



# [theAMBICOnews]

L I M I T E D

Fall 2004 — Vol. 3.2

## SOUNDS GRATE ... SOUND ADVICE

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### AMBICO's MISSION

AMBICO Limited is dedicated to client service through a carefully selected network of manufacturer's representatives and independent distributors across North America and throughout the world. At all times, AMBICO Limited strives to address the special needs of its customers.

### SOUNDS GRATE ... SOUND ADVICE

AMBICO subscribes to daily reportage on project plans filed across North America. These reports are based on search criteria and are focused on specialized door and frame products. The percentage of acoustic door and frame products being specified is an eye-opener: 95% of all specialized door products being specified are acoustic wood and acoustic steel doors and frames. Is there an "acoustic revolution" underway?

The sixties are famous for many things but one innovation, which revolutionized homes, educational facilities, and the work-place, was the introduction of a design phenomenon which became known as the "open concept". Homes were designed with large un-walled areas and unobstructed views throughout main floors and stretching to upper levels. Schools were being built with few, if any walls and large

common areas. Established schools were being renovated with all but privacy areas and load-bearing walls removed. Meanwhile, in the work place, a similar revolution was taking place.

Private offices were replaced with "work stations", often consisting of a desk and the few feet surrounding it. Entire floor areas were wall and barrier free. The typical office building today is characterized by large open areas divided by a maze of pods, work stations and soft-walled cubicles, encasing workers and their equipment.



More...

## SOUNDS GRATE ... SOUND ADVICE (continued)

This concept was believed to foster team-work, camaraderie, creativity, a sense of freedom of space and imagination. The truth has been far from it.

Sean Michael Kerner, July 9, 2003, at [www.builder.com](http://www.builder.com), believes that today's cubicle fans are "refugees" of open concept. He states that the cubicle, "a home away from home", provides personal space, easier concentration and less distraction. However, cubicles are almost entirely made from sound absorbing materials with walls only 4-6 feet in height. The major dissatisfaction with both the open concept and the evolution of the cubicle is the constant distractions which result from the din emanating from co-workers, office traffic, computers and other office equipment. Kerner's research indicated that in the open concept environment there is no room for personal conversation or privacy.

### Where will the "refugees" of cubicles go?

Motoko Rich, in The Wall Street Journal Online ("Fed-Up Employees Revolt Against Open-Office") reports that "... architects and interior designers are heeding the call to restore some peace and

quiet ..." in the workplace. His report goes on to say that regardless of the failure of the open concept to foster creativity, communication and collaboration among workers, the reality is that a combination of the savings in costs of construction, the flexibility this concept affords and the "atmosphere" of teamwork, will be used as excuses to retain open concept and cubicles.

In the field of education, open concept has been viewed by most as a complete disaster. The underlying vision that all children will thrive in one, common environment was short-sighted and has proven to be a major miscalculation. Children have largely varying learning abilities, attention spans and most importantly, physical abilities (i.e. ranges of hearing, sight, and mental capacities). This led to chaos whether on a large scale or in "corners" of each open concept area. A recent New York Times article, "Office Messes", explores the challenges faced by office workers (and students, both children and adults) who suffer from learning difficulties such as ADD and ADHD. An open concept facility made teaching these students a nightmare for all concerned and has seriously affected

their ability to learn. Quoted in the article is Dr. John Ratey, co-author of "Driven To Distraction", who states, "If I were to create an environment that is bad for ADHD, it would be today's typical office."

The basic problem to be solved through architectural acoustics is simple: keep the distractions of unwanted sound (noise?) out of certain areas or, conversely, keep sounds encapsulated within a certain area.

### Noise Control is a Serious Problem

Jack Shinder, President of AMBICO LIMITED, in his published article, "Crashing Through The Sound Barrier" ([www.ambico.com/crashing.html](http://www.ambico.com/crashing.html)) explains the problems surrounding noise control:

"Noise seeps through walls and floors as well as doors. This is known as flanking noise, i.e., noise that goes around things, because parts of a building are not isolated from one another.

Noise control in doors is particularly difficult to achieve because a door (unlike a wall or floor) must be operable.

More... 

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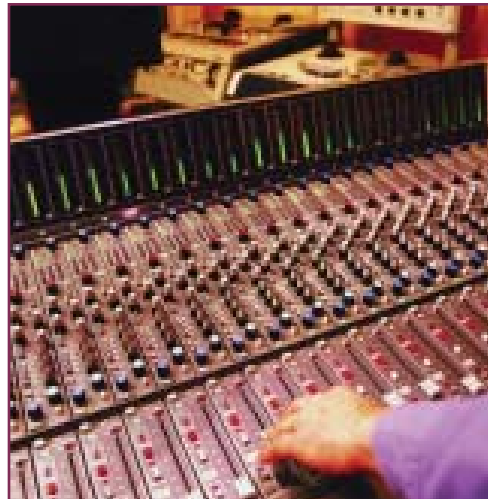
## SOUNDS GRATE ... SOUND ADVICE (continued)

Walls and floors have the luxury of achieving their acoustic goals in a 6" to 9" thick space, whereas architectural aesthetics demand that an acoustic door will appear and function as a normal 1-3/4" thick door. The process of developing a product to achieve these goals takes a great deal of expertise and many years of research and development. Very few firms in North America possess this knowledge and manufacturing capability."

