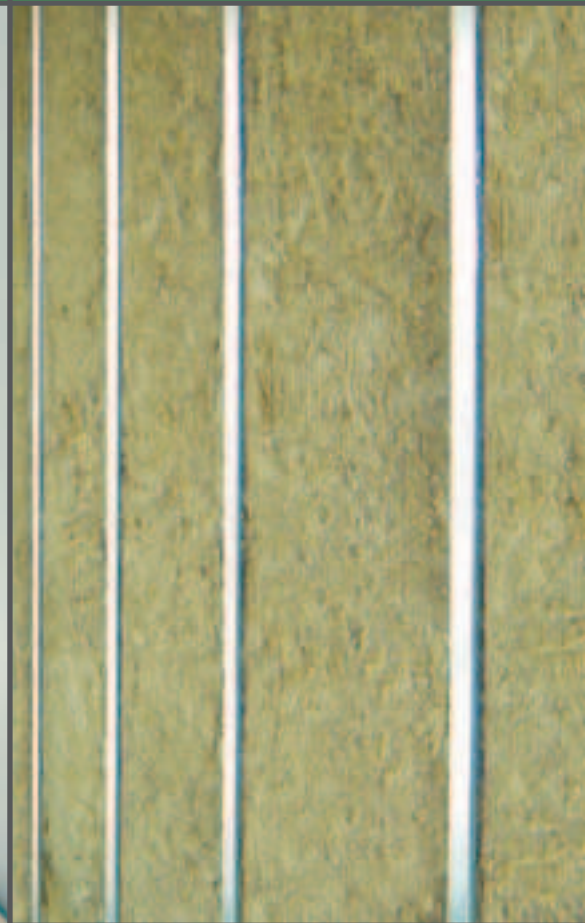


# ROXUL AFB™

## Acoustical Fire Batts



- Fire-resistant
- Sound absorbent
- High density for sag-free, tight fits
- Green features for sustainable development

**ROXUL**®  
The Better Insulation™

## Batt insulation that fights both fire and noise

Roxul's AFB® is a lightweight, semi-rigid batt insulation designed specifically for interior wall and floor applications. This stone fiber based\* insulation is made from natural stone and recycled content. It's a green product that provides superior sound absorbency and fire protection for overall occupant comfort and safety. That's why AFB® is quickly becoming the insulation of choice for today's green builders in commercial and industrial construction.

### FIRE RESISTANT

Roxul AFB's combination of stone fiber and recycled content makes this insulation fire resistant. This non-combustible product does not develop smoke or promote flame spread when exposed to flame, making AFB® a critical line of defense in fire protection. In fact, studies have proven that stone or mineral fiber insulations provide a 54% increase in overall fire resistance rating compared to non-insulated assemblies.<sup>1</sup>

### SOUND CONTROL

Room to room or floor to floor, when Roxul AFB® is specified for interior wall or floor assemblies, better overall sound control and fire protection are achieved. Compared to other types of insulation, the stone fiber content of AFB provides increased density that effectively reduces airflow and essentially, sound transmissions. Greater noise or sound control is further achieved when thicker AFB® and gypsum board are used together. AFB® thickness ranges from 1.5" (38 mm) to 3.5" (76 mm).

Testing demonstrates that Roxul AFB's inherently higher density and manufacturing process delivers dramatically better airflow resistivity compared to glass fiber. Higher air flow resistivity means better sound attenuation.

