



BYNEL™ for aluminium composite panels

Aluminium composite panels provide a lightweight yet strong, flat surface that can be precoated, formed or painted easily. It consists of a thermoplastic compound core sandwiched between two sheets of aluminium. Two layers of adhesive are used to bond the core to these aluminium sheets. The aluminium composite panel industry is rapidly expanding globally.

BYNEL™ adhesive resins used in aluminium composite panels are specially formulated to provide a number of key features for this challenging application. BYNEL™ adhesives are typically extruded as freestanding mono- or multilayer film structures. However, there are processes where the adhesive resins are co-extruded with the polyethylene or flame-retardant core and then online laminated to aluminium sheets. Depending on the type of panels made (external vs. internal), the thickness of layers varies.

Benefits of BYNEL™ adhesive resins

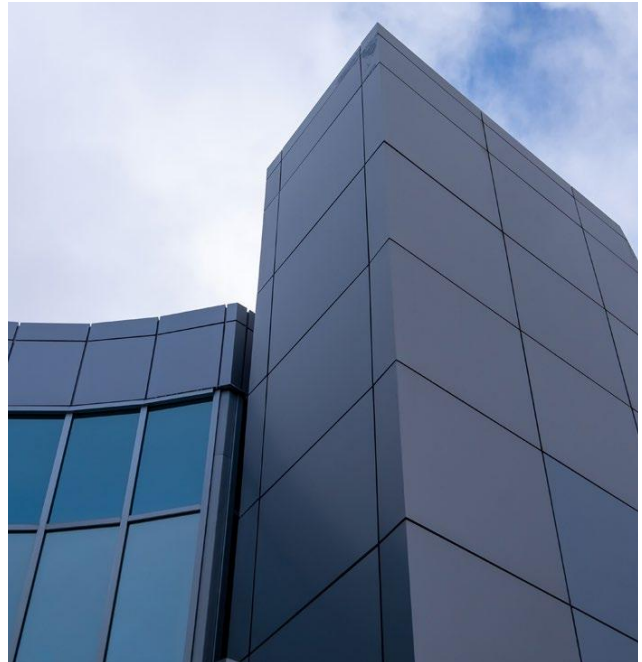
- Dow technology provides adhesive compositions that possess excellent bonding properties to metallic substrates.
- These adhesive compositions provide excellent bonding to a number of polymeric materials.
- Dow adhesive layer gives high peel strength and longer life panels.
- BYNEL™ adhesives portfolio also includes grades designed for coextrusion process.

Other applications

The trend of using aluminium composite panels for interior applications is catching up rapidly. Typically, panels for interior applications are used at hotels, supermarkets, office buildings, hospitals, schools stations, airports, stadiums, ships, signboards, curtain walls etc.

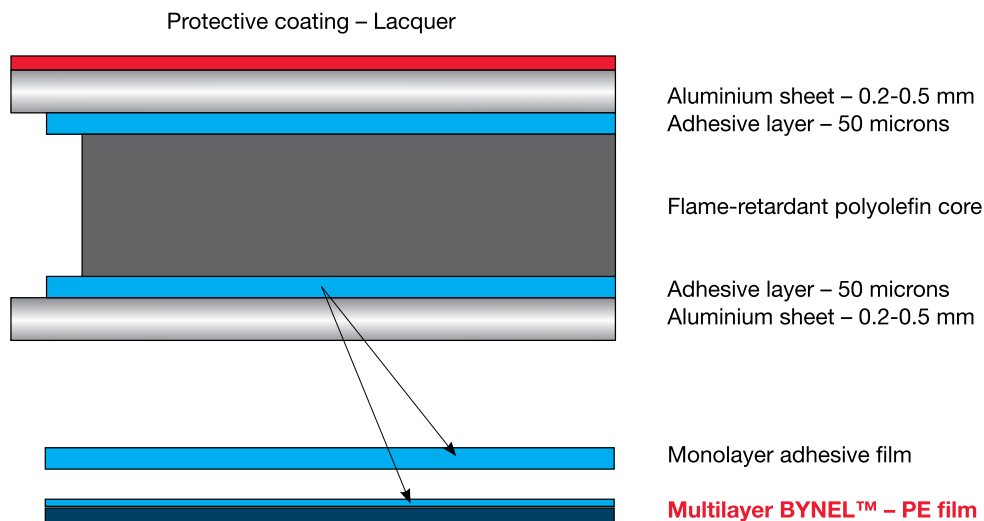
The interior panels offer properties such as light weight, good rigidity, strong adhesion, without any toxic materials, soundproof, anti-corrosion, beautiful and delicate colors, good decorative effect, easy to be fabricated to different sizes and shapes, and easy and fast installation.

There are other applications that use similar processes and adhesive requirements as composite building panels. Decorative panels where a printed PET film is laminated to the exterior surface of aluminium composite panels is also gaining popularity.



Typical construction of an aluminium composite panel

A typical aluminium composite panel using Dow BYNEL™ adhesive layers is shown below.



Benefits for aluminium composite panel producers

The panel manufacturer's choice of adhesive placement technology typically dictates an ideal processing temperature to maximize panel adhesion without damaging color or surface appearance. BYNEL™ resins are offered in high-performance grades that can be tailored to each manufacturer's processing requirements.

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