

The anodising age

Back in the 1970's architectural aluminium, shopfronts, windows and curtain wall, was available in anodised finishes. These finishes were limited to silver, bronze and black. In the day, replacement window companies often offered a silver framed aluminium casement window set in a hardwood frame. The finish was exceptionally robust and if you look round today, some of these home improvement windows are still performing well. So why did we all but stop using anodised finishes?

Staying with residential home improvement in the 1980's, the new material on the market was PVC. Expensive at the time, the product offered good insulation and promised a long life with virtually no maintenance. Over the following decade, the PVC revolution decimated the aluminium systems, despite white finishes becoming available for aluminium in both electrophoretic and polyester powder coating finishes.

In the commercial aluminium facade market, polyester powder coating gave architects the ability to use a wide range of bright colours in their designs. The ability of powder coating to 'cover all', including blemishes in the extrusion seems the perfect finish and, whilst few people would admit in the industry, aluminium dies were produced cheaper as the surface finish of the profile was often to be covered over with a sixty micron coating of 'paint'. These same profiles, when used for anodising, often showed 'die lines' which, whilst not unattractive, specifiers were not comfortable with. Powder coating quickly became more economic to apply than anodising and became the finish of choice. In an interesting turn more recently, the powder coat industry has introduced 'anodic' finishes to mimic anodised finishes.

Powder coating has advanced a great deal over the years and offers exceptional quality for architectural aluminium profiles but, architects and specifiers are looking back to the base material itself and want to use it in its natural state. So, what is anodising? In simple terms, it is a controlled 'corrosion' of the surface of the aluminium, turning aluminium into 'aluminium oxide' similar to iron oxide (rust) on steel. The difference with aluminium oxide is that once it has been created on the surface of the aluminium it completely seals the base aluminium from further corrosion, unlike steel. So anodising is not an applied finish but a conversion of the surface of the aluminium, so it will not peel or flake. Done to the right quality, the material life expectancy can last many decades and will not fade.

So what about the 'die lines'? Simply put, extrusion dies that have visible faces require more attention prior to use. These dies need to be polished and cleaned more regularly as the extrusion process can be quite abrasive on the surface of the die.

Aluprof, one of the largest producers of aluminium

fenestration systems in Europe, produces dies that are dedicated to each finish. The more expensive, often hand finished dies, are kept for anodising specifications. Another key to creating a good anodised finish is the ability to extrude and anodise within a short space of time, thereby reducing the opportunity for natural oxidation beginning to occur. Aluprof extrudes profile through these higher quality dies which offer higher quality surfaces free from 'die lines' and once etched and anodised offer a high quality surface which is both very hard wearing and long lasting.

Anodising is also now becoming a choice for pretreatment of aluminium prior to powder coating. A very thin anodising of just five microns seals the aluminium prior to powder coating. This sealing or 'conversion coating' has traditionally been completed in chrome or chrome free coatings. The claim for the use of 'pre-anodising' or 'flash anodising' prior to powder coating is that it avoids the appearance of a type of corrosion known as filiform corrosion.

Anodising plants are also very costly to design and install, utilising high voltage and specialist transformers to rapidly and evenly create an anodised finish. Because of its combined use of a finish in its own right and as a 'conversion coating' prior to powder coating, in the UK alone there has been two new anodising plants come on-line in the last couple of years with further plants planned.

As specifiers tend to specify shades of grey for the majority of fenestration projects, anodising can be specified in both bronze finish and shades of grey. This is created by the introduction of trace metals such as cobalt or tin during the anodising process. Interestingly, as the anodising is 'clear', the introduction of these metals forms an optical colour, which cannot fade over time.

Crucial for specifiers is the knowledge that higher quality dies should be used for producing profiles for anodising and this is something that should find its way into specification for the finish.

Aluprof systems are increasingly being specified on a wide range of residential and commercial projects across the UK including Passivhaus projects. Systems are designed, fabricated and installed by selected, specially trained local companies, to ensure each fabricated product meets Aluprof's exacting standards. □

www.aluprof.eu



Small edge



Swisspacer has expanded its distribution network with Delta, a double-glazing parts supplier based in Romford. Serving sealed unit makers in the London and Essex area since 1995, Delta's expert knowledge and product range is helping smaller London window companies gain a competitive edge.

The move makes it easier for small sealed unit makers to benefit from Swisspacer's range of spacer bars. Wendy Wyatt, director at Delta says: "We're happy to be an official Swisspacer distributor. It is a well-known name and one of the best for energy efficiency – it ticks all the boxes. Energy performance is crucial to our sealed unit maker customers and with Swisspacer they have peace of mind that they will easily meet the required standards and regulations.

"Customers also like the fact that they don't have to order very large quantities. Quite a lot of them, based in London, are space restricted. Due to customer demand we mainly stock the 20mm spacer bar in neutral colours."