#### Density and airflow resistivity for samples of absorptive material.

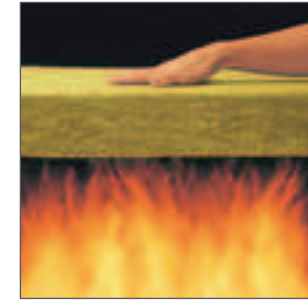
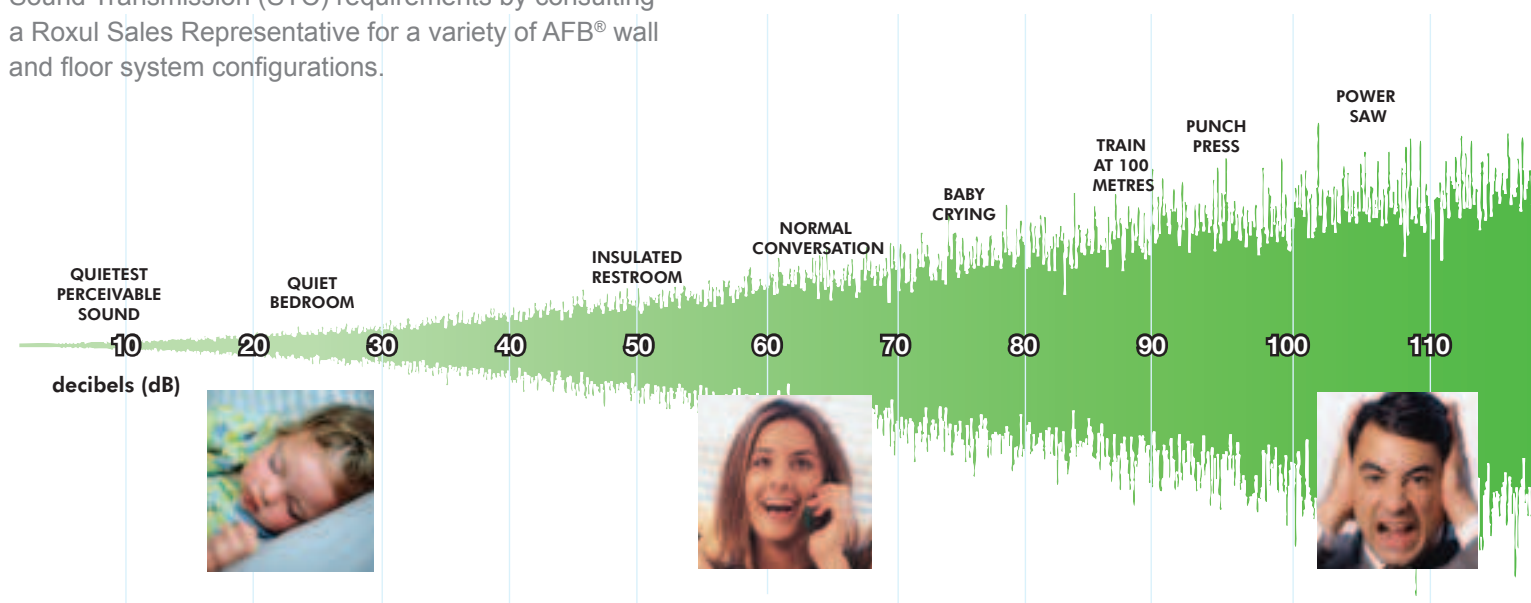
		Density (kg/m <sup>3</sup> )		Airflow Resistivity (mks rays/m)	
		Average Value	Standard Deviation	Average Value	Standard Deviation
Glass Fibre	3½" (89mm) batt	12.2	0.4	4800	400
Glass Fibre	2½" (65mm) batt	11.7	1.0	3600	200
Roxul AFB	3" (75mm) batt	44.2	1.7	16 600	900
Roxul AFB	1½" (40mm) batt	51.9	2.2	15 000	500

In commercial applications, much of the sound or noise to be controlled is produced in low frequency or bass ranges. This noise includes conversation, projection/video equipment, and ventilation systems. In the lower 1/3 octave bands, tests have shown that Roxul AFB® outperformed fiberglass insulation, providing more low frequency absorption when comparing acoustical testing at low frequencies.<sup>2</sup>

#### Random Incidence Sound Absorption Coefficients, in 1/3 Octave Bands

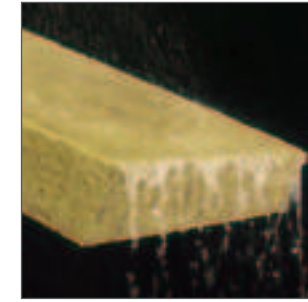
		1/3 Octave band centre frequency (Hz)						
		65	80	100	125	160	200	250
Glass Fibre Sample 1	(3½")	.15	.18	.21	.25	.32	.43	.54
Glass Fibre Sample 2	(3½")	.15	.17	.19	.22	.28	.37	.46
Roxul AFB Sample 1	(3")	.18	.22	.28	.33	.40	.50	.62
Roxul AFB Sample 2	(3½")	.18	.23	.29	.35	.41	.52	.65
Glass Fibre Sample Average		0.15	0.18	0.20	0.24	0.30	0.40	0.50
Roxul AFB Sample Average		0.18	0.23	0.29	0.34	0.41	0.51	0.64

