

Focus on Sustainability: Qualicoat 3.0

Future-oriented Design of Building Projects with coated Aluminium

With the European Green Deal, the EU is focusing on the sustainable use of resources in the circular economy. This results in the demand to make even more use of the outstanding recycling potential of aluminium – also and especially in the construction sector. Higher recycling content and the associated change in composition of the aluminium are posing a challenge for the surface finishing industry. The aim is to maintain the full extent of the proven corrosion protection achieved by coating finishes, thus ensuring the longevity of the building elements. With the introduction of the Qualicoat 3.0 label, the Association for Quality Control in the Lacquering, Painting and Coating Industry (Qualicoat) and the Association for the Surface Finishing for Aluminium e. V. (VOA), as general licensee in Germany, are making a pioneering contribution to the sustainable use of aluminium in the construction sector.



Photos: Alutecta

Sustainably produced material – perfectly protected

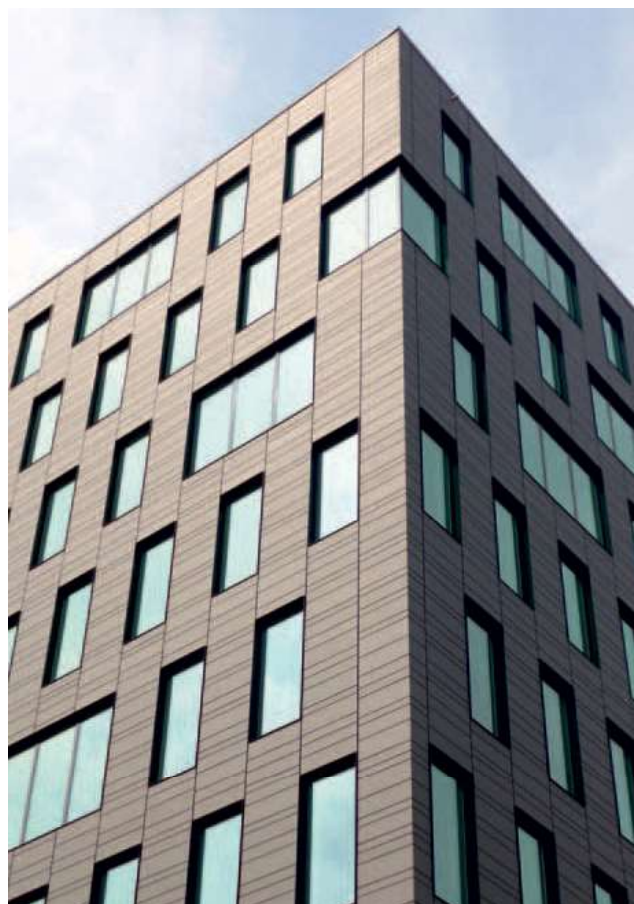
Corrosion protection is a decisive factor for the longevity of a powder-coated building product; it is influenced both by the properties of the substrate and by the surface finishing process. The use of post-consumer scrap, in spite of elaborate, new separation process technology, means that within the relevant standard for e.g. EN AW 6060, in future higher content of foreign metal impurities will have to be accepted than was previously the norm. On the basis of material samples collected worldwide, Qualicoat was therefore the first international quality organisation to develop a property profile and a

test method for assessing the properties and coatability of aluminium, taking into account extensive research results from the industry and in consultation with the internationally active aluminium industry.

The comprehensive investigations revealed that for an optimum coating especially of recycled aluminium with an alloy composition according to EN AW 6060 or 6063 as specified in EN 573-3, further requirements have to be made, concerning the ratio of certain alloying elements, the corrosion potential and the characteristics of the metal matrix on the surface. Independently from this research,

VOA conducted a benchmark study with the alloy Hydro Circal 75R, which confirmed the results obtained by Qualicoat. With Qualicoat 3.0, it is for the first time that a detailed specification is provided which is starting at the interface between substrate and finishing. This specification also features provisions for the processing of such substrates by the coating companies. The details for Qualicoat 3.0 can be found in Appendix A13 of the current Qualicoat specifications which thus constitute the basis for a future-oriented, sustainable use of aluminium in architectural applications.

Aluminium extrusion plants interested in the new quality label can undergo testing according to Qualicoat 3.0 with both primary and recycled aluminium, the focus of course being on the latter. Qualicoat approved and accredited institutes are commissioned by the general licensee of the respective country and will test the alloy composition by emission spectroscopy and the corrosion potential by anodic cyclic polarisation. The metallographic study is of particular importance: By assessing the characteristics of the substrate according to extensive criteria, it allows for conclusions about the quality of the extrusion process. If the test results are positive, the aluminium extrusion plants receive the international Qualicoat 3.0 quality label. Architects and building planners benefit from Qualicoat 3.0 for their projects: Compliance with this new label brings the two components of recycled aluminium plus



Qualicoat 3.0: Basis for the future-oriented, sustainable use of aluminium as a material in architecture

The VOA Verband für die Oberflächenveredelung von Aluminium (Association for the Surface Finishing of Aluminium) is a long-standing trade fair partner with its own stand at ALUMINIUM 2024. As a trade association, the VOA has represented the surface finishing industry competently and professionally in public for six decades, documents the solidarity between politics and industry and informs its member companies with technically sound know-how.

surface coating together in a completely new dimension, placing the focus on sustainability. The integrated approach, also taking into account environmental and climatic conditions at the building's location, creates certainty for sustainable building and illustrates the longevity of the aluminium products used to builders all over the world.

As general licensee for Qualicoat in Germany, VOA will be happy to provide additional information to interested parties.

www.voa.de

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