Acoustic Louvres Type LAAC 15-105

Usage

EMTEC LAAC 15-105 Acoustic Louvres are external weather louvres with acoustically absorbent blade elements specifically designed to reduce the level of noise passing through the opening into which the louvre is mounted.

The louvre blade profile helps minimise the resistance to airflow whilst rejecting up to 90% of wind driven rain.

EMTEC LAAC 15-105 Acoustic Louvres can be installed as individual units or by bolting more than one unit together (horizontally or vertically) openings of any size can be accommodated. Each louvre has a robust outer framework which acts as vertical mullions and horizontal transoms when several units are fixed together. If a continuous blade effect is preferred this can also be supplied.

The main uses of EMTEC Acoustic Louvres are in the control of mechanical fan noise when used as the termination of ducted air systems. Both exhaust air outlets and fresh air intakes can be fitted with EMTEC acoustic louvres. EMTEC Acoustic Louvres can also be used as plantroom ventilation louvres in order to attenuate general plant noise and as general purpose ventilation louvres in order to reduce external aircraft or traffic noise. In all these applications the louvres are normally built into structural openings and a number of alternative fixing arrangements can be supplied.

EMTEC Acoustic Louvres can be used as screens around equipment such as chillers, cooling towers or condensing units where an acoustic barrier is required and large volume airflows must be accommodated. In this application EMTEC Acoustic Louvres may be supplied complete with corner units, supporting steelwork, gates and blanked sections in order to form a complete self-contained structure. It is advisable that such applications be discussed with an EMTEC engineer who will be pleased to assist you in the formulation of a design.

Construction & Physical Properties

Standard EMTEC LAAC 15-105 Acoustic Louvres are manufactured from galvanised sheet steel. The louvre frame and the upper surface of the blades are formed from plain sheet and the underside of the blades from perforated sheet. The acoustic media contained within the louvre blades is inert, non- flammable mineral wool and where a birdscreen is fitted to the rear face of the louvre this is made from galvanised steel wire mesh having 12mm x 12mm spacings.

EMTEC LAAC 15-105 Acoustic Louvres can also be supplied in aluminium, stainless steel or pre-coated steel. The galvanised sheet steel and aluminium options are normally supplied with a polyester powder coated finish to compliment the architectural design of the final installation.

External or internal flanges can be supplied to fix louvres into structural openings and are normally manufactured from the same material as the louvre itself. Flanges can be pre-drilled to allow fixing to the adjacent structure. The louvre casing can alternatively be pre-drilled through the sides to allow louvre modules to be bolted together or when units are to be fixed into the reveal of an opening. Louvre fixing details are normally supplied at the time of order but can be furnished on request.

EMTEC LAAC 15-105 Acoustic Louvre module properties:

Standard module depth (thickness)	- 150mm
Smallest module height	- 245mm
Free area at smallest module height	- 14%
Maximum module height	- 2450mm
Free area at maximum module height	- 32%
Maximum module width	- 2400mm
Typical mass per unit area	- 40kg/m^2
Blade pitch	- 105mm
Blade angle	- 40°

Typical Specification Examples

Into Builderswork Opening:
EMTEC LAAC 15-105 Acoustic Louvres shall be installed in the positions indicated on the drawings to maintain the acoustic criteria provided in the specification. The acoustic louvres shall be constructed from galvanised steel and be supplied complete with external mounting flanges and birdscreen guards fixed to the rear face of the louvres. The external surfaces of the louvres shall be polyester powder coated to a standard RAL colour.

As Acoustic Screen:
A screen of EMTEC LAAC 15-105 Acoustic Louvres shall be installed around the roof mounted chiller to a height of 2450mm. The screen shall be mounted on a pre-formed concrete plinth, 300mm high by 350mm wide, and supplied complete with pressed galvanised steel corner units, rear structural support frame and a louvred access gate. The support frame shall be self-colour galvanised steel and the louvres shall be polyester powder coated to a standard RAL colour.