Ensure you achieve specific Fire Resistance Ratings and Sound Transmission (STC) requirements by consulting a Roxul Sales Representative for a variety of AFB® wall and floor system configurations.



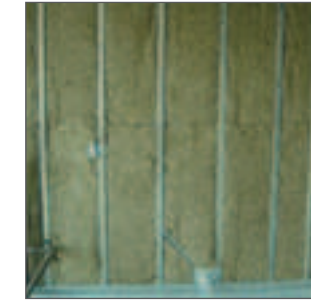
### Fire resistant

AFB® is non-combustible, resisting fire and delaying fire spread for added margins of safety.



### Water and moisture resistant

The stone fiber structure repels water and aids in draining, which protects interior walls and studs.



### Semi-rigid, sag-free material

AFB's higher density keeps the product in place, which is critical for optimum fire protection and sound control.



### Fast, easy installation

Simply cut with a serrated knife for quick and efficient installation between studs, around electrical boxes, wire and piping.

### WATER RESISTANT

Roxul AFB® will not absorb water or hold moisture. In fact, its stone fiber composition is ideal for repelling and draining water away from walls and studs, protecting them. AFB's fire resistance and sound control properties are never compromised by water or moisture. Ideally, AFB® will not corrode and it does not promote fungi or bacteria growth.

### SAG-FREE, TIGHT FITS

The higher density of AFB® provides superior sag resistance and fit. Once installed, AFB® holds its shape without sagging or slumping in the wall cavity over time to consistently provide continuous fire protection and sound control.

### ECO-FRIENDLY FEATURES

AFB® is an innovative insulation offering a world of green features that help developers earn LEED® (Leadership in Energy and Environmental Design) points across six construction categories. AFB's greenest features include: Natural, inorganic material with recycled content

- Non-combustible without dangerous chemicals
- Excellent sound absorption for acoustical comfort
- Higher R-values for consistent thermal performance
- Chemically inert for minimizing indoor air quality pollutants
- Resistance to growth of mold, fungi, and bacteria
- CFC and HCFC free product and process

\*Roxul's AFB™ is classified as mineral wool. However, the unique formulation of Roxul insulation delivers benefits that set it apart from traditional mineral wools. These benefits are only available in stone fiber based products.

## Commercial wall system performance using ROXUL AFB

In the following 15 commercial wall systems, ROXUL AFB delivers excellent Fire Resistance Ratings and Sound Transmission (STC).

The right-hand column shows the results of acoustical tests done on these ROXUL AFB wall systems at the internationally-recognized

Riverbank Acoustical Laboratories. For other wall constructions not shown here, please contact Roxul technical services. For further details on the illustrated constructions, consult the UL or ULC Design Manual. All STC Ratings are based on Type X gypsum board.

CONSTRUCTION	DESCRIPTION	TRANSMISSION LOSS
	<p>Single layer wall.                      3/8" (15.9mm) gypsum board                      3/8" (92mm) steel studs spaced                      24" (610 mm) centers                      3" (76mm) Roxul AFB</p> <p><b>Sound Transmission Class (STC):</b>                      52 (RAL-TL95-195)</p> <p><b>Fire Resistance:</b>                      1 hour (UL design no. V417 and U465)                      1 hour (ULC W447)</p>	
	<p>Single layer wall.                      1/2" (12.7mm) gypsum board                      3/8" (92mm) steel studs spaced                      24" (610 mm) centers                      3" (76mm) Roxul AFB</p> <p><b>Sound Transmission Class (STC):</b>                      51 (RAL-TL96-269)</p> <p><b>Fire Resistance:</b>                      1 hour (UL design no. U448 and ULC design no W433)</p>	
	<p>Single layer wall.                      1/2" (12.7mm) gypsum board                      3/8" (92mm) steel studs spaced                      24" (610 mm) centers                      1 1/2" (38mm) Roxul AFB</p> <p><b>Sound Transmission Class (STC):</b>                      46 (RAL-TL90-195)</p> <p><b>Fire Resistance:</b>                      1 hour (UL design no. U448 and ULC design no W433)</p>	

