

# **TESTING SERVICES UPDATE**

#### VOLUME 2 ISSUE 4

December 2013



### **SEASON** to Reflect

As always, thank you for clicking in. As snowflakes begin to fall here, and we enter the holiday season, it is a good time to reflect on the past year. This is the one-year anniversary of our e-newsletter, and feedback has been positive. Statistics indicate that it has been widely read. We hope you find it informative.

In this issue, you'll read about some new test services we are offering. We are testing a wide range of new materials and new material usages, and we'll share details about one par-

ticular case. Also in this issue meet Nancy Van Wie, the voice that greets you when you call us. And in DidYouKnow, you'll discover some hot facts about fire testing.

As this year comes to a close, we want to thank you again for your business and your inquiries concerning our services. And to the new clients we have had the pleasure to meet: welcome to the club!

From all of us at NGC Testing Services, have a great holiday season, and a Happy New Year.

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### TESTINGBRIDGES...>>

#### **DIDYOUKNOW?**

Hot facts to check out... read more >>

#### Focus On: New Tests Now Available

At NGC Testing Services, we are always improving and growing to add more services for you.

Here are some new tests we offer:

°FM 4450	Roof uplift testing, both 5' x 9' and 12' x 24' assemblies
°ASTM C 518	Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus (R Value)
°ASTM E 96	Standard Test Methods for Water

Vapor Transmission of Materials

For more information about these and other tests, please call or e-mail me: 716-873-9750 ext. 341; **rjmenchetti@ngctestingservices.com**.





Our customer service representative, Nancy Van Wie, will soon be celebrating 45 years

with the company. Chances are if you have had contact with the lab, phoned in, or written in, you've met Nancy. She is "the voice" of NGC Testing Services. Nancy is responsible for working with our customers, drafting service agreements, and keeping all the paperwork organized. If you haven't already, you will find out very quickly that she enjoys taking care of all our customers, and knows most of them on a firstname basis.

Nancy is at extension 311, at our (716) 873-9750 number, if you need assistance with anything we do here.



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## **FIRE TESTING** COMPOSITE BRIDGE DECKING



Many of our country's bridges are in need of repair and reinforcement. To help answer that need, BridgeComposites, L.L.C., headguartered in Hornell, N.Y., has partnered with the Federal Highway Administration through its "Highways for LIFE Technology Partnerships" program and designed a special composite deck. This deck can be installed as a bridge preservation measure to extend the service life of an existing highway bridge. The design, developed by Dr. Amjad Aref, of the University at Buffalo, with BridgeComposites, combines several types of material to achieve the strength and stiffness necessary to carry heavy truck traffic with high performance and low maintenance. The decks are resistant to corrosion, have a high strength to weight ratio, and can be tailored for specific designs. Because they are fabricated off site, they are installed fast, reducing traffic delays during installation. This translates to cost savings for municipalities throughout the country. The "Highways for LIFE" program includes an initiative to use innovations to advance longer-lasting highway infrastructures.

Although the deck is made with a fire-retardant resin, people have wondered about its fire rating. BridgeComposites came to NGC Testing Services for the nation's first test of this kind. Dr. Maria Lopez de Murphy of Pennsylvania State University followed and directed standard ASTM test protocols.

As you can see from this YouTube video, https://www.youtube.com/watch?v=YCECKSVPkAY, their full-scale panels were tested at our facility, enduring the heat and receiving high marks in this category. The test verified that the deck maintained its integrity even under high temperatures for 20 minutes, so drivers would have plenty of time to get off a bridge if a fire erupted for any reason.

For more information about BridgeComposites, LLC, contact Jerome O'Connor: **jerome.oconnor@bridgecomposites.com**.

## DIDYOUKNOW?

We thought you would enjoy some hot facts about fire testing:

- 1. Fire ratings are assigned to assemblies consisting of materials designed to effectively protect the structural elements from fire in accordance with certain test parameters.
- 2. Furnace temperatures reach 1000°F in 5 minutes, 1700°F in 1 hour and up to 2000°F in 4 hours.
- 3. In most cases, fire-rated wall assemblies require application of a fire hose stream of 30-45 psi for up to 5 minutes.
- Heat transmitted through a test specimen must remain below 250°F above the initial starting temperature at the average of all critical locations, or 325°F above at any one location.
- 5. Protection of structural elements must be such that the elements remain below an average temperature rise of 1100°F.
- 6. Fire tests of load bearing walls and floors must be tested with up to 100 percent of their full design load applied.
- 7. Flame spread tests (or tunnel tests) require an induced draft of 240 feet/minute (12 mph) inside the chamber.
- Interior finish materials are tested in the corner of a test room using a 30-pound wood crib that generates temperatures up to 1200°F.
- Combustibility of materials is determined by submerging into an environment of 750°C (1382°F).
- 10. Fire testing expansion joints requires movement cycling of up to 500 times prior to fire exposure.

#### 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*.