



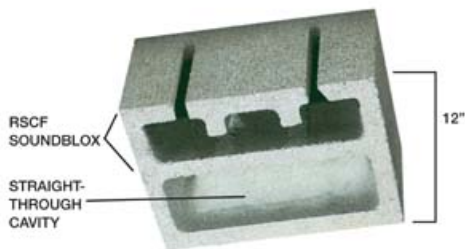
SOUND-ABSORBING
SOUNDBLOX[®]
PATENTED
STRUCTURAL MASONRY UNITS



John XXIII High School, Calgary, Alberta
Architects: The Leblond Partnership



Max Bell Center, Calgary, Alberta
Architects: John D. Rule



Geo Nicholson School

IT'S WHAT YOU DON'T SEE IN
SOUNDBLOX[®] UNITS
THAT MAKES THE
BIG DIFFERENCE



WESTERN NOISE CONTROL LTD.
1-800-661-7241 Fax (780) 426-0325
11602 - 119 Street, Edmonton T5G 2X7
info@acousticsolutions.com

STRUCTURAL PERFORMANCE

SOUNDBLOX® meet CSA standard A165.1-1964, for hollow load-bearing concrete masonry units. Therefore, SOUNDBLOX® can be incorporated wherever ordinary hollow masonry blocks are used.

Rugged durability permits the use of SOUNDBLOX® units in walls of industrial plants, gymnasiums, etc. where acoustical treatment is often most advantageously placed. This is usually impractical using soft, non-durable materials.

Due to the rear thru-chamber design and knock-outs, the 25 / 30 cm **Type RSCF** Soundblox® can be horizontally and vertically reinforced and thus may be used in situations requiring high load bearing capacity.

The **Type RSCF** series is a design of Soundblox® that offers an enhanced sound absorption rating (NRC value) of .80 or greater. This sound absorption value is similar to that of a typical 25mm acoustical panel. Soundblox® Masonry Units are part of the building structure so their supplied and installed cost is comparatively less. The 20 cm **Type RSCF** Soundblox® uses a sequential design with 4 chambers. The 25 / 30 cm **Type RSCF** Soundblox® uses a sequential design with 3 chambers to increase the NRC value without affecting the structural ability.

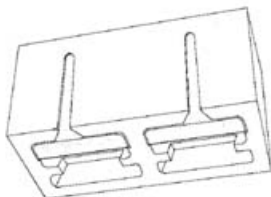
SOUNDBLOX® - SOUND ABSORPTION COEFFICIENTS

SIZE	TYPE	FREQUENCY IN HERTZ (Hz)						NRC
		125	250	500	1000	2000	4000	
20 cm	RSCF	.50	1.00	1.06	.66	.56	.72	.80
25 cm	RSCF	.18	.64	1.02	.72	.80	.58	.80
30 cm	RSCF	.18	.64	1.02	.72	.80	.58	.80

The sound absorption values shown above were determined in accordance with ASTM Designation C423-66 by Geiger and Hamme Acoustical Laboratories.

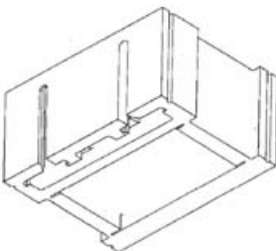
20 cm Type RSCF:

- High Sound Absorption Value (NRC: .80+)
- Quad-Chamber design
- Acoustic Inserts



25 / 30 cm Type RSCF:

- Horizontally and vertically reinforceable with rear thru-cavity
- Tri-Chamber design
- Acoustic Inserts



SOUND TRANSMISSION LOSS CHARACTERISTICS

SOUND TRANSMISSION CLASS (STC):53

(Measured for a wall constructed of 20 cm Type RF Soundblox® units)

Frequency (Hertz)	125	250	50	1000	2000	4000
STL (dB)	36	44	50	54	58	56

Using the same test method (NCMA-TEK 69B, KAL 369-5-66), ordinary hollow concrete blocks show an STC rating of 46. Thus, SOUNDBLOX® walls have markedly better sound transmission loss than walls constructed of ordinary blocks of the same dimensions.

FIRE PERFORMANCE

Fire Endurance. Fire testing in accordance with ASTM E-119 requirements show fire endurance ratings of up to 3 hours + for load-bearing walls built with SOUNDBLOX® units. Specific details will be supplied upon request.

SOUNDBLOX® FIRE RATINGS

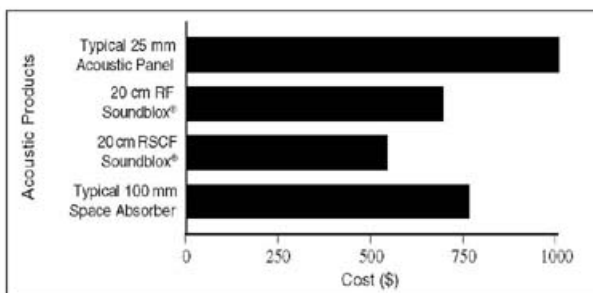
Soundblox® Size (cm)	Equivalent Thickness (mm)	Fire Rating (hours)
10	69	3/4
15	96	1+
20	120	2
25	133	2
30	149	3

Fire ratings are based on the requirements of the 1985 National Building Code, appendix B-Fire performance ratings, supplement to the National Building Code-Chapter 2. The ratings shown are conservative values. Actual fire tests have significantly exceeded these values.

