

# ENGINEERING REPORT

## TOPIC: Acoustical Louvers

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Ruskin offers the most complete and versatile line of acoustical louvers in the market. Besides their use for ventilation, acoustical louvers are used for sound reduction when required by codes or specified by the designer.

Ruskin acoustical louvers are tested in accordance with AMCA procedures for air performance. In addition acoustic performance ratings are in conformity with ASTM Designation E90-90.

Ruskin acoustical louvers are constructed of formed steel (aluminum construction is available), with blades positioned at 45° angles typically. Sound absorbing blade fill material is placed on the interior surfaces of the blades

and is held in place with a perforated metal retainer. Sound penetrates the retainer and is deadened by the blade fill material inside. The blades have been designed to offer the best air performance and sound attenuation at their respective center to center spacing. These units feature all welded construction. Airfoil design blades are available on the 8" and 12" models.

With available frame depths of 4", 6", 8" and 12" and proven performance with each size, the architect or engineer has a variety of options available to consider. The following information can help during the decision making process.

### SPECIFICATIONS

	ACL445	ACL645	ACL845	ACL845AF	ACL1245	ACL1245AF
Frame Material (Galv. Steel)	16 Ga.	16 Ga.	16 Ga.	16 Ga.	16 Ga.	16 Ga.
Frame Depth	4"	6"	8"	8"	12"	12"
Blade Material: (Galv. Steel)						
Exterior	20 Ga.	20 Ga.	20 Ga.	20 Ga.	16 Ga.	16 Ga.
Interior (Perf.)	22 Ga.	22 Ga.	22 Ga.	22 Ga.	22 Ga.	22 Ga.
Blade Angle	45°	45°	45°	45°	45°	45°
Blade Centers	6"	6"	8"	8"	12"	12"

### PERFORMANCE 48" x 48" UNIT

	ACL445	ACL645	ACL845	ACL845AF	ACL1245	ACL1245AF
Free Area	30%	29%	28%	20%	22%	21%
Sq. Ft. Free Area	4.75	4.64	4.42	3.13	3.50	3.24
Max. Air Flow Thru Free Area	703	872	959	1250	1025	1030
Airflow CFM	3340	4046	4239	3913	3577	3337
Max Pressure Drop	.07	.08	.13	.10	.15	.07

### FREE FIELD NOISE REDUCTION (db)

Band Frequency (HZ)	ACL445	ACL645	ACL845	ACL845AF	ACL1245	ACL1245AF
63	9	10	12	11	10	14
125	11	11	12	11	10	13
250	9	9	10	11	11	14
500	11	13	15	16	18	17
1000	15	19	21	20	20	22
2000	17	20	21	20	19	23
4000	16	19	19	18	20	21
8000	16	18	19	18	21	21

