comar 2 Window Walling with integrated Comar 7 door, AXIM panic bar and Comar 7 anti-finger trap.



# on-time

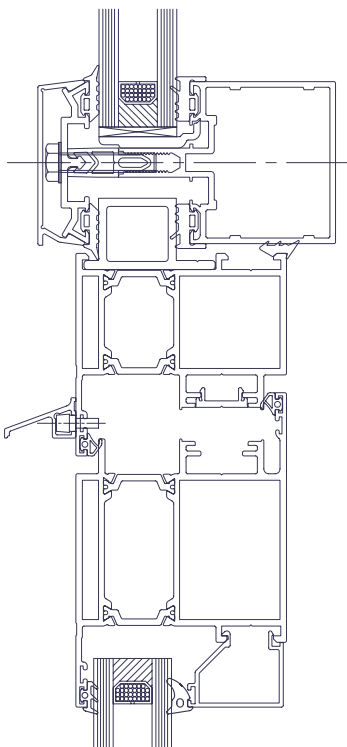
## Patio Door

General arrangement showing Comar 7P.i Patio Sliding door.



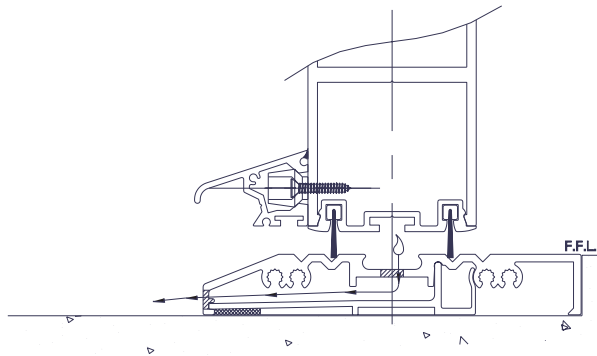
## P.i Door

General arrangement showing the header detail of Comar 7P.i integrating into Comar 6 Curtain Wall.



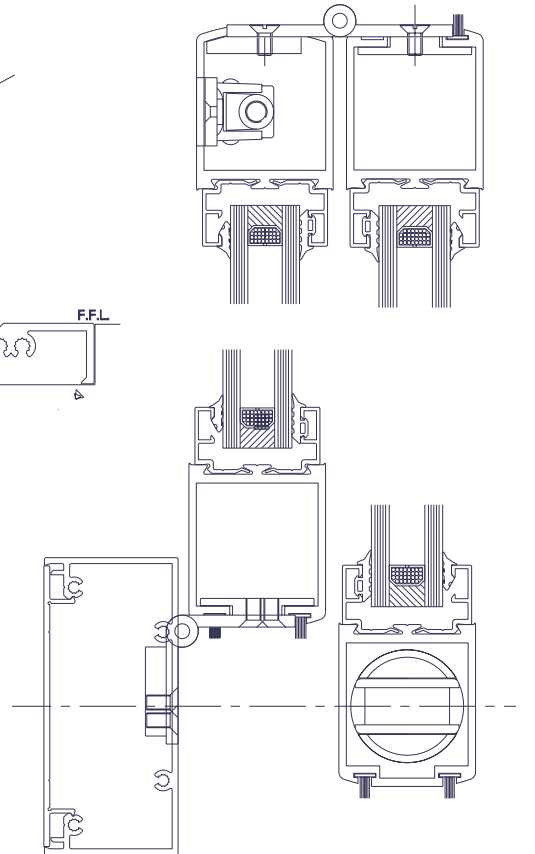
## Low Threshold DDA

General arrangement showing drained low threshold.



## Sliding Folding

General arrangement showing sliding / folding door hung on butt hinges.



# sustainable

Today's world calls for us all to be more conscious of our environment. In 1998 the world recognized 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 facades.

## 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 coaters guarantee their finishes for 25 years and anodisers for 30 years.

## 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 re-cycled material in use, aluminium can be accurately described as the ultimate sustainable material.

## 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 re-cycled. 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 EN ISO 9001 :	Comar is an ISO 9001 registered company, certificate number: A0852
BS-EN 755:	Aluminium alloy extrusion
BS EN 485:	Aluminium alloy sheet
BS-EN515:	Aluminium and aluminium alloys – Wrought products temper designations
BS 4255 Part-1 :	Gaskets
BS-EN573-3:	Aluminium and aluminium alloys – Chemical composition – Wrought products – part 3
BS-EN755-2:	Aluminium and aluminium alloys – Extruded profiles – part 2: Mechanical properties.
BS-EN755-9:	Aluminium and aluminium alloys – Extruded profiles – part 9: Profile tolerances.
BS-EN12020-1 :	Aluminium and aluminium alloys – Extruded precision profiles – part 1: inspection and delivery
BS-EN12020-2:	Aluminium and aluminium alloys – Extruded precision profiles – part 2: tolerances on dimension and form.
BS 4873:	Specification for aluminium alloy windows.
BS 6375 Part 1 :	Classification for weather tightness.
BS 5713:	Hermetically sealed flat double glazed units
BS 6262:	Code of practice for glazing of buildings
BS 6496:	Specification for powder organic coatings to aluminium alloys for external architectural purposes
BS 1615:	Method of specifying anodic oxidation coatings on aluminium and its alloy
BS 3987:	Specification for anodic oxide coatings for external architectural purposes
BS 6399 Part 2:	Code of practice for wind loads
C.W.C.T.	Centre for Window & Cladding Technology

## Technical Back-Up

An experienced Sales Team covers the UK while the Technical Department offers an unsurpassed design and installation advice service to designers, specifiers and fabricators; Simply call: +44(0)20 8685 9685

## For More Information

To find out more about this or any other Comar Architectural Aluminium System, or to obtain your personal copies of the COMAR TECHNICAL MANUALS call: +44(0)20 8685 9685 or fax on: +44(0)20 8646 5096

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