

Acousta-Wal

The perfect blend of design and sound control.



Contact us for
a Box Lunch
Presentation



TRENWYTH

an Oldcastle® company

www.trenwyth.com

Acousta-Wal in colors, shapes and

Whether it's a school gym, lecture hall or performance arts center, Acousta-Wal® is your indoor/outdoor solution to sound absorption and control. Its unique design controls sound transmission as it absorbs sound waves. Acousta-Wal absorbs sound at all frequencies, even difficult-to-control low frequencies.

Unique Design Absorbs Sound Waves and Controls Sound Transmission

An Acousta-Wal block is a structural concrete masonry unit that has a closed top and vertical slots on its face, exposing the inner cavity. Working much like an automobile muffler, the closed-end cavities of the different size units resonate to sound waves of different frequencies, converting them harmlessly to heat. While Acousta-Wal units absorb unwanted noise within an area, they also greatly reduce the transmission of sound to an adjacent area.

Acousta-Wal units are available in the following:

- Astra-Glaze-SW+® glazed masonry units
- Verastone® recycled ground face masonry units
- Trendstone® ground face masonry units
- Grey block masonry units



One-Step Installation: Acousta-Wal units provide finished load-bearing or non-load-bearing walls in a single trade, one-step operation. You save time and money.

Low Life-Cycle Costs: Resistant to mechanical damage, Acousta-Wal sound-absorbing units provide sound control for the lifetime of the building.

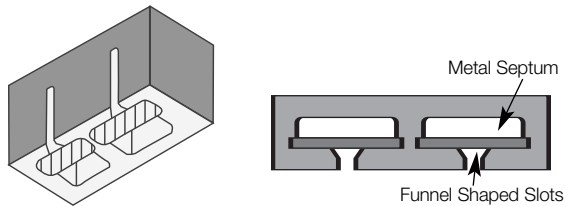
Mold and Moisture Resistant: Manufactured with an integral water repellent admixture, Acousta-Wal sound-absorbing masonry units repel moisture and prevent mold and efflorescence.

Design Flexibility: Acousta-Wal units offer you freedom of expression in design through a wide variety of colors, shapes and sizes you won't find anywhere else. Trenwyth even produces rounded corners and edges for ADA compliance!

Fire Protection: Depending on the thickness and internal configuration of the block, Acousta-Wal offers up to a 4-hour fire rating.

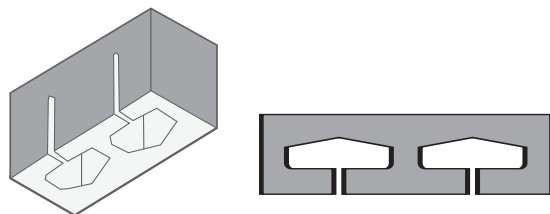
sizes you won't find anywhere else™.

Type IV units outperform the previously-manufactured Type II and Type III units. Use Type IV units for broad range sound absorption, such as school gymnasiums, lecture halls and performing arts centers.



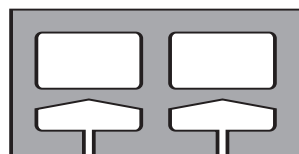
Available in 4" or 6" thicknesses, **Type IV** units have wide funnel-shaped slots, opening into a two-chamber cavity separated by a metal septum laminated to a factory-inserted fiberglass filler. Fiberglass fillers are chemically inert, vermin resistant and incombustible. Type IV units are available in 4" and 6" thicknesses.

Type IVRF (Reinforced) units offer the advantage of open cavities for vertical reinforcing conduits or pipes. Type IVRF units provide higher levels of sound absorption across a wider range of frequencies. Type IVRV units are available in 8", 10" and 12" thicknesses.



Type I units are ideal for absorption of low frequency sound, such as power plants and waste water treatment plants. Type I units have narrow, straight slots, empty cavities and are available in 4" and 6" thicknesses.

Type IRF (Reinforced) units are available in 8", 10" and 12" thicknesses.



Typical Sound Levels (in Decibels)

Threshold of audibility	0
Rustle of leaves in gentle breeze	10
Average whisper 4 feet away	20
Soft radio in apartment; average residence	35
Average office	45
Moderate restaurant background	50
Noisy office or department store	55
Average busy street	60
Stenographic room	70
City subway	80
Loud automobile horn 23 feet away	100
Express train passing at high speed	105
Threshold of feeling (varies with frequency)	120
Threshold of painful sounds; limit of ear's endurance	130
Near jet engine	160

Example: A 12" Type I RF Acousta-Wal unit will absorb 62 decibels of sound (laid facing the origin of the sound).

