

ALCUF PRODUCTS DESIGN



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DESIGN POINTS AND LIFE CYCLE EXPECTATIONS

This document describes key design points inherent in the design of AlcuF Products and the resulting long term service you can expect.

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THE ALCUF ENVIRONMENT IS OUTDOORS

There are a number of design points that must be considered in order to understand the value of AlcuF Products, and how they manage to outperform all other products in their field.

Water

The design of your AlcuF System has carefully been thought out in order to avoid any significant collection of moisture that would cause damage. If water collects in the framework of any product outdoors, it may freeze and the resulting expansion can cause damage. The power of water turning to ice can break a very thick walled pipe. To avoid this, the majority of shapes used in AlcuF Systems are not hollow. In addition, the connection methods of these solid shapes are done in such a way as to allow for proper drainage flow.

Plastic posts are typically hollow, and will collect water and suffer from freezing. Once the components crack, the structural integrity starts to weaken.

Wood posts rot because the post is subjected to both water/moisture and bacteria at the same time, right at the ground surface. As a fence post decays it weakens. Because AlcuF structural components are aluminum, this issue is not relevant. Our posts will not rot, warp, or rust. Please read the section on Aluminum extrusions for more detail.

Our company is old enough to have seen AlcuF Fences still in service after 40 years. The framework which is Aluminum will have a very long lifetime. The Infill, when wood, will eventually shrink a bit and weaken and need replacement, but this is after 25 to 30 years in our experience. Our wood infill is typically inserted into our aluminum top and bottom rails and remains dry. No nails are used to rust and give moisture a place to collect, and the critical board edges (top and bottom) are protected in our framework. We have seen quality wood infill in AlcuF Fencing last over 35 years because it remains dry and there are no nails. This is unheard of using traditional designs. When necessary, replacement of the wood infill is a relatively quick and low cost endeavor.

Adjustability

AlcuF Fencing Systems are adjustable by design. The biggest threat to a fence post is the unknown. Posts are traditionally set in concrete, but you can't necessarily know exactly what exists under the ground nearby your post base. The fact is, the stability of the ground can be very unpredictable. particularly in the case of most residential developments, where the land at the property line is fresh fill. Hence, the careful design of a concrete base standard and the ability to adjust for changes in elevation is critical. It would be very rare to see an AlcuF post sink because of our base design, but if it did, a simple adjustment resolves the issue.

Aluminum - the ultimate building material

Aluminum Extrusions are of the most controllable man made substance available for structural design, and engineered products. Depending on where a component is used, how it is shaped, and how it is impacted by usage and other elements like weather, wind, etc., very precise choices can be made. You can select an alloy that is ridged, or very flexible, or extra tough, or very soft, all for the specific intended purpose. You can choose various coatings for the most durability in a high wear position, or proximity to chemicals or environmental issues that will affect performance. This is why Extruded Aluminum is used in the construction of Aircraft, Bridges, Boats, Medical equipment, Spacecraft, and anything where long life cycles, safety, precision and controlled performance are required.

Lightweight, Durable, Dependable Aluminum is the ultimate building material. The primary infrastructure (framework) is extremely strong, yet very light weight. This makes the overall safety and security of the system far superior to steel or timbers. Steel rusts and needs frequent repainting, and Wood deteriorates as a framework due to rot at critical points.

Extrusions are 100% recyclable, and remain 100% reusable. This cannot be said of any other structural material in this class. At any point during the life span of your AlcuF Product, the extruded aluminum can be recycled if a site has to be demolished, or it can be moved and reused. The value of the material is never lost. Your original material investment is retained more than any other building material. The result is your original investment delivers the highest return available, and Aluminum is never wasted or found in a land fill. **At the time of writing, 75 percent of all aluminum produced since 1888 is still in use!**

AlcuF Systems are inherently convertible as well. For example, if you want to change your railing from pickets to glass. You can increase the height of your railing and change the infill to wood inserts, or Aluminum Extruded panels for privacy. You can also change it back. This is all assuming your local building codes and/or bylaws allow such design changes, but the point is - it is possible.

Initial Installations and Future Work are achieved without the need of heavy equipment, heavy transport, or special handling requirements. This not only results in reduced initial Installation costs, but affects life cycle costs as future repair, expansion or maintenance remain minimized to the end user.

Expansion or Maintenance is minimized as there is no need to refinish the system, and any components that are damaged or eventually wear, are simple to remove and replace. Maintenance is typically limited to spray washing the system to keep it clean.

Built to suit varying site conditions. AlcuF is not prefabricated, it is designed to be assembled on site and adapt to varying sizes and shapes of buildings. This means reduced limits to its target markets, and inherent adaptability to varying building design and builder dimensions and practices. This flexibility makes future expandability or reconfiguration equally as flexible. Another future cost reduction when applicable.

Integrated Design. AlcuF Systems can be used for community perimeters, noise barriers, privacy, property dividers, traffic and access control systems, decks, balconies or railings, and Pavilions for garbage management, equipment storage or other. All systems can be integrated and look great together. For example, the framework and infill of a perimeter sound fence would have to be substantially heavier than internal fencing, or privacy panels on a Balcony, but in appearance and style, they will appear the same.

Structurally engineered to support the weight of a variety of infill ranging from Aluminum Extruded Panels (not roll formed), Wood, Glass, and other composites. Structurally engineered to support wind loading based

on your location in North America, your local building codes, the infill used, etc. Our structural designs can meet building codes, and bridge codes.

Predictable and Proven. Alcuf Systems performance is very predictable and proven. This is important for budgeting maintenance and support costs in a Condominium Corporation or in any environment where true life cycle cost matters and the owner is responsible for long term maintenance and upkeep costs. This also applies to safety and other performance points. Predictability and proven performance is what makes Alcuf Systems the least expensive solution in the long run, and what gives you the best value solution from day one.

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It is becoming increasingly necessary today for people to make better buy decisions to support long term sustainability, both in the commercial world and in their personal lives. This applies not only to the performance element of this issue, but also from an environmental perspective. Having to do repairs and/or replacements that could have been avoided if managed better, are both economically and environmentally unsound. Our products are designed and expected to last extraordinarily long as compared to competitive products.

ALCUF INTERNATIONAL INC., CANADA

Alcuf is a 100% Canadian owned company with all of its extrusions, fasteners, decking, wood and/or glass components manufactured in Canada. Any fabrication or integration of components is also done in Canada, using a Canadian workforce. Alcuf produces high quality aluminum products that are proven to be extraordinary in terms of design, performance, and value. Alcuf engineered systems deliver life cycles unattainable from traditional solutions.

Alcuf International Inc. provides best value solutions to the end user via Authorized Dealers. We are honest brokers and have the end users best interests at heart. This is what makes us unique in our field.

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