COST AND ACOUSTIC COMPARISONS

SOUNDBLOX® are installed conventionally, without added labour, making their in-place cost low when compared with many other acoustical materials. When compared to the additional supply and labour cost of installing an acoustical product in front of an ordinary masonry wall, the over-all cost of a SOUNDBLOX® wall is comparatively less and still offers the same acoustic performance. The chart below shows this comparison.

COST OF DIFFERENT PRODUCTS PROVIDING THE SAME ABSORPTION



ACOUSTIC PERFORMANCE

In many situations SOUNDBLOX® can eliminate the need to use other, separately installed, acoustical materials. They derive their excellent sound absorption from a patented cavity-slot construction. The cavities are closed at the top and the slots allow the closed cavities to act as damped (Helmholtz) resonators. This design offers enhanced low frequency absorption. SOUNDBLOX® do not rely on their surface finish for sound absorption properties. They can be painted or glazed without hindering the acoustic performance.

The amount of sound absorbed by properly installed SOUNDBLOX® is increased dramatically when the Acoustic Inserts (metal septum / fibrous fillers) are incorporated into the resonator cavities. In effect, the specially designed metal septa, which reflect the higher frequencies but transmit the lower frequencies, create two resonators in each block cavity where only one existed before. Tuned to different frequencies, the dual resonators in combination with the funnel shaped slots provide higher levels of sound absorption across a wider range of frequencies.

SOUNDBLOX® PRODUCTION

SOUNDBLOX® are made locally near the jobsite by carefully selected quality block producers. Special patented molds, which fit standard automatic block machines, and detailed specifications, are used to ensure uniform quality and acoustic efficiency. SOUNDBLOX® units may be made of any desired type of aggregate and are readily available in most areas of Canada.

SPECIFICATIONS

Scope. Sound absorptive concrete masonry units shall be used to construct the exterior or interior walls or partitions as shown on the plans and/or indicated in the Schedule of Finishes.

Material. All sound absorptive masonry units shall be SOUNDBLOX® made on standard block machines from molds furnished by Western Noise Control Ltd. They shall be made of carefully prepared aggregate and shall meet the current ASTM and CSA A165.1 requirements. Controlled use of the SOUNDBLOX® molds shall be employed so that all units have the top of the cavities tightly closed. Slots and edges shall be straight and clean. Where Type RSCF/RF SOUNDBLOX® units are called for, Acoustic Inserts are to be supplied by Western Noise Control Ltd. and shall be installed in the cavities of the blocks. The Acoustic Inserts shall consist of specifically fabricated incombustible fibrous material laminated to a metalized septum. They shall be pre-cut accurately to size and installed as recommended for the type of SOUNDBLOX® units that are called for.

Sizes and Types. SOUNDBLOX® units shall be 390mm x 190mm nominal face size. They shall be of the thickness and type as shown on the plans and/or indicated in the Schedule of Finishes. All SOUNDBLOX® units are of modular dimensions, i.e. 10 mm under nominal.

Installation. SOUNDBLOX® units shall be installed by qualified masonry personnel. SOUNDBLOX® must be installed in a full bed of mortar with the open ends facing downward. Place reinforcing, ties, etc. as required.

Western Noise Control Ltd. has over 20 years of experience in eliminating all types of noise problems. We would be pleased to offer our experience to you in any of your applications where noise control is required.



11602 - 119 Street, Edmonton, Alberta T5G 2X7

TYPICAL AREAS FOR SOUNDBLOX®

Schools	
gymnasiums	lecture rooms
natoriums	multi-purpose rooms
auditoriums	vocational rooms
music rooms	mechanical equipment rooms
Industrial Plants	
partitions between areas	engine exhaust stacks
outdoor noise screens	fan rooms
boiler rooms	
Churches	
naves and transepts	mechanical equipment rooms
social halls	chapels
classrooms	
Electric Utilities	
transformer noise screens	boiler rooms
generator rooms	fan rooms
General	
computer rooms	return air shafts
cooling tower noise screens	recreation halls
newspaper press rooms	field houses
engine test cells	shooting ranges
convention centres	tunnels
aircraft maintenance hangars	airport facilities
coliseums	sewage treatment plants
laboratories	highway noise screens
standby generator facilities	theatres
hospitals	subway stations
radio and television studios	restaurants
mechanical equipment rooms	



Commercial Airline Maintenance Hangar, Miami, Florida
Architects - Engineers: Connell Associates Inc.