Swisspacer recently expanded its range with two UK-specific sizes of Georgian bar, featuring a new integrated anti-rattle plug. With a wide range of colours and widths on the market, Swisspacer is tried, tested and approved by Delta. □

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Asking for Senior

Senior Architectural Systems is reporting a significant increase in the number of new trade accounts being set up following the launch of its new super-slim Ali VU aluminium window. A spokesman says that more and more contractors are taking advantage of the company's new residential product offering. In the period from January to June 2018, Senior has signed up 20 new companies working in the domestic sector helping to generate approximately £1m in sales.

Senior's expansion into the domestic residential market has seen the company use its manufacturing expertise to create Ali VU, a slim line high performance aluminium window, and the Ali Fold range of aluminium bi-fold and patio doors. Specifically designed to be both easy to fabricate and install, the new Ali range is also proving to be a popular choice with homeowners who are looking for a thermally-efficient and attractive alternative to PVC-U and timber windows and doors.

Senior's sales director James Keeling-Heane says: "We are delighted that the



launch of our Ali windows and doors has been so successful and to have so many new customers join our team. The feedback that we have received has been really positive and this has been reflected in the new orders placed and the £1m new sales that we have helped our customers secure." □

www.seniorarchitectural.co.uk/askforali

Thermoseal Group is set to host its popular ThermoBAR to coincide with the Glasstec 2018 Exhibition in Düsseldorf. Entertainment, food and drinks will be flowing on Wednesday 24th October at the after-show party at the ThermoBAR, aka McLaughlin's Irish Pub in the Altstadt – the same location as last time. Entry is limited to those issued with entrance bands. (E-mail marketing@thermosealgroup.com to reserve yours now.)

Thermoseal Group is also hosting exhibition stand number A14 in Hall 17 at the Glasstec Exhibition, Messe Düsseldorf 23-26 October where you'll be able to see the group's representatives for the latest updates and find out about ThermoBar and Thermoflex warm edge spacers, as well as the DecraLed decorative range, or any of the group's 2500-plus range of insulated glass components.

Group head of marketing and communications, Samantha Hill says: "The ThermoBAR' is dedicated to our highest-performance spacer bar – ThermoBar Warm Edge Spacer – and all guests will be pre-issued with a flexible rubber band to give them entrance to the private party." □



Samantha Hill

Enter the dragon

Aluminium manufacturing and installation company AB Glass has once again been awarded the highest Green Dragon Environmental Standard for its continued dedication to effective environmental management.

The Green Dragon Environmental Standard is awarded to organisations that can demonstrate effective environmental management and that are taking action to understand, monitor and control their impacts on the environment.

Swansea-based AB Glass has been provided certification for the level five standard, which is the highest standard awarded by Green Dragon, and acknowledges the company's efforts towards continued environmental improvement. This latest certification



Alan Brayley

adds to the company's prolonged achievement of level five Green Dragon Environmental Standard status.

Alan Brayley, CEO of AB Glass, says: "We place great emphasis on sustainability and environmental responsibility at AB Glass and being awarded the highest Green Dragon Environmental Standard for several years now is credit to such efforts in this area. The company has stringent policies for sustainability, quality and the environment to ensure best practice is always maintained. This enables us to positively operate the business while demonstrating our corporate social responsibility initiatives with confidence." □

www.abforglass.co.uk

Eco/ecom-logical

Edgetech Super Spacer has played an integral role in the construction of an ambitious new headquarters for electronics giant Siemens



The work of Danish architects Henning Larsen, the Munich complex was designed to be open, innovative and save resources – honouring Siemens’ commitment to become carbon neutral by 2030.

According to Siemens, the completed structure consumes 90% less electricity, and approximately 75% less water, than an average building of its size, thanks to 1,300m² of solar panels and a 70km network of pipes carrying rainwater for natural heating and cooling.

Edgetech products were incorporated in the 8,000m² of glazing supplied to the project by Viennese glass processors Petschenig Glastec, 1,000 m² of which consisted of bullet-proof and tap-proof units.

Over a hundred different glass structures were used to meet the high thermal insulation, solar protection, fire protection and security requirements, including the solar-selective triple-glazed units used on the building’s interior courtyard, which incline 5% to maximise the intake of natural light.

“We chose Super Spacer for this project for a number of

reasons,” says Hanspeter Petschenig, managing director of Petschenig Glastec. “On the one hand, it allowed us to guarantee the exceptional energy efficiency both the building’s designers and Siemens themselves were looking for.

“On the other, it significantly streamlined unit production, ensuring all important deadlines were met. With a high-quality flexible spacer, sorting, bending, desiccant filling and offline butyl extrusion are all no longer necessary – eliminating many possible sources of error.”

Chris Alderson, managing director of Edgetech UK & Asia Pacific, says: “It’s fantastic to see Super Spacer play a part in bringing such a ground-breaking building to life. Edgetech products are being used on some of the most demanding architectural and construction projects in the world, which is a testament to their outstanding reliability, energy efficiency and overall performance.” □

www.edgetechig.co.uk