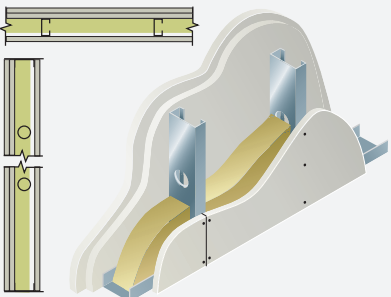
CONSTRUCTION	DESCRIPTION	TRANSMISSION LOSS
	<p>Single layer wall.                      1/2" (15.9mm) gypsum board                      2 1/4" (64mm) steel studs spaced                      24" (610mm) centers                      2 1/4" (64mm) Roxul AFB</p> <p><b>Sound Transmission Class (STC):</b>                      46 (RAL-TL96-270)</p> <p><b>Fire Resistance:</b>                      1 hour (NBC of Canada 1995 and UL design no. U448)</p>	
	<p>Single layer wall.                      1/2" (12.7mm) gypsum board                      2 1/4" (64mm) steel studs spaced                      24" (610mm) centers                      2 1/4" (64mm) Roxul AFB</p> <p><b>Sound Transmission Class (STC):</b>                      44 (RAL-TL96-285)</p> <p><b>Fire Resistance:</b>                      1 hour (UL design no. U448 and ULC design no W433)</p>	
	<p>Single layer wall with resilient metal channels on one side                      1/2" (15.9mm) gypsum board                      3/8" (92mm) steel studs spaced                      24" (610 mm) centers                      Resilient metal channels spaced horizontally at 24" (610 mm) centers                      3" (76mm) Roxul AFB</p> <p><b>Sound Transmission Class (STC):</b>                      55 (RAL-TL96-289)</p> <p><b>Fire Resistance:</b>                      1 hour (UL design no. V417 and U465)                      1 hour (ULC W447)</p>	
	<p>Single layer wall with resilient metal channels on one side                      1/2" (12.7mm) gypsum board                      3/8" (92mm) steel studs spaced                      24" (610 mm) centers                      Resilient metal channels spaced horizontally at 24" (610 mm) centers                      3" (76mm) Roxul AFB</p> <p><b>Sound Transmission Class (STC):</b>                      53 (RAL-TL96-288)</p> <p><b>Fire Resistance:</b>                      1 hour (UL design no. U448)</p>	

**CONSTRUCTION**

**DESCRIPTION**

**TRANSMISSION LOSS**

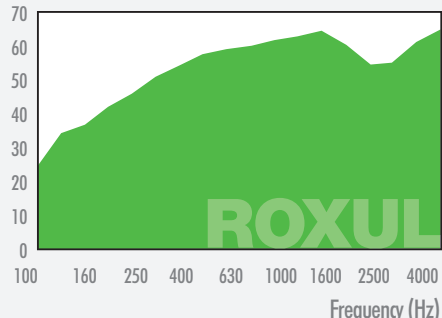
8



Unbalanced wall  
 $\frac{3}{8}$ " (15.9mm) gypsum board, single layer one side; double layer other  
 $\frac{3}{4}$ " (92mm) steel studs spaced 24" (610mm) centers  
 3" (76mm) Roxul AFB/  $\frac{3}{4}$ " (89mm) AFB

**Sound Transmission Class (STC):**  
 56 (RAL-TL96-264)

**Fire Resistance:**  
 1½ hour (NBC of Canada 1995)\*  
 1 hour (UL design no. V417)  
 \*NB.  $\frac{3}{4}$ " (89mm) AFB only



Transmission loss (dB)