Therefore, if there is a sound of 105 decibels reaching the wall, 62 decibels will be absorbed by the wall and 43 decibels will go through the wall to the other side.

Sound Transmission

Approximate Sound Transmission Class (STC) ratings for Trenwyth's ACOUSTA-WAL® units as compared to ratings for other units are shown below.

ACOUSTA-WAL® Masonry Units		Regular Lightweight CMU	
4"	49		
6"	52	6"	43
8"	56	8"	46
12"	62	12"	51

Noise Reduction Coefficient Chart

Size	Type	Surface	Frequency – Hertz						NRC*
			125	250	500	1000	2000	4000	
4"	I	Painted	.18	.82	.40	.35	.43	.36	.50
6"	I	Painted	.63	.80	.41	.40	.31	.51	.50
8"	IRF	Painted	.18	.82	.40	.35	.43	.36	.50
10"	IRF	Painted	.18	.82	.40	.35	.43	.36	.50
12"	IRF	Painted	.63	.80	.41	.40	.31	.51	.50
4"	IV	Painted	.21	.78	.97	.80	.68	.73	.80
6"	IV	Painted	.31	1.23	.71	.71	.65	.68	.85
8"	IVRF	Painted	.21	.78	.97	.80	.68	.73	.80
10"	IVRF	Painted	.21	.78	.97	.80	.68	.73	.80
12"	IVRF	Painted	.31	1.23	.71	.71	.65	.68	.85

*NRC – approximate percentage of sound absorbed.

Sound Absorption Coefficient Chart

Complete tables of coefficients of the various materials that normally constitute the interior finish of rooms may be found in the various books on architectural acoustics. The following short list will be useful in making simple calculations of the reverberation in rooms.

Materials	Coefficients					
	125cps.	250cps.	500cps.	1000cps.	2000cps.	4000cps.
Brick, unglazed	.03	.03	.03	.04	.05	.07
Brick, unglazed, painted	.01	.01	.02	.02	.02	.03
Carpet						
heavy, on concrete	.02	.06	.14	.37	.60	.65
Same, on 40 oz. hairfelt or foam rubber	.08	.24	.57	.69	.71	.73
Same, with impermeable latex backing on 40 oz. hairfelt or foam rubber	.08	.27	.39	.34	.48	.63
Concrete block, coarse	.36	.44	.31	.29	.39	.25
Concrete block, painted	.10	.05	.06	.07	.09	.08
Fabrics						
Light velour, 10 oz. per sq. yd., hung straight, in contact with wall	.03	.04	.11	.17	.24	.35
Medium velour, 10 oz. per sq. yd., draped to half area	.07	.31	.49	.75	.70	.60
Heavy velour, 18 oz. per sq. yd., draped to half area	.14	.35	.55	.72	.70	.65
Floors						
Concrete or terrazzo	.01	.01	.015	.02	.02	.02
Linoleum, asphalt, rubber or cork tile on concrete	.02	.03	.03	.03	.03	.02
Wood	.15	.11	.10	.07	.06	.07
Wood parquet in asphalt on concrete	.04	.04	.07	.06	.06	.07
Glass						
Large panes of heavy plate glass	.18	.06	.04	.03	.02	.02
Ordinary window glass	.35	.25	.18	.12	.07	.04
Gypsum board						
1/2" nailed to 2 x 4"s 16" o.c.	.29	.10	.05	.04	.07	.09
Marble or glazed tile	.01	.01	.01	.01	.02	.02
Openings						
Stage, depending on furnishings	.25 - .75					
Deep balcony, upholstered seats	.50 - 1.00					
Grills, ventilating	.15 - .50					
Plaster, gypsum or lime, smooth finish						
on tile or brick	.013	.015	.02	.03	.04	.05
Plaster, gypsum or lime, rough finish						
on lath	.02	.03	.04	.05	.04	.03
Same, with smooth finish	.02	.02	.03	.04	.04	.03
Plywood paneling						
3/8" thick	.28	.22	.17	.09	.10	.11
Water surface						
as in a swimming pool	.008	.008	.013	.015	.020	.025
Air						
sabins per 1000 cubic feet					2.3	7.2

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