



PCS

ProCompositeSolutions Ltd.



FUTURAL

**Our Commitment
To Sustainability**



FUTURAL'S COMMITMENT TO SUSTAINABILITY

At Futural, our dedication to sustainability is at the heart of our business. We strive to minimise any negative environmental impact through conscientious practices and partnerships.

Ethical Partnerships

We select only ethical supplier partners with proven environmental credentials. These partners adhere to rigorous processes and procedures that ensure sustainability. By collaborating with such suppliers, we ensure that our supply chain is environmentally responsible.

Durable and Low-Maintenance Materials

The materials we provide are designed for longevity, low maintenance, and durability. This focus on high-performance materials reduces the overall environmental footprint of buildings, contributing to sustainable construction practices.

Health and Safety

We uphold strict health and safety principles to protect our stakeholders and the broader community. Our operations are designed to prevent injury, illness, or environmental damage, ensuring a safe and healthy environment for everyone involved.

Long-Term Sustainability Initiatives

Futural is committed to continuously seeking and promoting long-term sustainability initiatives. We work alongside our business partners to support efforts that have a positive, lasting impact on the environment.

By integrating these principles into our business model, Futural aims to be a leader in sustainable practices, ensuring a better future for our planet.

EMBRACING ALUMINIUM FOR SUSTAINABILITY

The building and construction industry faces numerous environmental challenges as it strives for sustainability. Addressing the impact on climate change, the sustainability of materials, and effective waste disposal methods are critical. In this context, aluminium has emerged as a preferred material, significantly contributing to a more sustainable future.

The Advantages of Aluminium

Weather-Proof and Corrosion-Resistant: Aluminium is made from alloys that can withstand harsh weather conditions and resist corrosion. It remains unaffected by the harmful effects of UV rays, ensuring optimal performance and longevity in various environments.

Impact on Health and Environment: Aluminium building products do not negatively affect indoor air quality or harm soil, surface, or groundwater, making them a safe and environmentally friendly choice.

Material Properties:

Strength and Durability: Aluminium is strong and durable, capable of withstanding significant stress without compromising its structural integrity.

Flexibility and Lightweight: Its flexibility allows for versatile applications, while its lightweight nature facilitates easier handling and installation.

Impermeability: Aluminium's impermeability ensures it remains resistant to moisture and gases, enhancing its longevity.

Corrosion Resistance: This property ensures a long lifespan and reduces the need for frequent replacements or repairs.

Recyclability: Aluminium is 100% recyclable without losing its properties, making it an excellent choice for sustainable construction practices.



Aluminium as an 'Energy and Resource Bank'

Aluminium's reputation as an 'energy and resource bank' stems from its recyclability and the energy savings associated with its reuse. It is increasingly being used as an alternative to other metals such as steel, furthering its contribution to sustainable building practices.

As the construction industry moves towards sustainability, aluminium stands out as a material of choice. Its beneficial properties, environmental safety, and recyclability make it an essential component in the future of sustainable building. By integrating aluminium into construction practices, the industry can address environmental challenges and support a more sustainable future.

The History of Aluminium

Since its commercial production began in 1888, aluminium has become the second most used metal in the world and is the third most abundant element in the Earth's crust. It can be recycled endlessly without losing its properties, with approximately 75% of all aluminium ever produced still in use today.