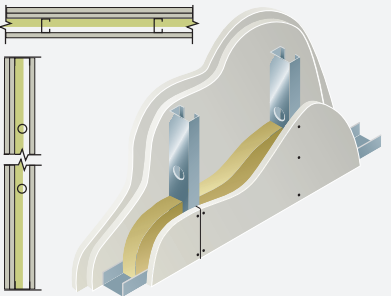
Frequency (Hz)

**CONSTRUCTION**

**DESCRIPTION**

**TRANSMISSION LOSS**

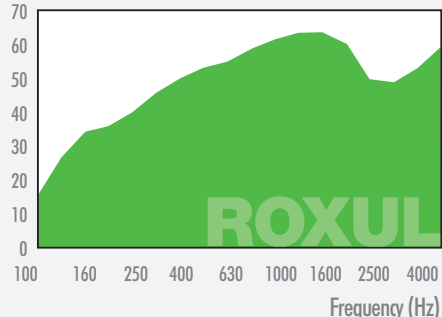
9



Unbalanced wall  
 $\frac{1}{2}$ " (12.7mm) gypsum board, single layer one side; double layer other  
 $2\frac{1}{2}$ " (64mm) steel studs spaced 24" (610 mm) centers  
 $1\frac{1}{2}$ " (38mm) Roxul AFB

**Sound Transmission Class (STC):**  
 50 (RAL-TL90-186)

**Fire Resistance:**  
 1 hour (NBC of Canada 1995 and UL design no. U448)



Transmission loss (dB)

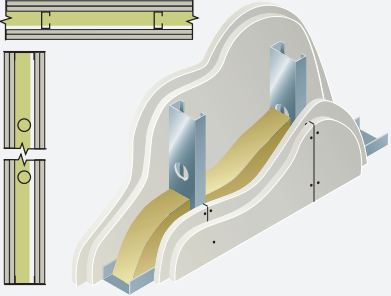
Frequency (Hz)

**CONSTRUCTION**

**DESCRIPTION**

**TRANSMISSION LOSS**

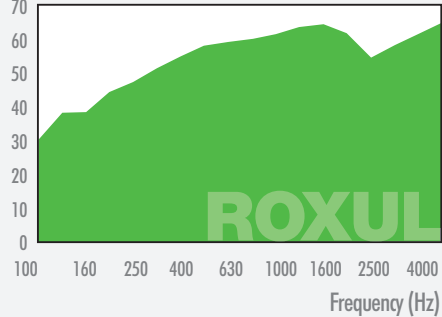
10



Double layer wall  
 2 layers of  $\frac{3}{8}$ " (15.9mm) gypsum board on both sides  
 $3\frac{3}{4}$ " (92mm) steel studs spaced 24" (610mm) centers  
 3" (76mm) Roxul AFB

**Sound Transmission Class (STC):**  
 57 (RAL-TL96-268)

**Fire Resistance:**  
 2 hours (UL design no. U411 and V419, NBC of Canada 1995)



Transmission loss (dB)

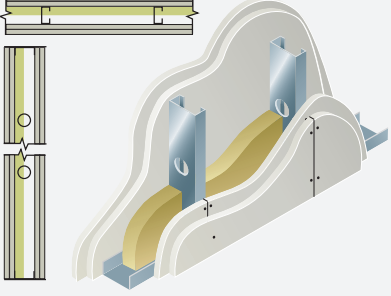
Frequency (Hz)

**CONSTRUCTION**

**DESCRIPTION**

**TRANSMISSION LOSS**

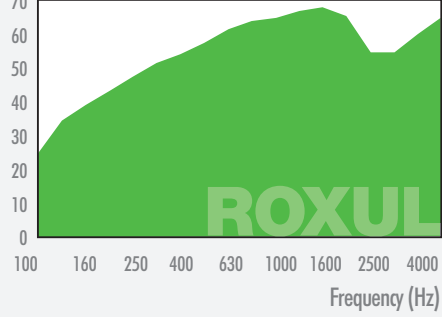
11



Double layer wall  
 2 layers of  $\frac{1}{2}$ " (12.7mm) gypsum board on both sides  
 $\frac{3}{4}$ " (92mm) steel studs spaced 24" (610mm) centers  
 $1\frac{1}{2}$ " (38mm) Roxul AFB

