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ALUWOOD
By Asnaf Hussein Group

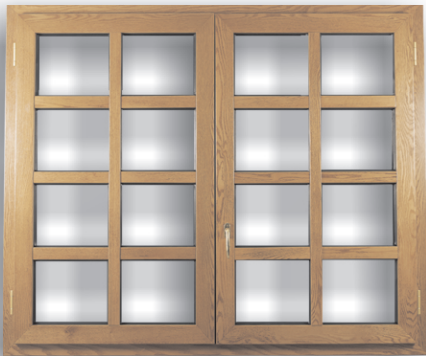
AluWood (Aluminum and Wood combined system)

In your project, outside joinery accounts for 25 to 90 % of the surface of your façades. Whether for new or renovation projects, the choice of windows and doors is one of the most important choices you will ever make for your home. Therefore, you want them to be beautiful, and as expressive as you are.

More and more homeowners are using windows as building blocks for creating a mood, and/or an expression of their tastes. **AluWood Windows do more than simply let light in and keep cold out.** They give you a value you can feel.

ASNAF Husseini Group's AluWood systems made of finest quality materials naturally fit in with your home, and provide you with the warmth and elegance of natural wood combined with the durability and strength of aluminum.

AluWood windows are available with wood interiors and aluminum exteriors. This combines the warmth of natural wood with the strength of a durable, extruded structure, for a lifetime of beauty and performance. We also offer Exterior-Wood windows for projects that require wooden exterior finishes.



Key Benefits

- Elegant
- Requires no or little maintenance
- Provides high acoustic performance
- Provides high thermal performance
- Available in different colors
- Available in different wood species
- Dried Wood used with moisture content between 8-12% max.
- Different species of wood available: Oak, Pine, Cherry, Cedar, Teak, ...
- Custom made

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Performance

Air Permeability A3

Water Tightness E4

Wind Resistance V3

Thermal co-efficient 3,2 w/mq°C

Acoustic Isolation 34 db Note:

Temperature differentials applied to the window to simulate winter and summer conditions did not affect operation or alter the air permeability characteristics.

A3 indicates an air flow rate below the line passing the point for a rate of flow of 2 m³h⁻¹m⁻¹ at 100 Pa pressure, when tested up to a pressure of 600 Pa

E4 indicates water leakage occurring at a differential pressure above 500 Pa.

V3 indicates that windows meet deformation requirements at 1750 Pa, a cycling test at 1250 Pa and a safety test at 3000 Pa.

V2 indicates that windows meet deformation requirements at 1000 Pa, a cycling test at 750 Pa and a safety test at 2000 Pa.

Calculation of maximum sizes:

When calculating the maximum size of various types of frames, one must consider the inherent features of the profile (cross-section, method of mounting to the wall, thickness and type of glass), the physical variables (such as local wind velocities, exposure and height of frame above ground) as well as taking into account the frame's expected function. An approximate estimate of the flap's ability to resist wind can be obtained by calculating its inertia moment using the formula:

$$J=0.0186 q b h^3$$

b= flap width (m)

h= flap height (m)

q= wind load (Kg/m²)

J=inertia moment (cm⁴)

Wood

Wood profiles are made of solid wood with a minimum humidity rating of between 10-12%. They are carefully and evenly dried hence they are stable and not liable to distortion caused by moisture expansion or contraction. They are supplied separately from aluminum profiles. A wide range of species is available for your choice including: Oak, Walnut, Cherry, Teak, Clear, Cedar, as well as standard lacquered colors. All woods are tested and approved by our wood supplier.

Profiles:

Aluminum alloy profiles 6060/6063

The alloys used, according to Pechiney and Aluminum Canada (Alcan) standards, are:

6060: Maximum extrudability particularly for hollow sections and other complex shapes having thin walls. 6060-T6I having mechanical properties which are equivalent to 6063-T6 minimal, makes it

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suitable for a wide range of applications for which 6063 would normally be used. Extruded shapes have good surface finish and the alloy responds well to all post-extrusion finishing processes.

6063: The most popular extrusion alloy. Takes a good surface finish, is corrosion resistant and can be heat-treated for strength. It contains less magnesium and silicon but combines high extrusion speed with lower mechanical properties. It is well suited to light structural applications.

- Extruded aluminum alloy 6060 (UNI 9006/1).
- Hardening: T5.
- Dimensional tolerance of thickness (UNI 3879).

Finishes:

Anodization:

Electrolytic anodization, natural and electro-coloring, according to European standards: 15-25 μ . (UNI 4522/00 (66-07))

Hot sealing by de-ionized water.