Versatility and Applications

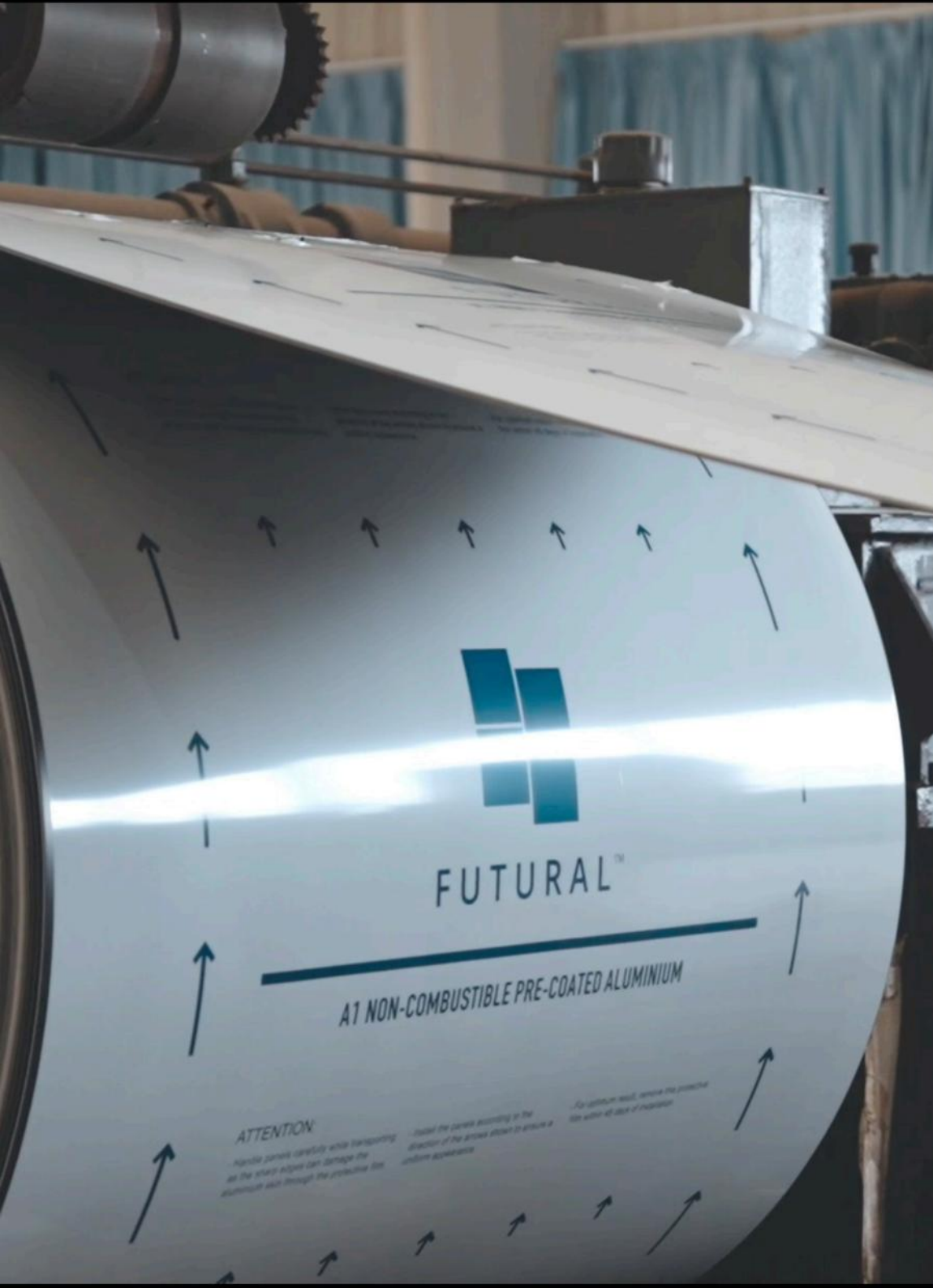
Aluminium's versatility makes it indispensable in many industries, including:

Construction and Building
Air, Road, Rail, and Sea Transport
Packaging
Electronics

Its durability, lightweight nature, and recyclability have made aluminium a vital material in modern industrial applications.

Sourcing of Raw Materials

Aluminium is produced from two main sources: primary production from ore and recycling of aluminium scrap. The primary ore used is bauxite, which is refined into alumina before being smelted into aluminium.



PRODUCTION OF FLAT SHEET MATERIAL

Rolling Process: Aluminium flat products are made through a rolling process. Large aluminium slabs are fed into rolling mills, where they are rolled into sheets of various thicknesses. This begins with hot rolling, where the slab is reduced by passing it back and forth through rollers. Final rolling occurs through cold rolling, allowing sheets to be thinned to 0.15mm. Aluminium sheets can be further reduced to foil, as thin as 0.007mm, and then formed for various uses, such as cladding panels.