**Sound Transmission Class (STC):**  
 56 (RAL-TL90-196)

**Fire Resistance:**  
 2 hours (UL design no. U412 and V418)



Transmission loss (dB)

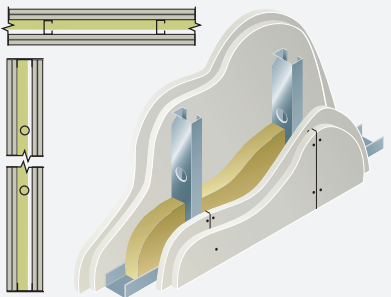
Frequency (Hz)

**CONSTRUCTION**

**DESCRIPTION**

**TRANSMISSION LOSS**

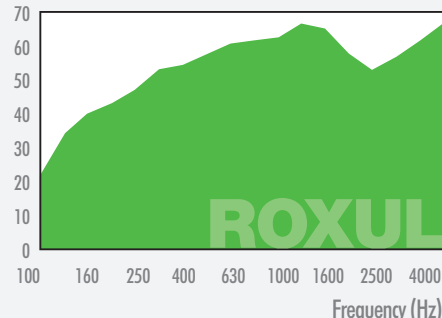
12



Double layer wall  
 2 layers of  $\frac{3}{8}$ " (15.9mm) gypsum board on both sides  
 $2\frac{1}{2}$ " (64mm) steel studs spaced 24" (610 mm) centers  
 $1\frac{1}{2}$ " (38mm) Roxul AFB

**Sound Transmission Class (STC):**  
 56 (RAL-TL90-193)

**Fire Resistance:**  
 2 hours (UL design no. U411 and V419, NBC of Canada)



Transmission loss (dB)

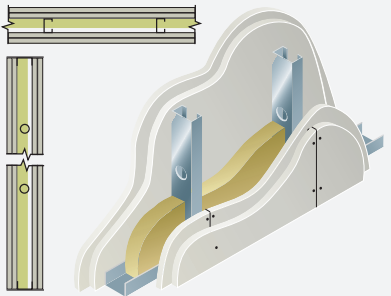
Frequency (Hz)

**CONSTRUCTION**

**DESCRIPTION**

**TRANSMISSION LOSS**

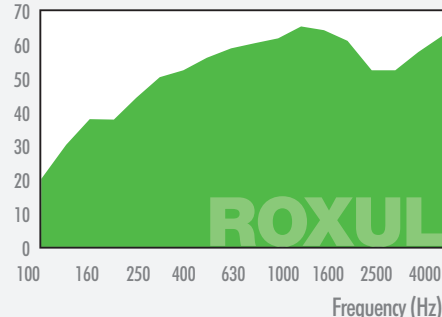
13



Double layer wall  
 2 layers of  $\frac{1}{2}$ " (12.7mm) gypsum board on both sides  
 $2\frac{1}{2}$ " (64mm) steel studs spaced 24" (610mm) centers  
 $1\frac{1}{2}$ " (38mm) Roxul AFB

**Sound Transmission Class (STC):**  
 53 (RAL-TL90-185)

**Fire Resistance:**  
 2 hours (UL design no. U412 and V418)



Transmission loss (dB)

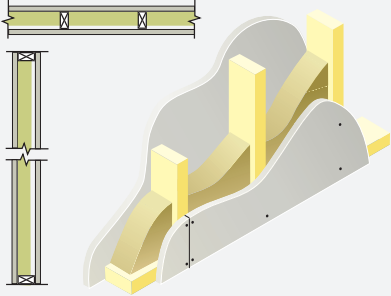
Frequency (Hz)

**CONSTRUCTION**

**DESCRIPTION**

**TRANSMISSION LOSS**

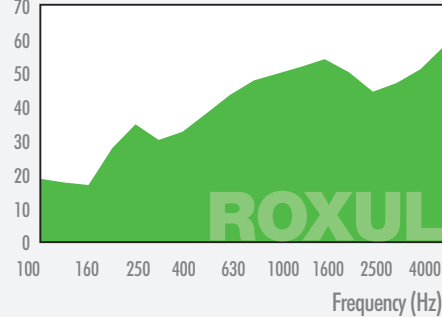
14



Single layer wall, wood studs  
 $\frac{3}{8}$ " (15.9mm) gypsum board  
 2" by 4" wood studs spaced 16" (406mm) centers  
 3" (76mm) Roxul AFB

