



START ME UP

Another year has begun. We hope 2016 treats you well and is productive. With the start of our sixth decade, 2016 promises growth for us here at NGC Testing Services. As always, our focus is to continually improve upon the services we offer you. We are opening new doors and windows as we expand our testing services for building envelope products to include more fenestration-type testing. This is in addition to the acoustical and fire evaluations we already provide for these products. We now offer water and air infiltration, as well as wind load testing. We have also expanded our acoustical laboratory, completed some facility improvements and added more staff. Still more testing capabilities are coming soon, so stay tuned for additional updates. Also in this newsletter, we discuss some of the basic research-focused testing we conduct for institutions and industry organizations. Let us know if we can assist you with that, and how we can help you with your next testing project. NGC Testing Services is here for you, just as it has been for the past half century.

Bob Menchetti
 Director of Laboratory Facilities & Testing Services

FOCUS ON: FENESTRATION TESTING

If you manufacture windows, doors or curtain walls, we now offer fenestration testing! In addition to the acoustical and fire testing we have provided for these types of products, our "new window" of testing is up and running. We can now test your products for air infiltration, water penetration and uniform wind loads for assemblies up to 18 ft. in length by 12 ft. in height. In addition to fenestrations, this new testing capability applies to evaluating a wide range of other building envelope products and systems.



Our Fenestration/Building Envelope Testing Services include (but are not limited to):

ASTM E331: Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference

ASTM E547: Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference

ASTM E330: Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM E1233: Standard Test Method of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Cyclic Air Pressure Differential

NFPA 252: Fire tests of door assemblies, including positive pressure (UL 10 A-B-C, ASTM E152, UBC 7-2, UBC 7-3)

NFPA 257: Fire tests of window assemblies (UL 9, ASTM E163, UBC 7-4)

ASTM E90: Measurement of Airborne Sound Transmission loss of building partitions (ISO 140, Part 3)

ASTM E413: Classification of Rating Sound Insulation (STC)

ASTM E1332: Standard classification for determination of

ASTM E119: Fire tests of building construction and materials (UL 263, UBC 7-1), NFPA 251, CAN/ULC-S101)

ASTM E84: Surface-burning characteristics of building materials (NFPA 255, UL 723, UBC 8-1)

Outdoor-Indoor Transmission Class (OITC)

ASTM E1408: Measures the sound transmission loss of door panels and door systems

ASTM E283: Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen

For details, call or [e-mail](#) me today. We hope to hear from you soon.

DID YOU KNOW?

TEST PROGRAMS & INDUSTRY RESEARCH

NGC Testing Services directs basic research to advance technology and industry.

Some of the test programs we have conducted include:

- Wood stud performance in fire-rated walls
- Wood adhesives under fire conditions
- Heavy timber walls under fire conditions
- Comparison of wood joists in floor-ceiling fire tests
- Gypsum products and systems evaluations in fire and acoustics
- Comparison of wood joists in floor-ceiling assemblies for STC & IIC acoustical performance
- Suspended ceiling system CAC acoustical flanking studies (for details, refer to the CAC Rockfon Paper)
- Sound masking studies utilizing CAC and AC test chambers
- Floor-ceiling assemblies' variations effect for STC & IIC acoustical performance
- Steel stud and joist studies for fire performance
- Effects on columns under fire exposure after being subjected to seismic loads
- Gas flow studies
- Evaluation of fire and acoustical testing procedures
- Test furnace calibration studies
- Light Rail and Rolling Stock fire-endurance studies
- Furnace studies for positive pressure effects on doors and hardware
- Evaluating Navy bulkheads for fire endurance
- Evaluation of penetration fire stopping for nuclear power plant applications
- Evaluation of adhesives and sealants in fire tests
- Evaluation in fire and acoustic testing for insulation comparison
- Fire retardant and intumescent coatings for fire exposures
- New concrete material development under fire exposure
- Composite Bridge Deck under fire exposure
- Protective performance of gun safes in fire exposure

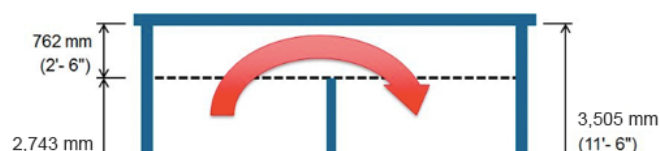
Some of the organizations conducting basic research tests at NGC Testing Services:

- American Wood Council (AWC)
- American Forest and Paper Association (AF&PA)
- American Plywood Association (APA)
- Engineered Wood Association (EWA)
- Gypsum Association (GA)
- Door and Hardware Institute (DHI)
- State University of NY at Buffalo
- University of North Carolina
- Pennsylvania State University
- The University of Akron
- U.S. Navy
- Steel Framing Industry Association (SFIA)
- National Institute for Standards and Technology (NIST)
- Nuclear Regulatory Commission

LEARN MORE

TESTING FOR CEILING ATTENUATION CLASS (CAC)

Sound isolation often depends on the weakest link in a building's construction. Wall construction may be adequate, but penetrations through walls for electrical outlets and light switches may degrade room isolation substantially. This is important when doctors are



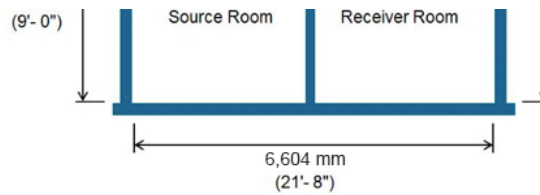
having private conversations with their patients or noise impacts employee productivity.

To test the "Effects of noise flanking paths on ceiling attenuation class (CAC) ratings of ceiling systems and inter-room speech privacy," Gary S. Madaras, Ph.D., Acoustics Specialist for Rockfon and NGC Testing Services' Senior Test Engineer-Acoustics Andrew E. Heuer executed tests according to ASTM E1414 and E413 for three consecutive days.

The tests were performed at NCG Testing Services in Buffalo, New York. It is one of the few facilities worldwide that performs commercial testing for CAC.

In this case, the team tested multiple ceiling systems comprised of various noise flanking paths through air diffusers, grilles and lights. Recorded speech was played back in the test chamber source room and binaurally recorded in the test chamber receiver room. The results revealed that wideband ceiling attenuation class (CAC) decreases by 10 decibels (dB) and 1/3 octave band normalized ceiling attenuation ($D_{n,c}$) decreases by 15 to 22 dB in the higher frequency bands when common noise flanking paths are introduced into a ceiling system with CAC-37 ceiling panels. Subjective listening during the course of these tests showed that a ceiling comprised of CAC-37 panels and typical noise flanking paths did not provide speech privacy. Intelligibility of recorded speech transmitting into the receiver room was high. These test findings were presented at the InterNoise 2015 conference in San Francisco, California. For details, click to read the complete white paper, [CAC Rockfon Paper](#), coauthored by Gary S. Madaras of Rockfon and Andrew E. Heuer of NGC Testing Services.

If your company needs to test CAC, please contact me. NGC Testing Services is one of the few laboratories in the world that can help you.



TAKE A CLOSER LOOK!

Check out our new [brochure](#) and watch our [video](#) for the latest updates about NGC Testing Services' capabilities. We're ready to put your products to the test, and this is a great way to see all that we can do for you. Take a look and give us a call — let us know how we can help.



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Send any email changes or additions to info@ngctestingservices.com so you can continue to receive *NGC Testing Services Update*.