All anodized products are produced in satin or polish finish after mechanical polishing

Natural silver anodizing by electrolysis

Bronze anodizing by electrolysis ranging from dark to light shades of bronze

Champagne-colored anodizing by chemical dipping

Powder Coating:

Coatings are made of thermo-hardening powder with a saturated polyester resin base. They are highly resistant to UV rays and to bad weather conditions. Under computerized control, robots deposit a thermosetting powder coating of polyester resin. NFX 41-002 and ASTM G-53 minimum 60 μ .

White or black colors are standard; all other RAL colors in various finishes can be obtained upon request.

Powder coating is done with respect to the procedures of the brand "Qualicoat" quality and dispositions UNI 9983 (92-09).

Colors

Aluminum colors:

All RAL colors (list of colors in stock can be obtained by contacting the company)

Wood colors:

Each species of wood can be colored to natural color or any other requested color.



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Accessories:

Centro 101 - The Tilt & Turn hardware system for AluWood windows



Tilt, Turn & Lock - all with one handle .

The "Tilt & Turn" opening type is widespread and certainly the most convenient window opening type. It's no wonder; the "Tilt & Turn technology" enables effortless turning and tilting of the window sash with only one handle operation. Centro 101 has established itself as one of the most successful Tilt & Turn hardware systems for timber and Aluminum windows for more than a decade.

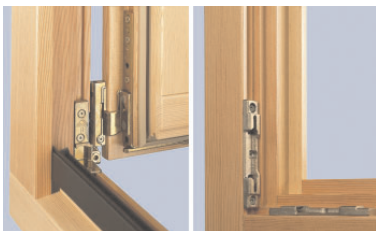
"Worth its weight in gold" for all window shapes.

Whether for arched, pitched or rectangular windows, Centro 101 is enormously versatile. The surface finish provides not only an attractive, harmonious gold tone on all hardware components, but makes Centro 101 hardwearing, extremely weatherproof and resistant to salt-water. High quality and precision manufacturing enable Centro 101 to offer the potential for lower energy costs and improved sound reduction because it circumferentially seals every window securely.

Diverse range of hinge variations

A choice of five different side-hinges is available for the AluWood windows and doors series.

Regardless of whether the completely concealed hinge-side Royal, or convenient frame clearances and adjusting capabilities are demanded, or whether you would simply like to differentiate your window aesthetically from the competition by means of color design: Centro 101 is equally suitable for large, small and series-production.



Easy to install

In some versions, the stay bearing and pivot rest can be installed without jigs just by simply positioning, and no milling or drill holes are necessary in the frame. In

many cases, the complete processing can be carried out on separate frame profile pieces.

All sash components are equipped with self-latching clip-fit elements which retain the hardware components until screw fixing. A further advantage: the rational installation technology enables faster and therefore cheaper installation.



designed. This incorporates mechanical components such as additional scissors-stays, bullet catches, turn-restrictors, night-vents, child safety locks, lifting mishandling devices, brake stays, as well as electronic components from the E-Tec product range such as MVS or MTS. PVC cover caps are available in a variety of colors, providing design freedom in both shape and color.

Handles - All opening types under control

The handle gives your window character. The visible element of the window interlinks aesthetics, quality and convenient operation. Centro 101 guarantees first-class technology, tested in accordance with RAL, and durable functionality. As the leading hardware system, Centro 101 offer a range of handles for every window and every door. Take for instance the beautiful and exclusive RLine and DecoLine handles for windows, as well as DoorTec handles for main doors and back doors. Alternatively, the special Patio handles for Tilt & Slide and Fold & Slide systems and the Pop-up handles for In-Line sliding elements. Centro 101 handles offer numerous possibilities in shape and color, putting visible highlights on windows and doors.

Wide range of accessories

The extensive range of supplementary parts enables individual hardware configurations to be





RLine Tilt & Turn handles

Elegant and aesthetically appealing, they are available in seven anodized colors and three powder coatings. Special colors or individual prints and embossing are also available upon request. With its harmonic flow of lines, the RLine handle ranks among the most attractive classics.

The following RLine versions are available: standard, lockable with different security grades, with push-button or as a Tilt-First lockable handle. RLine is available for windows or as a door handle set.

Interior aesthetics - no manipulation from the outside: The new RLine Secustik®

The number of apartment break-ins continues to cause unrest. A house or an apartment is broken into approximately every four minutes and in about 50% of the cases, the burglars enter via the window or balcony door. While breaking in, burglars frequently attempt to move the window hardware from the outside until the window handle is manipulated into the opening mode. The new RLine Secustik® handle successfully resists exactly such

forceful entries, and meets the requirements of the RAL-RG 607/13 A-J.H. (Anti-Jemmy hardware - AhS) directives.