Acoustic Performance

Emtec's type LAAC 15-105 louvre has been tested in accordance with EN10140-2:2010 at SRL Technical Services Ltd. The test report is available on request. The Rw(C;Ctr) rating provided below is according to EN 717-1:2013.

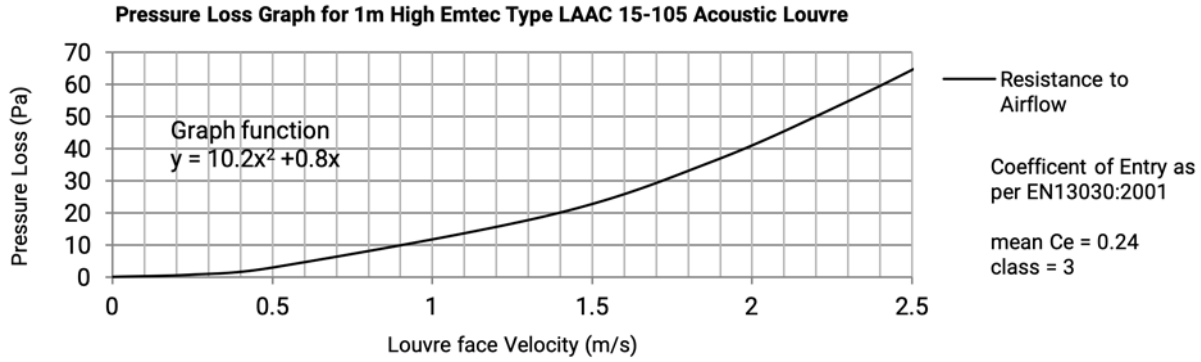
Acoustic Louvre Type	**Sound Reduction Index in dB at Octave Band Centre Frequencies (Hz)**								
	63*	125	250	500	1k	2k	4k	8k*	Rw
LAAC 15-105	4	4	5	7	14	16	15	12	12 (0;-2)

*indicates frequency beyond standard and not UKAS accredited

Aerodynamic Performance

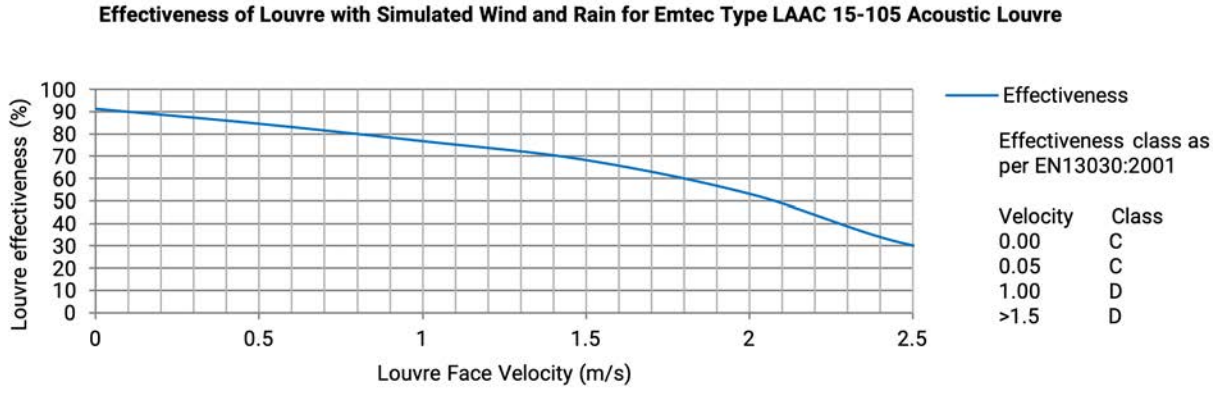
Emtec's type LAAC 15-105 louvre has been tested in accordance with EN13030:2001 at BSRIA. The test report is available on request.
It may be necessary to establish the correct size of acoustic louvre knowing that a certain pressure loss is required for a given volume of air. In this case the face velocity of the louvre is read off the chart below and the louvre dimensions established from the formula:

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



Rainwater Penetration

Emtec's type LAAC 15-105 louvre 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.



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