Finishing

Natural Oxidation: Aluminium can be left unfinished as it naturally oxidises when exposed to air, forming a thin protective film that prevents further oxidation.

Anodising: An electrochemical process that enhances the natural oxide layer on aluminium, increasing hardness and improving resistance to corrosion and abrasion. Anodised aluminium has a decorative matt silver finish, and coloured finishes can be achieved by sealing metallic dyes into the anodised layer.

PVDF Paint:

Application: Continuous wet coil coating is used to apply PVDF (polyvinylidene fluoride) coating to rolled aluminium products. The process involves unwinding the aluminium coil, passing it through pre-treatment, coating baths, and curing furnaces, before recoiling.

Benefits: Aluminium with PVDF paint requires minimal maintenance, providing a cost and ecological advantage over the product's lifetime. PVDF paints have a low wear rate, only a few microns every 10 years.

Composition and Environmental Impact: PVDF paints consist of a fluoropolymer, acrylics, pigments, catalysts, and additives. The fluoropolymer is water-insoluble, preventing groundwater contamination, and remaining PVDF particles are environmentally neutral. The acrylic component can be broken down by UV radiation.

The production of aluminium flat sheets involves sophisticated rolling processes to achieve desired thicknesses, followed by various finishing techniques to enhance durability and aesthetic appeal. Anodising and PVDF painting are key finishing methods, providing additional protection and minimal maintenance requirements, thereby enhancing the ecological and economic benefits of aluminium products.



RECYCLABILITY OF ALUMINIUM

Aluminium is 100% recyclable without any loss of properties or quality. Recycling aluminium requires only 5% of the energy used to produce new aluminium and emits just 5% of the associated greenhouse gases. This efficiency is why approximately 75% of all aluminium ever produced is still in use today.

The economic and ecological benefits of aluminium recycling are substantial. It conserves natural resources, reduces environmental impact, and decreases the burden on landfills.





A Lifetime of Service

Aluminium building products are crafted from alloys that are weatherproof, corrosion-resistant, and immune to harmful UV rays, ensuring exceptional performance and longevity.

One of the most notable examples of aluminium's durability is the dome of the San Gioacchino ai Prati Castello Church in Rome. Clad in aluminium sheets in 1898, it remains in pristine condition over a century later, demonstrating aluminium's long-term reliability.

FUTURAL SOLID ALUMINIUM CLADDINGS

Recycled Content: Futural A1 non-combustible solid aluminium panel is made from over 30% recycled material and supplied as a pre-coated panel, promoting sustainability from the outset.

Efficient Coating Process:

- **Coil Coating:** The paint is applied using a coil coating process before fabrication, reducing transportation needs compared to powder coating.
- **Closed Loop System:** The PVDF coating process is highly efficient, capturing and destroying at least 98% of toxic air pollutants. The coating curing ovens burn harmful VOCs and use them as fuel, saving energy and eliminating pollutants.

Ease of Maintenance:

- **Self-Cleaning Properties:** PVDF coatings repel dirt, making surfaces easy to clean with water and eco-friendly products. For detailed guidelines, refer to the Futural Cleaning & Maintenance Guide.

