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ALUMINUM

The chemical element aluminium is present in large quantities in the earth's crust, but was not discovered and named until the year 1808. In 1827 scientists solved the problem of how to extract it. Aluminium was light, clean, durable and soft enough to be modelled into complex shapes, and was hailed as a wonder material. Initially aluminium was only available in small quantities and was used for the production of hand-crafted ornaments. In those days the price of aluminium was higher than the price of gold. However supplies grew gradually, and the material began to be used in industry for precision equipment.

It was not until 30 years later that a new, more efficient extraction process was discovered, a process which is still in use today. Production was only financially viable if it took place round the clock but aluminium manufacturers from the USA and Switzerland were able to raise the necessary capital. They were lucky in that at the same time the development of the electricity industry took place, which generated numerous applications. Within ten years the aluminium price fell by 90 per cent. Aluminium had been established on the mass-market as a metal.

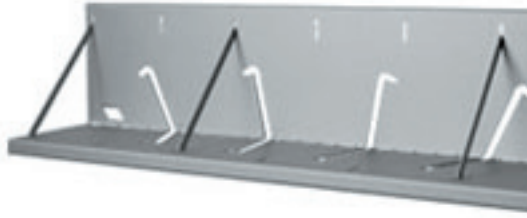
In the Twenties aluminium was marketed as the material of modernity. It was used for trucks, motorbikes, cars, bicycles, buses, aircraft and caravans, in other words streamlined vehicles on land, on the water and in the air: In association with speed the lightweight material experienced a gigantic upswing during this decade.

At the start of the twentieth century modern designers were seduced by its high-tech surface finish. The Austrian architect Otto Wagner used aluminium for furniture and fittings in two Vienna buildings, the Hauptquartier der Zeit in 1902 and the Postsparkasse bank in 1906.

In the second and third decades of the century the material entered households, where its uses increased dramatically in the streamline epoch which followed, especially in the USA.

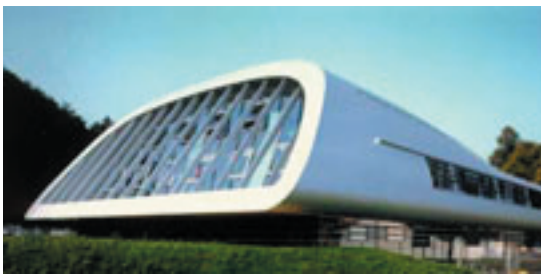
Between 1940 and 1960 large numbers of international elite designers such as Marcel Breuer, Gio Ponti and Charles and Ray Eames experimented with this cult material.

This was followed by a quieter period for the lightweight metal, and its use came to be taken for granted. However, for over ten years now it seems that aluminium has been rediscovered, for example by Jorge Pensi, Philippe Starck and Marc Newson.



Book and CD shelf

Zurich based Designer Beat Karrer has radically minimized the concept of the shelf: It is made out of one sheet metal board only. It is perforated by lasercutting. All required elements are being cut out of this one sheet. This not only saves material, it also gives its unique identity to this shelf. The shelf will be delivered in unbent condition. The mounting instructions will be printed directly onto each metal board.



Aluminium applied to the facades of buildings and in their interior fittings offers an enormous spectrum of design possibilities. Anodized or painted, punched, curved or formed into composite materials it can be optimally adapted to individual needs. Aluminium is usually made into an alloy with other metals in order to improve corrosion resistance. The straight lines and smooth aesthetics of the material enjoy great popularity with architects. With regard to its environmental footprint, the metal has the advantage of being easy to recycle, which compensates for the relatively high energy consumption involved in its primary production. Both scrap from aluminium production and used aluminium products are suitable for recycling. Facade construction is increasingly playing a central role in the architectural application of aluminium. The metal is applied here both as a visible surface and cladding, or as a hidden sub-frame for glass fronts or superimposed facades. For design purposes extruded profiles with a range of cross sections are used as a matter of preference. Nowadays a facade has to fulfil not just design parameters but also economic and energy requirements. In the form of high-quality, low-weight, insulated systems aluminium can meet all these requirements.



Thermopal has developed an aluminium sandwich panel specially designed for the requirements of lightweight construction. This incorporates features such as high resistance to pressure, design quality and low weight, making it suitable for the equipment of caravans as well as ship and vehicle cabins. Fairs contractors are also welcoming the new panels, which are ideal for display boards or fair stands, because with its flame-resistant aluminium honeycomb core the panel corresponds to building material class B1. Thanks to its structure it is particularly light, as well as resistant to moisture and temperature fluctuations. Covered on both sides with an aluminium plating, the base material does not react to strong pressures in a brittle way but is tough and flexible, which gives it high tensile strength. The aluminium honeycomb is available with HPL coating either on one side or on both sides, and can also be supplied with high gloss surfaces.



The German firm of Otefal is now producing the first aluminium sheeting which is permanently powder-coated with paint. The Mirawall product is suitable for cladding external walls and as parts of doors and windows in general. The use of special powders made from polyester guarantees the highest level of resistance to environmental influences and mechanical deformation. Good flammability resistance and a range of surface finishes make it an ideal material for sophisticated design requirements.



As a composite panel Alucobond consists of two aluminium surface layers with a plastic or mineral core. The material is not flammable and is characterised by a perfectly even surface. The large sized panels are weatherproof, suppress vibration and can be worked with standard tools. From a design point of view clean and perfect details are easy to create with panel joints, window connections, external and internal corners. For the annealed Alucobond surface there is a choice of metallic and standard finishes. Spectra colours, which change their colour depending upon the angle of view, are new to the range.