Shinder's article provides an explanation of "Sound Transmission Class" (STC) and goes on to outline the dilemma in manufacturing "operable" structures which will provide the STC levels required by a project. The Research & Development team at AMBICO continues to investigate ways of optimizing the performance of all door and frame products, particularly when faced with the challenges of oversized openings and/or unusually shaped openings. A most recent advance is AMBICO's newly developed and performance tested acoustic windows described in "AMBICO Solutions Involve Research and Development – [A Window of Opportunity](#)" on page 7 of this newsletter.

The supply of performance-rated acoustic doors and frames which consistently maintain the required STC rating of an area, has been a large part of the formula for success at AMBICO Limited. The addition of acoustic windows, rated to STC 57, builds on that success.

### Masking and Filtering Sound



NASA's Glenn Research Center has produced an educational CD, "Auditory demonstrations in acoustics and hearing conservation". This excellent arrangement of demonstration tracks, provides recordings of common noises, their "usual" levels, escalated levels, and the same noises with masking and filtering applied. This

CD clearly demonstrates the effects of these agents on both tonal and broadband sounds.

In fact, masking and filtering and the use of "white noise" have become useful weapons in the war against unwanted sound and noise. To download the intriguing CD produced by NASA, Auditory Demonstrations in Acoustics and Hearing Conservation Featuring the sounds of NASA Glenn Research Center ([browse CD](#)).

### Acoustics a Top Priority for Facilities Designers

For all of the reasons noted above, architecturally, sound transmission is a major concern in the design of homes, apartment and condominium complexes, educational, health, and business facilities, as well as government buildings, penal institutions and transportation facilities. AMBICO fully realizes the importance of the STC ratings required by project designers and has gained a world-wide reputation for manufacturing door and frame products, in steel and/or wood, which meet or surpass these requirements. ■

## WHERE THE DOORS ARE

Although many projects may require standard sized, STC rated, wood or steel doors and frames, more often than not, the requirement is for sliding or oversized or unusual jamb width units – and sometimes a combination of all these specifications: the demand is for more specialized products. AMBICO enjoys meeting these challenges (see The AMBICO e-Newsletter, Vol. 2:2, “The Sounds of Silence” for examples of architecturally exciting projects where AMBICO supplied very specialized products).

AMBICO has designed and manufactures performance rated steel doors, rated STC 33 to STC 53, 1 3/4” thick, and wood doors from STC 33 to STC 50, 1 3/4” thick. Products are light weight and are kept in stock. Obviously, these products present a cost-beneficial solution for facilities designers.

Completed installations of AMBICO acoustic door and frame products best illustrate their specialized applications. Several examples of completed installations for AMBICO’s renowned acoustic door and frame products include:



### Swinging Acoustic Steel Doors

Bard College  
Annandale-On-The-Hudson, NY

Shapiro Campus Centre  
Brandeis University, Waltham, MA

Blair School of Music  
Nashville, TN

Palace Theatre  
Chicago, IL

The Nashville Network  
Nashville, TN

Pine Oak Middle School,  
Houston, TX

Proctor & Gamble  
Cincinnati, OH

General Motors Technology Center,  
Detroit MI



### Sliding Acoustic Steel Doors

University of Regina Theatre  
Regina, Saskatchewan

Dow Chemicals  
Edmonton, AB

Canadian Broadcasting  
Corporation HQ  
Toronto, ON

Place D’Youville  
Montreal, QC

More...

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

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**WHERE THE DOORS ARE** (continued)



**Acoustic Wood Doors**

Pharmacia  
Schiller Park, IL

Philadelphia Recreation Department  
Philadelphia, PA

The Pentagon  
Washington, DC

Nanaimo Armory  
Nanaimo, BC

Dow Chemicals  
Edmonton, AB

The Minuteman Project  
Draper, UT

For information regarding the types of products manufactured for the above projects or other details regarding these projects, contact AMBICO Limited at: [specialized@ambico.com](mailto:specialized@ambico.com) noting the project of interest in the subject line. ■

**NEW & ENHANCED PRODUCTS FROM AMBICO LIMITED**

In its ongoing efforts to meet the ever-changing and increasing demands of the construction market place, AMBICO has recently introduced two new and exciting door and frame products:

■ **TORNADO RESISTANT STEEL DOORS AND FRAMES**, performance rated to FEMA 361 (Construction Guidance for Community Shelters) at Texas Tech University, AMBICO is the only manufacturer of tornado resistant steel door and frame products for openings as large as 8'0" X 8'0".

■ **BULLET RESISTANT WOOD DOORS AND FRAMES**, performance rated from UL Levels One (Standard) through UL Level Eight, all products conform with UL 752 "Standard for Safety for Bullet Resisting Equipment". The announcement early in 2004 of these two new products has been met with considerable excitement in the architectural and construction communities.



