

TESTING SERVICES UPDATE

VOLUME 3 ISSUE 4

November 2014



Wishing Holiday Warmth

With the holidays nearly upon us, we're thinking about 2015 and gearing up for another year. We're always looking ahead, finding ways to tweak our capabilities and continue to grow. We have recently expanded our accredited services, so be sure to check our website for the latest test accreditations and services. Speaking of service, hopefully you've already had a chance to talk with Tom Richards, who recently filled the new position as Testing Services Coordinator. He has proven to be excellent at helping to determine test assemblies for our clients' projects. Touch base with Tom at Ext.

311. Also in this issue, we'll share details about IIC calculations, the unique ability to provide and store numerous floor-ceiling assemblies for acoustical testing, and a recent University at Buffalo student visit to our laboratory. Here at Testing Services, we wish you and yours a happy, healthy, and warm holiday season.

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DIDYOUKNOW? Acoustical test assemblies

read more >>

Students study sound read more >>

Calculating IIC ratings read more >>

Focus On: Fire Endurance Testing Capabilities

NGC has both full-scale ASTM E 119 floor-ceiling (14' x 18') and wall furnaces (10' x 10'), and is one of the few laboratories in the world with both full-scale capabilities.

Our facility features:

- Thermocouple capacity: Up to 165 via computerized data acquisition system.
- Loading capacity: Up to 90,000 lbs. axial load in wall furnace, 120 psf plus or more than a total of 30,000 lbs. plus in floor-ceiling furnace.
- Full-cycling capabilities.
- Time temperature: Follows ASTM E 119 time/temperature curve, or other custom requirements.
- Overhead crane: 30-ton bridge crane over floor-ceiling furnace for moving test frames. Coupled with large access building openings, we can accommodate the unloading and handling of the largest oversize test assemblies.
- Trolley: 12 ton to move wall test assemblies.
- Number of frames: 4 for floor-ceiling testing, 3 for wall testing.
- Specialized test assembly construction areas independent of the furnaces, large adjacent +test material and assembly storage areas.
- Hose Stream: Storage and pump to carry out longest hosestream test requirement (45 psi for 5 minutes).
- Furnaces built in place at same time building was constructed.
- Floor-ceiling furnace extends down two subbasements.
- Additional small-scale ASTM E 119 (5' x 5') floor-ceiling furnace.





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University at Buffalo Students Study Sound

Where can you test "the sounds of music"? Thirty-four students from the University at Buffalo enrolled in a course titled, "Music, Sound, Meditation and Healing," recently came to NGC Testing Services to delve into the quantifiable world of noise. Their seminar here covered such audible topics as the sound spectra of different instruments (didgeridoos, acoustic guitars and recorded music samples), speed of sound, acoustic resonance of materials, anechoic rooms, reverberation time, and room acoustics. UB professor Clinton Haycraft teamed up with NGC Testing Services presenter Andy Heuer to lead a field trip that was both educational and "upbeat" (pun intended).



This is the fifth UB tour at NGC Testing Services in the past five years. Past tours at our facility have been geared to courses for students of mechanical engineering, performing arts, and general arts and science. NGC Testing Services has also worked closely on projects with the Multidisciplinary

Center for Earthquake Engineering Research (MCEER) housed at UB, one of the nation's largest earthquake research laboratories, combining the capabilities of two world-class laboratories. UB, a premier research-intensive public university, is the largest campus in the State University of New York system.

How to Calculate Impact Insulation Class (IIC) Ratings

- Deviations occur when a measured value (blue bar) is greater than the standard contour (orange line).
- The standard contour is adjusted vertically until the sum of the deviations is ≤ 32 and no individual deviation is greater than 8 decibels (dB) at any one frequency.
- The IIC value is read where the standard contour crosses 500 Hz and then reading over to the right-hand axis in the graph.
 The right-hand axis is the impact sound levels subtracted from 110.



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DIDYOUKNOW?

Stacks and Stacks of Test Assemblies

Some like stacks of pancakes, some deal stacks of cards, and others have stacks of money. Here, we have stacks and stacks of Floor-Ceiling Test Assemblies for acoustical testing. Close to 50 and counting, many assemblies are conventional concrete or wood



structures kept in stock, and others are proprietary designs held for clients for future testing. We continually construct new assemblies. Once we test your custom assemblies, we can store them on-site and repeatedly test them with new floor toppings or ceiling design

changes as needed. An overhead crane shuffles the stacks of 12' x 16' assemblies, inserting the next



assembly to be tested into two-story test chambers. Construction and any required curing takes place outside the test chambers and is craned in for testing. This unique capability allows us to test multiple assemblies in one day. This translates to faster turnaround and lower costs than other laboratories since, in many instances, the assembly does not have to be constructed.

Please stay in touch!

Send any e-mail changes or additions to <u>info@ngctestingservices.com</u> so you can continue to receive *NGC Testing Services Update*.