**Sound Transmission Class (STC):**  
 38 (RAL-TL96-265)

**Fire Resistance:**  
 1 hour (UL design no. U305)



Transmission loss (dB)

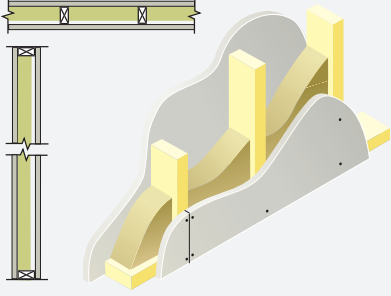
Frequency (Hz)

**CONSTRUCTION**

**DESCRIPTION**

**TRANSMISSION LOSS**

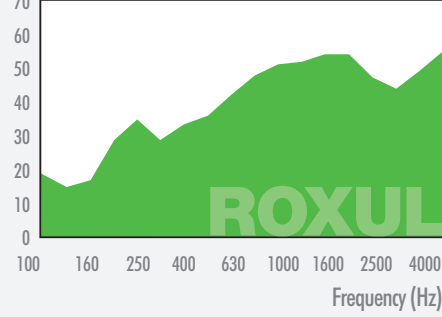
15



Single layer wall, wood studs  
 $\frac{1}{2}$ " (12.7mm) gypsum board  
 2" by 4" wood studs spaced 16" (406mm) centers  
 3" (76mm) Roxul AFB

**Sound Transmission Class (STC):**  
 38 (RAL-TL96-266)

**Fire Resistance:**  
 45 min. (UL design no. U317)



Transmission loss (dB)

Frequency (Hz)

# A Global Leader. A World of Difference.

Roxul Inc. is part of Rockwool International, the world's largest producer of stone fiber insulation with 25 facilities in 15 countries. Our insulation products are proven performers, delivering a world of advantages such as fire and water resistance, and sound absorbency, along with several green features for today's environmentally conscious builders.

Roxul Inc. is North America's leading manufacturer of stone fiber insulation products for the North American market. From our head office in Milton, Ontario we operate two manufacturing facilities, one in Milton and the other in Grand Forks, British Columbia. Producing insulation for residential, commercial, and industrial applications, all of our stone fiber products are made from a combination of natural basalt rock and recycled slag, which makes them very eco-friendly and green.



Basalt Rock

Recycled Slag

Proudly, Roxul has been green from the very beginning. We demonstrate our environmental commitment through our products and in the way we produce them. For example, the water from our production process is collected and reused, which reduces our manufacturing water consumption by more than 50%. Plus, our advanced recycling facility directs our waste back into our manufacturing process with uncompromised product quality and efficiency. It is important to us to constantly strive in reducing our overall consumption of raw materials and conserving energy in producing our products. That's why when it's time to choose insulation; you can rest assured that choosing Roxul is a good decision now and for the future.

## WARRANTY

As Roxul Inc. has no control over installation design and workmanship, accessory materials or application conditions, Roxul Inc. does not warrant the performance or results of any installation containing Roxul Inc. products. Roxul Inc.'s overall liability and the remedies available are limited by the general terms and conditions of sale.

The limited warranty in the terms and conditions is in lieu of all other warranties and conditions expressed or implied, including the warranties of merchantability and fitness for a particular purpose.

## NOTES:

---

---

---

---

---

---

---

---

[www.roxul.com](http://www.roxul.com)

**ROXUL**<sup>®</sup>  
The Better Insulation<sup>™</sup>

**ROXUL INC.** 551 Harrop Drive, Milton, Ontario L9T 3H3 Tel: 1-800-265-6878 or 905-878-8474

Roxul AFB<sup>™</sup> is a registered trademark of Roxul Inc. LEED is a registered trademark of United States Green Building Council.