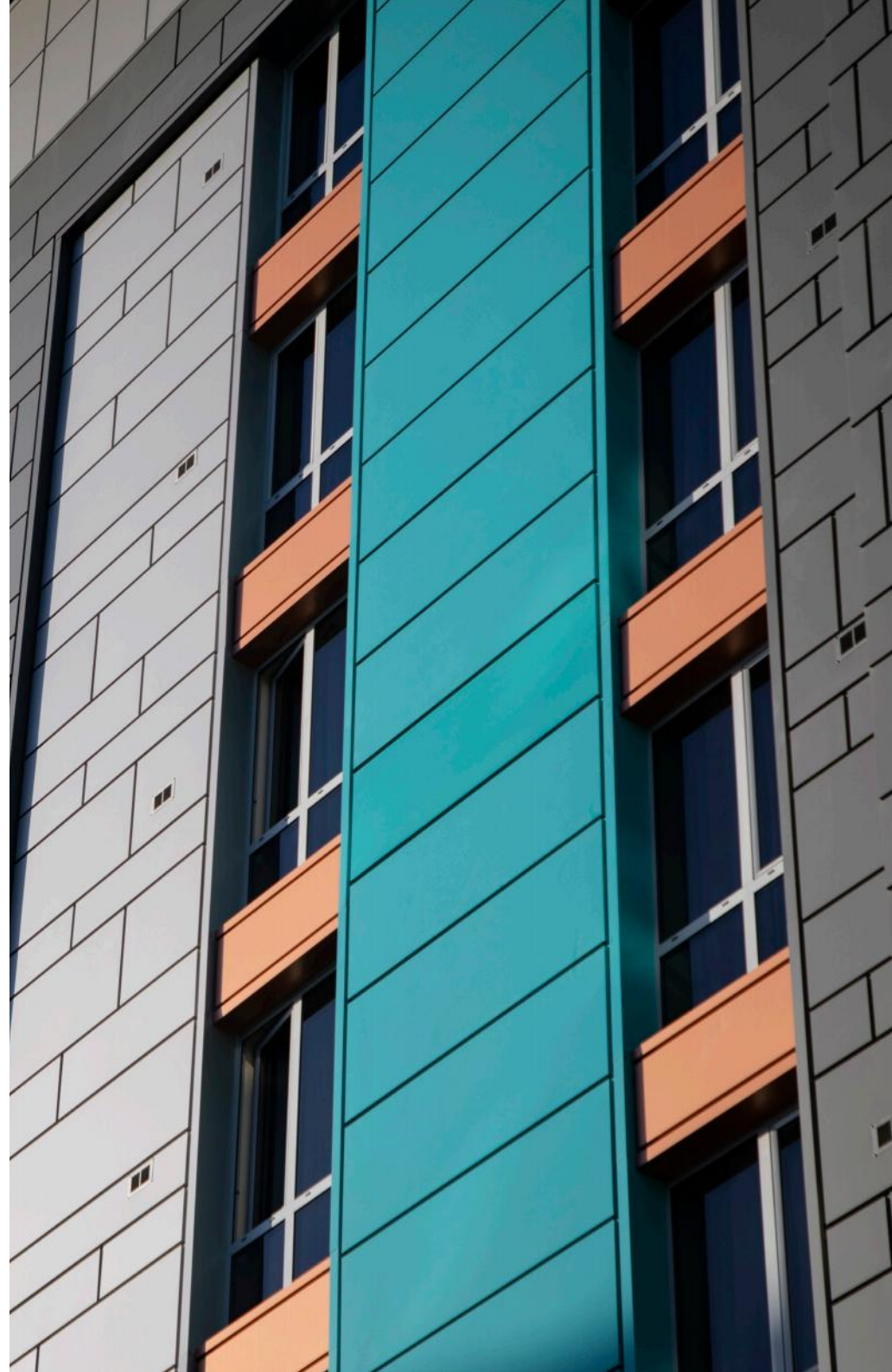
Compliance and Standards:

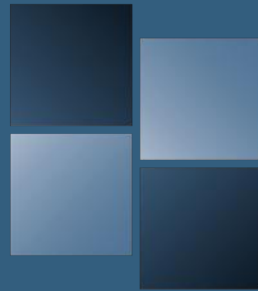
- **AAMA 2605:** Futural PVDF coating meets the American Architectural Manufacturers Association Standard AAMA 2605, the highest standard for organic coatings on architectural aluminium extrusions and panels, ensuring superior performance.

Contribution to Sustainability:

- **Energy Efficiency and Safety:** Futural enhances the energy efficiency, safety, and comfort of buildings, playing a crucial role in sustainable construction and renovation.
- **Versatility:** Its adaptability allows for easy upgrades of existing structures, including historic buildings, making it an excellent choice for both new constructions and renovations.

By incorporating Futural solid aluminium claddings, projects benefit from sustainable materials, efficient processes, and superior performance, contributing to long-term environmental and economic benefits.





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