



Into the 21st century with the A380 – Taking off into new dimensions



Project: A380 servicing hangar
Rhein-Main-Airport Frankfurt

Client: Lamilux Heinrich Strunz GmbH

Location: Frankfurt am Main

Market segment: Construction

Product: Makrolon® multi UV 4/10-6 clear 1099

Building contractor: Lamilux Heinrich Strunz GmbH



makrolon®

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The new giant A380 has some long flights ahead but before it can take off, it needs a thorough service to ensure passengers' safety. However, the gigantic airplane for over 500 passengers far exceeds the dimensions of the existing maintenance hangars and so Frankfurt Airport has had to build a special hangar. Rooflights made of transparent 4-layer Makrolon® multi-wall sheets dominate the roofscape of this impressive industrial building.

Makrolon® lets light into the dark

Servicing aircraft requires good light. This is why enormous, slightly arched rooflights with a total length of 600 metres were incorporated in the great roof area of the new A380 servicing hangar. The Makrolon® multi UV 4/10-6 sheets ensure bright, dazzle-free, natural lighting for the gigantic hangar where the mega liners will be checked in the future.

The building is the size of two football fields (180 x 140 metres) and is the largest service hangar for large aircraft in Europe. This means that energy costs are a significant factor. However, due to the high light transmission and the excellent thermal insulation qualities of the transparent Makrolon® multi UV 4-layer sheets it has been possible to reduce the energy costs for lighting this enormous hangar.

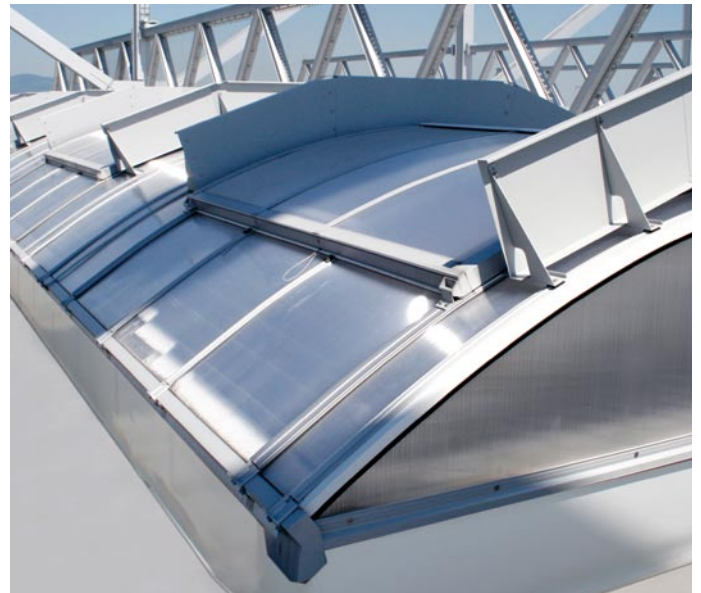
Safety first

Safety is not just an issue for aircraft, the safety standards for public and industrial buildings must be adhered to as well. Another reason why the innovative Makrolon® multi UV 4/10-6 sheets were chosen was their compliance with the high standards of fire classification B1 in accordance with DIN 4102. Since ventilation, smoke and heat vents had to be integrated in the window strips, it was a decided advantage that the Makrolon® sheets could be fitted on site. The low area weight of the sheets of 1.75 kg/m² and their good cold bending radius made transportation easier as well as finishing and installing on site.

In the face of the elements

Due to the special Y structure of the chamber profiles and the optimized rib distance of 6 millimetres, the multi wall sheets have a high load bearing capacity and resistance to physical loads such as wind, hail and heavy snowfalls. This is of especial importance given the strong winds which develop at the level of the airport and create strong wind suction loads on the hangar roof. The transparent roof elements can withstand heavy hail showers as well. Makrolon® 4-layer multi wall sheets comply with the hail resistance safety requirements of the EMPA standard. The highly impact resistant sheets are also fall through-proof in accordance with GS Bau 18.

Furthermore, the Makrolon® multi UV multi functional material scores top points with a 10 year warranty for its high weather resistance created by a special UV coating on the sheets.



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Picture source: Lamilux Heinrich Strunz GmbH