

# Asphalt BUR Survives a Tornado in North Carolina

By Reed Hitchcock

Spring 2008 will be remembered for its relentless onslaught of severe weather. Strong storms pounded Midwestern states with hail, heavy rains, flooding, and tornados. Four teenagers were killed and 40 people were injured by a tornado at an Iowa Boy Scout camp. On

June 27, 50-plus-mile-per-hour winds ripped through Omaha, Nebraska, on the eve of the U.S. Olympic swimming trials, damaging the Qwest Center arena roof so that water poured into the building right up to the deck of the competition pool.

High winds are a concern for coastal hurricane zones, but the spring of 2008

serves as a reminder that high winds can occur inland as well. Conventional wisdom about tornadoes is that it doesn't much matter what kind of roof is on a building when a tornado hits. But a remarkable weather incident that occurred in Greensboro, North Carolina, on May 8, 2008, suggests that some roofs in the vicinity of a tornado may survive better than others.

I.H. Caffey is a beer distributor with a warehouse complex located on West Market Street in Greensboro. Amazingly, on this fateful day, a tornado cut the complex in half, tearing through a central drive-through loading area. The aftermath was a scene of devastation. There were some 15 to 20 workers loading trucks that evening, and one was injured. A wall collapsed, and twisted I-beams and rubble covered more than two dozen trucks.

The entire roof structure over the truck bay, except for the last few feet, was destroyed. Amazingly, however, the 26-year-old BUR just a few feet from where the structure was ripped away remained intact on its deck. Where



Figure 1 – The warehouse area to the side of the truck bay. Note that the BUR stays intact on the deck even as the deck is bent up by the force of the wind.

the structure remained intact, the roof system remained as well. According to Terry Glidewell, owner of Greensboro Roofing Company, Inc., the asphalt built-up roof was installed on the building over a quarter of a century ago by his company. The iso was strip-mopped to the metal deck, and a 4-ply built-up roof was then installed. Glidewell shared the accompanying pictures with Robert Almon, chairman of the Quality Asphalt Roofing Council.

The tornado was an unexpected disaster for I.H. Caffey Distributing, which supplies stores in the Triad area of North Carolina with Coors, Miller, Heineken, and other alcoholic beverages. May is the company's busiest month, and now the company faces millions in repairs.



Figure 2 – The roof area on the other side of the short parapet wall from the truck bay. All debris is from the truck bay roof. The roof and gravel on this area stayed intact.

Thanks in part to the integrity of the asphalt BUR, however, the warehouse's \$5-

million, 20-day beer supply was intact. Computer servers were relocated to the

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Figure 3 – The entire roof structure over the truck bay, except for the last few feet, was destroyed. Just a few feet from where the structure was ripped away, the 26-year-old BUR remained intact.



Figure 4 – Aerial view of the building identifies location of the roof areas shown in Figures 1, 2, and 3. The truck bay in figure 3 is numbered as 1; the area shown in Figures 1 and 2 is labeled 2; the number 3 is the area at the end of the truck bay that was not blown off. Satellite photograph courtesy of i-cubed ([www.i3.com](http://www.i3.com)).

Charlotte headquarters, and a plan was devised to ensure delivery of beverages to regional stores would continue.<sup>1</sup> 

#### REFERENCES

1. Lane Harvey Brown, “Storming

Back: Disaster Plan Helps I.H. Caffey Rebound,” *The Business Journal of the Greater Triad Area* (Greensboro and Winston-Salem). May 16, 2008. See [www.bizjournals.com/triad/stories/2008/05/19/story2.html](http://www.bizjournals.com/triad/stories/2008/05/19/story2.html).

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Reed Hitchcock is the executive director of ARMA, the Asphalt Roofing Manufacturers Association. For more information on ARMA, visit [www.asphaltroofing.org](http://www.asphaltroofing.org).

## CRRC CELEBRATES 10 YEARS, BECOMES ANSI DEVELOPER

This summer marks the 10-year anniversary of the Cool Roof Rating Council (CRRC), established in 1998 to create a fair, accurate, and credible rating system for the radiative properties of roofing products (solar reflectance and thermal emittance). Due to growing participation in the organization and an increasing number of references in building codes and green building programs, the CRRC has become a resource for the public and the roofing industry. In addition, this year marks several other accomplishments for the CRRC, including reaching 1,000 products in its *Rated Products Directory* and the launch of a 10-year planning process. The centerpiece of the Product Rating Program is the online *Rated Products Directory* ([www.coolroofs.org/products/search.php](http://www.coolroofs.org/products/search.php)), available to the public at no cost.

Most recently, the CRRC has received accreditation by the American National Standards Institute (ANSI), giving the CRRC the esteemed status of “Accredited Standards Developer.” The CRRC-1 Standard for rating the radiative properties of roofing materials will now undergo a consensus body review and will be submitted to ANSI to become an American National Standard.