

## Aluminium Technical Information

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Aluminium is a chemical element in the boron group with symbol Al and atomic number 13. It is a silvery-white, soft, nonmagnetic, ductile metal. Aluminium is the third most abundant element in the Earth's crust (after oxygen and silicon) and is the most most abundant metal.

Atrim manufacture a range of Aluminium profiles for protecting and finishing tiled corners and edges. Recommended for use where there is a heavy level of wear or a high level of protection is required. Atrim Straight Edge Profiles feature a perforated anchoring leg for securing in adhesive or mortar bond below the tiled surface.

Atrim profiles need to be checked at point of specification, for suitability of application in any given area. Chemical reaction, intermetallic corrosion and mechanical stresses must all be taken into consideration.

Aluminium is remarkable for the metal's low density and its ability to resist corrosion through the phenomenon of passivation. Aluminium and its alloys are vital to the aerospace industry and important in transportation and structures, such as building facades and window frames.

Aluminium is a relatively soft, durable, lightweight, ductile, and malleable metal with appearance ranging from silvery to dull gray, has about one-third the density and stiffness of steel. It is easily machined, cast, drawn and extruded, is nonmagnetic and does not easily ignite. Aluminium is theoretically 100% recyclable without any loss of its natural qualities.

### Types of Stainless Steel

Aluminium is the most widely used non-ferrous metal. Global production of aluminium in 2005 was 31.9 million tonnes. It exceeded that of any other metal except iron (837.5 million tonnes).

Pure aluminium is very soft, so a harder metal is almost always added, which markedly improves its mechanical properties, especially when tempered. For example, the common aluminium foils and beverage cans are alloys of 92% to 99% aluminium. The main alloying agents are copper, zinc, magnesium, manganese, and silicon (e.g., duralumin) with the levels of other metals in a few percent by weight.

Many things are made of aluminum. Much of it is used in overhead power lines. It is also widely used in window frames and aircraft bodies. It is found at home as saucepans, soft drink cans, and cooking foil. Aluminium is also used to coat car headlamps and compact discs.

### Types and Finishes

Atrim produce aluminium tile trims in formable and non formable variations. The formable tile trims can be used on curved sections of tiles, or around the edges of arches etc. These trims come in a variety of finishes, either anodised or powder coated. Be aware that 'Mill Finish' has no finish to it, and is bare aluminium.

### Maintenance

Aluminium does not require any special maintenance. Oxidation films on Aluminium may be removed with a common polishing agent; however, they do reoccur. Damaged anodised finishes may only be repaired by recoating. Aluminium must be tested to verify its suitability if chemical stresses are anticipated.

### During installation

Cementitious materials, in conjunction with moisture, become alkaline. Since aluminium is sensitive to alkaline substances, exposure to the alkali (depending on the concentration and time of exposure) may result in corrosion (aluminium hydroxide formation). Therefore, it is important to remove adhesive or grout residue from visible surfaces. In addition, ensure that the profile is solidly embedded in the setting material and that all cavities are filled to prevent the collection of alkaline water. The anodised layer creates a finish that retains a uniform appearance during normal use. The surface, however, is susceptible to scratching and wear and may be damaged by tile adhesive, mortar, or grouting material. Therefore, setting materials must be removed immediately.

### Maintenance tools

Abrasive cleaning tools should be avoided to prevent alteration of aluminium finishes. Chloride-containing solutions, such as bleach, should also be avoided. All cleaning agents should be free of hydrochloric and hydrofluoric acid.

- Soft cloth and water: suitable for cosmetic issues and general cleaning
- Mild detergent: needed if stains cannot be easily lifted with water
- Glass cleaner: useful for removing fingerprints and similar stains.

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