



We're Here to Help You with Your Next Project

Thank you for clicking in today to check out our latest newsletter. And if you looked at our premiere issue last December, as apparently many of you did, thanks for that too. Our hope is that this communication tool helps you understand what we can do for your company. We're here to alleviate your headaches (as many as possible, anyway) by inspiring you with the tests we can accomplish and thereby providing you with a reliable testing source.

To that end, read about the important collaborative work we're doing with the University at Buffalo (The State University of New York). Researchers in the department of Civil, Structural and Environmental Engineering are examining the performance of structural members subjected to post-earthquake fires. Our fire testing facilities, located just minutes from their campus, helps UB efficiently conduct simulation tests and develop conclusions. Close proximity of two world-class laboratories, NGC Testing Services for fire-endurance testing, and UB's SEESL for seismic testing, is unique in the testing world and should be of interest to many of our clients who need these services.

To find out more about our services, click on our newly refreshed website or brochure (links to the right).

If you have specific questions, or have something you would like us to address in a future newsletter, let me know; I'd like to hear from you! Please call or e-mail me today: 716.873.9750 Ext. 341; rjmenchetti@ngctestingservices.com.

Bob Menchetti

Director of Laboratory Facilities & Testing Services



View Brochure now >>



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DID YOU KNOW?

Located just north of Buffalo, NGC Testing Services is centrally located to most North American population centers. [read more >>](#)

FireResistant? After An Earthquake?

Do earthquakes weaken support columns and make them less fire resistant? [read more >>](#)

Focus On: Horizontal Floor-Ceiling Fire Testing

Full-scale (14' x 18') horizontal floor-ceiling furnaces are extremely rare, and we have one of the best. This furnace, built in place when the building was constructed, is flush with the lab floor for superior access and test observation.

It extends down two stories, including a control center/internal observation area and a sub-basement for maintenance. We can test a wide range of horizontal assemblies for fire endurance such as roof assemblies, floor-ceiling

assemblies, columns and beams, wood assemblies, penetrations, building joints — even subway cars — in this furnace! It meets ASTM E 119 requirements and features:

- A 30-ton overhead crane
- Large access openings and truck access into building to accommodate any type or size of material, and the largest pre-assembled test specimens.
- 4 test frames
- 80 burners
- 16 thermocouples (to measure within the furnace)
- Up to 165 unexposed thermocouples to measure the unexposed and internal test specimen temperatures
- Full loading capabilities
- Full hose stream test capabilities
- For conducting a wide range of tests, including those in accordance with the following standards:

ASTM E 119	CAN/ULC S101	NFPA 130
UL 263	ASTM E 814	UBC 26-2
NFPA 251	UL 1479	UL 2079

Call or e-mail for more information.





Fire Resistant After an Earthquake?

Working with the NGC Testing Services facility, researchers from University at Buffalo examine the fire-resistance of seismically damaged structures.

What happens when a structure's beams or columns have been subjected to an earthquake? Has their fire resistance been affected by this prior earthquake damage? This is a subject researchers in the Department of Civil, Structural and Environmental Engineering at the University at Buffalo are studying.

Although most modern buildings are designed with fire suppression systems, many of these systems could be damaged from seismic shaking and become more vulnerable to fire. To better understand the fire resistance of seismically damaged structures, a special type of column is being examined, since failure of these critical structural elements can lead to collapse. The columns being investi-

gated are concrete-filled, double skin steel tubes that have been shown to have acceptable performance in multi-hazard conditions, according to a recent study by Fouche and Bruneau (2010)¹.

In this study, three specimens are subjected to a simulated earthquake loading in the Structural Engineering and Earthquake Simulation Laboratory (SEESL) at the University at Buffalo. The seismic tests induced varying levels of damage, ranging from no damage to visible moderate damage. The three specimens were then transported to NGC Testing Services to evaluate their load-carrying capacity under fire.

DID YOU KNOW?

As Benjamin Franklin so aptly said: "Remember that time is money." Because minutes translate to convenience, time seems to be on our side when it comes to serving you.

Located just north of Buffalo, NGC Testing Services is centrally located to most North American population centers. Here are some times to our testing lab...

- West Coast hubs: less than a 5-hour flight
- Pittsburgh, Detroit and Cleveland: less than a 4-hour drive
- Atlanta: 2-hour flight
- Toronto: 1.5- to 2-hour drive
- Chicago: 1.5-hour flight
- Baltimore, Washington, D.C., Philadelphia, New York City and Boston: less than a 1-hour flight
- Niagara Falls, Canada: 25-minute drive
- Niagara Falls, U.S.: 22-minute drive
- Buffalo-Niagara Airport: 20-minute drive
- Anchor Bar, originator of "Buffalo chicken wings": 18-minute drive (bonus side trip!)
- University at Buffalo (SUNY), Structural and Earthquake Engineering and Simulation Laboratory (SEESL): 13-minute drive
- North America's largest building acoustics test lab to one of North America's few full-scale fire endurance and flame spread testing labs: 2-minute walk (3 minutes, if you go by our structural/physical testing department)

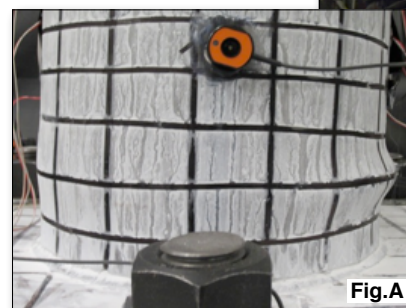


Fig.A

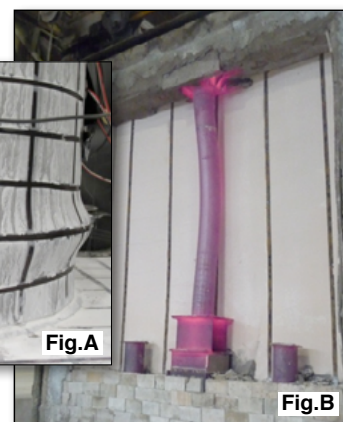


Fig.B

The fire testing facilities at NGC Testing Services simulated a fire scenario on the columns following the ASTM E 119 standard fire test for building construction and materials. The 10' long columns were tested while carrying an axial load of 70 kips. Results of these tests have shown, as expected, local buckling at one end of the column due to the expansion and global buckling. This is due to significant degradation of the material properties. Two photos of one specimen (above) show the damage following seismic loading (Fig. A) and after the fire test (Fig. B). The test program is currently underway.

The SEESL laboratory at UB also conducts seismic testing on a commercial basis on a variety of structural and non-structural systems. For details, contact Mark C. Pitman at the University at Buffalo: mpitman@buffalo.edu or click on their [brochure](#).

^[1] Fouche, P., Bruneau, M., (2010). "Non-Linear Analysis of Multi-Hazard Performance of Concrete Filled Steel Tubes Bridge Piers," 8th International Conference on Short and Medium Span Bridges, Niagara Falls, Ontario, Canada, August 2010.

Please stay in touch!

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