The technology is integrated in the handle: Upon locking, you can hear how the blocking mechanism is released when turning. No additional mounting or handle is necessary on windows or balcony doors. Everything is integrated in the RLine Secustik® handle.

If a burglar attempts to force the window hardware from the outside, he has no chance. The safeguarding mechanism effectively prevents turning the handle. As a result, the attempted burglary via manipulation of the window hardware is prevented.

The RLine Secustik® handle can be mounted on windows and balcony doors made of the AluWood system from ASNAF Hussein Group s.a.r.l. It is also perfectly suited for retrofitting existing windows, as security handles are independent of the hardware system.

DecoLine Tilt & Turn handles .

Superior design and audible security. The handle safeguards against hardware manipulation from outside by means of intelligent technology. DecoLine is available in the standard version and as a lockable window handle (in accordance with EN 1627-1630).



Patio handles for large Tilt & Slide doors

For large Tilt & Slide and Fold & Slide doors. Available in numerous versions and for all individual requirements: For example, lockable for inside and outside operation or as a flat handle.



Warranty

3 Years Limited Warranty

What this warranty covers

The Company ("ASNAF Hussein Group s.a.r.l.") warrants its ALUWOOD windows against defects in materials and workmanship for a period of 3 years.

When this warranty begins

This warranty begins on the date of purchase (Invoice Date) of the window from the Company.

Liability

The Company's liability under this warranty is limited to repairing or replacing any window or part of the window that the Company accepts as covered by this warranty. Before accepting liability for a warranty claim, the Company must be satisfied, that in its opinion, the claim is covered by this warranty. If a Company employee or agent inspects a window and decides that it is not covered by this warranty, the customer must pay the Company's service fee for this inspection. The warranty on replacement product will extend for the remainder of the warranty period of the original unit.

This limited warranty specifically excludes any liability for consequential or incidental damages. There are no warranties granted other than as expressly provided.

How to make a claim

To make a claim, a person must:

- give the Company written details of the defect in the Company's window together with proof of the date of purchase of the window within 7 days of identifying the defect;
- give the Company, its employees or agents all necessary access, facilities and information to enable the Company to verify the nature and cause of the defect.

What this warranty does not cover

This warranty does not cover any window with defects arising out of or due to:

- the window being repaired, modified or altered by a person who is not currently a Company employee
- The window is installed in or near to unusual, abnormal or extreme locations or situations.
- Discoloration caused by weathering;
- Damage to any of the window's surface caused by brick-wash, chemicals, salt, acid rain or airborne pollutants;
- Misuse, physical abuse, neglect, or accident, however arising;
- The window not being installed in accordance with the Company's installation instructions;
- The window not being maintained in accordance with industry recommendations;
- Normal wear and tear

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Warranty

Defects do not include:

This warranty does not cover glass breakage except where the breakage has been caused solely by faulty workmanship or materials.

Under this warranty, a window is not defective if it:

- Meets manufacturing standards and tolerances; or
- Meets industry variations in the color of timber or aluminum components.

Wood is a product of nature and may have variations in grain; The Company cannot be held responsible for these color variations when staining or painting product and will not consider them a defect.

Technical Plan (Opening)

The drawing illustrates the technical specifications for various window opening configurations. It includes elevation views and corresponding cross-sections (Section A-A and Section B-B).

Elevation Views:

- Two Panels Opening:** Shows two side panels meeting at a central pivot point.
- Two Panels Opening with Separation Bar:** Shows two side panels with a horizontal separation bar between them.
- Four Panels Opening:** Shows four panels arranged in two side-by-side pairs.
- Middle Opening with fixed side panels:** Shows a central opening flanked by fixed side panels.

Section Views:

- Section A - A:** Shows the internal mechanical components for each configuration, including the opening mechanism and pivot points.
 - Section A - A Two Panels Opening:** Shows the two panels meeting at the bottom pivot.
 - Section A - A Two Panels Opening with Separation Bar:** Shows the two panels separated by a bar, with independent opening mechanisms.
 - Section A - A Four Panels Opening:** Shows the mechanical details for the four-panel arrangement.
 - Section A - A Middle Opening with fixed side panels:** Shows the central opening mechanism and the fixed side panels.
- Section B - B:** Shows a vertical section of the window frame and opening mechanism.

Separation Bar: A detailed view of the bar used to separate two panels, showing its mounting and sealing details.

ALUWOOD		
ALUWOOD OPENING		
SCALE	DATE	
DESIGNED BY	CHECKED BY	DATE
DRAWN BY	APPROVED BY	DATE
PROJECT NO.	PROJECT NAME	
<p>ALUWOOD GROUP</p>		

