

Weather Louvres Type WLAC 50

Usage

EMTEC WLAC 50 is an all-purpose, single pass external weather louvre system that will minimise the passage of water through the opening into which the louvre is mounted.

The EMTEC WLAC 50 Weather Louvre has an aesthetically pleasing external appearance which compliments any architectural design. The aerodynamic shape of the blades minimises the resistance to airflow whilst the incorporation of water traps ensures that the ingress of rain is reduced.



EMTEC WLAC 50 Weather Louvres can be supplied and installed as individual units (modules) with either a flanged or un-flanged extruded aluminium frame. Other frame options are also available that enable the louvre modules to integrate with curtain wall systems and popular insulated cladding panel systems.

In continuous-line format the system has no maximum dimensions. Hairline blade joints mean that a fixing free and joint free appearance can be achieved for any size louvre.

The main uses of EMTEC WLAC 50 Weather Louvres are in the control of wind driven rain when incorporated within the building envelope's ventilation apertures. In these applications the louvres are normally built into structural openings or apertures in the curtain wall and a number of alternative fixing arrangements can be supplied.

EMTEC WLAC 50 Weather Louvres can be used as screens around equipment such as chillers, cooling towers or condensing units where a visual barrier is required and large volume airflows must be accommodated. In this application EMTEC WLAC 50 Weather Louvres may be supplied complete with corner units, supporting steelwork, gates and blanked sections in order to form a complete self-contained structure. Inverting the louvre blades achieves 100% screening when viewed from below. It is advisable that such applications be discussed with an EMTEC engineer who will be pleased to assist you in the development of a design.

Construction & Physical Properties

EMTEC WLAC 50 Weather Louvre system is manufactured from aluminium. The blades, frames and top-hat mullions are extruded from grade 6063-T6 aluminium which combines good strength with qualities suitable for an architectural anodised finish. The blade retaining clips are extruded from a higher strength 6082-T6 grade aluminium.

The louvre blades are supported by vertical mullions and retained by a clip system. The louvre frames feature a rear channel that allows connection to the periphery of the opening via M8 T-head bolts. The result is a fixing free appearance when viewed from the front of the installed louvre.

It is normal for a birdscreen to be fitted to the rear face of the louvre and our standard mesh is a welded steel wire product having a 12mm x 12mm x 1mm pattern, galvanised after welding in accordance with BS EN 10244-2:2009. Other mesh protections can be provided after consultation with EMTEC.

EMTEC WLAC 50 Weather Louvres can be supplied with a polyester powder coated finish or an anodised finish to compliment the architectural design of the building.

Louvre support and fixing details are normally developed in close collaboration with our customer and the project's professional team in order to achieve the architectural, mechanical and structural requirements.

EMTEC WLAC 50 Weather Louvre system properties:

System depth (including frame)	- 78mm
Blade depth	- 50mm
Blade pitch	- 50mm
Blade angle	- 40°
Minimum system height	- 135mm
Nominal free area at min. height	- 20%
Maximum height (module)	- 3000mm
Maximum height (continuous-line)	- unlimited
Nom. free area at max. module height	- 52%
Minimum recommended system width	- 300mm
Maximum width (module)	- 3000mm
Maximum width (continuous-line)	- unlimited
Typical mass per unit area	- 17kg/m ²



Typical Specification Examples

Into Builderswork Openings:

EMTEC WLAC 50 Weather Louvre modules shall be installed within pre-formed and weathered openings in the positions indicated on the drawings. Each WLAC 50 louvre module shall feature an extruded aluminium flanged frame complete with mitred corners. A 12x12x1 pattern galvanised steel mesh shall be fixed to the rear of the louvre. The external surfaces of the louvres and frames shall be anodised AA25 natural silver in accordance with BS EN 7599:2010. The louvres shall be class C2 at 1.5m/s face velocity.

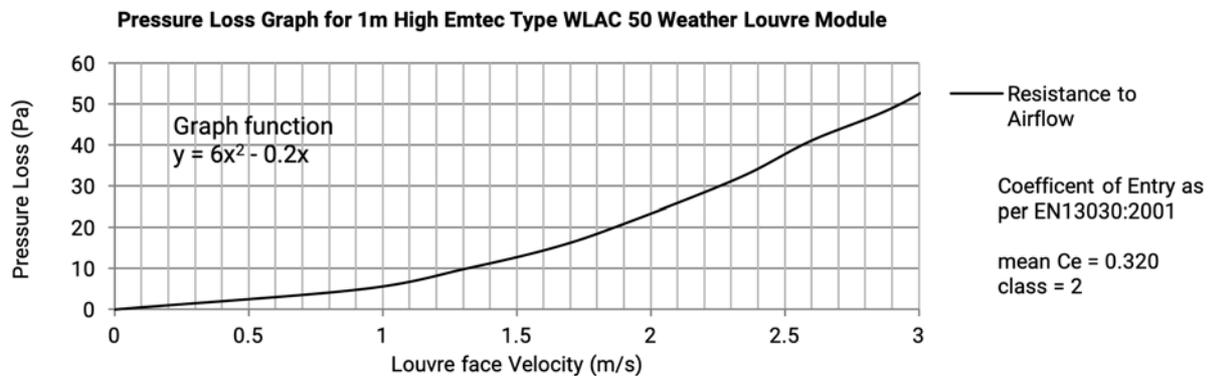
As Plant Screen:

A screen of EMTEC WLAC 50 Louvres shall be installed around the roof mounted chiller to a height of 2500mm. The louvre screen shall be supplied complete with a rear support frame, mitred corners and a louvred access gate. The support frame shall be self-colour galvanised steel. The louvres and their ancillary components shall be polyester powder coated to a standard RAL colour in accordance with BS EN 12206-1:2004. Subject to approval from the Structural Engineer, the galvanised steel support frame shall be connected to the concrete roof slab via base plates welded to the posts, and the baseplates shall be waterproofed after their installation by others.

Aerodynamic Performance

Emtec's type WLAC 50 louvre system has been tested in accordance with EN13030:2001 at BSRIA. The test report is available on request. It may be necessary to establish the correct size of louvre knowing that a certain pressure loss is required for a given volume of air. In this case the face velocity of the louvre is read off the chart below and the louvre dimensions established from the formula:

$$A_L = V_L / Q \text{ where: } A_L = \text{Louvre Face Area (m}^2\text{)} \quad V_L = \text{Louvre Face Velocity (m/s)} \quad Q = \text{Airflow (m}^3\text{/s)}$$



Rainwater Penetration

Emtec's type WLAC 50 louvre system has been tested in accordance with EN13030:2001 at BSRIA. The test report is available on request. The louvre is subjected to fan driven wind speed of 13 m/s and water sprayed at 75 l/h. In addition to simulated wind and rain, air is drawn through the louvre at various face velocities. Effectiveness is measured as a percentage of the water rejected by the louvre.