To learn about these new and exceptional products, visit the AMBICO web site at: [www.ambico.com](http://www.ambico.com)

OR, select AMBICO PRODUCTS: [www.ambico.com/products.html](http://www.ambico.com/products.html)

To link directly to the detailed information available for each product, select their respective home page links:

Tornado Resistant Steel Doors & Frames: [www.ambico.com/tornado\\_doors.html](http://www.ambico.com/tornado_doors.html)

Bullet Resistant Wood Doors & Frames: [www.ambico.com/w\\_bullet.html](http://www.ambico.com/w_bullet.html)

To request a quote or for further information on our Newly developed products: [specialized@ambico.com](mailto:specialized@ambico.com)

## WHAT'S IN STORE?

The AMBICO “Company Store” contains a number of stock items at any given time. These are acoustic, stainless steel and bullet resistant products which are commonly required in the construction of certain types of building, i.e. schools, hotels, institutions, etc. In this issue of the AMBICO e-newsletter we highlight acoustic in stock items which are of particular interest to our customers and which are available for immediate shipping.

### Acoustic Steel (STC 46 OR STC 51)

Available in single 3'-0" x 7'-0" x 1 3/4" (914mm x 2134mm x 44.5mm) or in pairs 6'-0" x 7'-0" (1828mm x 2134mm) openings.

Doors are flush with lockseam edges, templated for 4.5"x.180" (114 x 4.57mm) mortised hinges, cylindrical (161) lock, mortised (86 edge) lock or exit device, surface closer reinforcing, ASA strike and surface bolts at inactive doors. The units are supplied with all acoustic perimeter seals, door bottoms, thresholds, and astragals (on inactive).

Frames are available in 5 3/4" (146mm) or 7 1/8" (181mm) jamb depths only.

Frames with non-standard jamb depths to suit stock doors will be made to order in 5-7 working days.

Options available: Fire ratings to 1 1/2 hour, vision lites 5"x20" or 17"x17" only (127mm x 508mm or 432mm x 432mm only) with glass factory installed, seamless edges, and additional hardware preparations.

### Acoustic Wood (STC 50) Door with Steel Frame

Available in single 3'-0" x 7'-0" x 1 3/4" openings.

Doors are available in either birch paint grade or oak stain grade. Doors are flush, templated for 4.5"x.180" (114 x 4.57mm) mortised hinges, cylindrical (161) lock and surface closer blocking. The units are supplied with all acoustic perimeter seals, door buttons, and thresholds.

Steel frames are available in 5 3/4" (146mm) or 7 1/8" (181mm) jamb depths.

Frames with non-standard jamb depths to suit stock doors will be made to order in 5-7 working days. ■



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## AMBICO SOLUTIONS INVOLVE RESEARCH & DEVELOPMENT

### A WINDOW OF OPPORTUNITY...

Our clients' problems inspire us. Over the years AMBICO has been asked to develop highly specialized products, often under extremely tight schedules. Our Research & Development team, headed by Jim Stockwell and Sam Gershon, enjoys a challenge. When AMBICO was approached to develop an acoustic window product which would meet high acoustic ratings under stringent performance testing, the R&D team welcomed the challenge.

What are the challenges in developing acoustic window products? In essence, they are basically the same challenges faced when manufacturing "operable" acoustic products such as swinging and sliding doors:

- the final product, window and frame unit, must maintain the STC rating required by the architects for the room or area where the window(s) will be installed
- the window must combine the required STC rating with an esthetically pleasing opening which integrates itself to the design and archi-

tectural style of the structure

- the window glazing will provide an appearance similar to standard architectural glazing, and it is essential that the glass is transparent and clear

- the window and frame unit must be of a minimal thickness and weight again, to integrate as seamlessly as possible, to the walls where they are installed

Although AMBICO began developing acoustic window and frame products several years ago, ongoing research into the use of a variety of newer materials and combinations of others, has resulted in the development of windows to STC 57.

AMBICO acoustic windows have recently been performance tested to STC 57 at the Western Electro-Acoustic Laboratory.

For further information on AMBICO acoustic window and frame products or to request a quote:

[specialized@ambico.com](mailto:specialized@ambico.com) ■

### WE'LL SEE YOU THERE...

This fall, AMBICO is participating in three large trade show/expositions.

We hope you will visit our booth at these events:

#### DHI 29th Conference & Exposition

San Antonio, Texas  
Henry B. Gonzalez Convention Center  
Exhibition Days:

October 29, 30, 31, 2004  
(Friday, Saturday and Sunday)

Booth #803

For Show details visit:

[www.dhi.org/NewsEvents/annual.asp](http://www.dhi.org/NewsEvents/annual.asp)

#### Contech/DHI 2004

Montreal, Quebec  
Palais des Congres  
November 25, 2004 (Thursday)

For Show details visit:

[www.contech.qc.ca/eng/](http://www.contech.qc.ca/eng/)

#### Construct Canada 2004

Toronto, Ontario  
Metro Toronto Convention Centre,  
South Building

December 1 through 3  
(Wednesday, Thursday and Friday)

Booth #832

For show details visit:

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

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