

# The Fire Window Blanket

by Battalion Chief John Norman, SOC

In response to the Vandalia Avenue, Brooklyn, tragedy in December 1998, which claimed the lives of Lieutenant Joseph P. Cavalieri, Battalion 39, and Firefighters Christopher M. Bopp and James F. Bohan, Ladder 170, the FDNY began to investigate ways to combat high-intensity, wind-driven fires. Similar blazes in Rockaway Beach, Queens, Lindsey Park, Brooklyn, LeFrak City, Queens, Concourse Village, the Bronx, and Lincoln Center, Manhattan, have killed other Firefighters and civilians and injured dozens.

These blazes are characterized by windows that fail on the upwind side of the building, allowing flames to be blown *into* the building rather than vent out. They can be recognized by an intense fire condition, where there is little or no flame venting out the windows. It is all venting into the interior halls and stairwells, turning them into virtual blowtorches of flame. The intensity of this jet is so severe that it can prevent Firefighters--even with the support of multiple 2<sup>1</sup>/<sub>2</sub>-inch lines--from leaving the safety of the enclosed stairs.

When such a blaze occurs within reach of outside streams, after interior units have determined that an inside approach is not possible, then consideration can be given to the use of an exterior stream after the safety of building occupants and Firefighters has been addressed. When the fire is above the reach of outside streams, however, a different approach had to be developed.

Early in 1999, then-Chief of Training Joseph Callan directed research into the wind-driven fire phenomenon and authorized a pilot program for testing of what since has been designated the Fire Window Blanket. A manufacturer in New Jersey with extensive experience in high-temperature-resistant fabrics--Industrial Energy Products--was contacted for assistance with the project and produced the first of several prototypes in March of that year.

After tests at the Bureau of Training and some field-suggested modifications, a pilot pro-

**(Top photo--Fan On)** Firefighters prepare to deploy fire blanket over the window of the fire room. A hook may be used to facilitate passing the blanket straps from window to window on the floor above. Note the lack of flames venting from the window. A fan on the tower ladder simulates wind blowing fire into the interior of the building.

**(Bottom photo--Curtain Deployed)** On orders from the Incident Commander, the members on the floor above allow the blanket to fall in place in front of the fire window(s). Note how the wind seals the blanket around the window opening.



all photos courtesy of Thomas Connolly, Jr., Industrial Energy Products, Inc.



(Above--Curtain Down to Vent) After the fire is knocked down and the area is thoroughly cooled to prevent reflash as fresh air is admitted, the curtain may be raised or lowered to facilitate venting the area.

material known as "Hot-Stop 1500 M," which withstands temperatures in excess of 1500 degrees without failure.

On each corner of the 10- by 12-foot blanket, there are Kevlar straps that extend 20 feet from the blanket. These straps are used to lower the device into position in front of the window or windows into which the wind is blowing, thus reducing the intensity of the blaze to the point where hand-lines can advance and extinguish it. Live fire tests at the Bureau of Training have shown the feasibility of this concept, though the blanket has yet to be deployed at an actual fire of this type. Among the comments made by members of Engine Companies special-called to participate in the testing was, *It was like somebody turned off the switch* on the fire when the blanket was deployed in front of the window. (For additional information, also see *Training Bulletin--Tools 3.*)

It is important to note that while the blanket is carried by the Rescue and Squad Companies, *any* unit may be assigned to deploy it, since the need for the device may not be recognized before these units otherwise are committed. Tests at the Bureau of Training were conducted, employing more than 50 Engine Companies, many with no prior training or experience with the device. Yet all were able to successfully place the blanket over the target window when given the task.

The blanket features a very simple design. It is stored ready to be deployed, with the two top handles accessible on the outside of the roll. All that is needed to deploy it is to identify the proper window to cover, proceed to an area directly above that window, remove the blanket from its carrying pouch and lay it on the windowsill or roof edge, firmly grasp the two top straps (spreading them out as needed to place the blanket at the desired location) and push the rolled-up blanket out the window. The blanket has

gram was initiated. Eight blankets were purchased and issued to units throughout the City. Currently, blankets are being issued to all Rescue and Squad Companies and are to be brought to the lobby Command Post at all high-rise, multiple dwelling fires. The blankets are made of a glass-fiber material

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- A fire exists in a high-rise multiple dwelling, where the door to the fire apartment has been left open, allowing the public hall to fill with smoke, heat or fire.
- A fire has gained such intensity due to wind blowing in that hand-lines are unable to advance into the apartment for knock-down.

Under either of these circumstances, a unit should be assigned to take the blanket, a flat-head axe and Halligan tool, a hydraulic forcible entry tool (Rabbit or Hydra-ram), as well as two six-foot hooks to the area directly over the window that is letting the air blow into the fire apartment. This window can be identified by a *lack* of smoke or flame venting from it. The blanket will not be useful if fire is venting out the window forcefully, rolling up the side of the building. (A "spotter" on the outside of the building, in handie-talkie contact with the unit assigned the blanket, will be helpful in positioning the blanket over the proper window.)

After the unit has gained entry into the proper apartment or roof area and selected the proper window for deployment, two members of this unit should be dispatched with the forcible entry tools to the same location on the floor *below* the fire apartment. When this team is in place, the Officer shall contact the Incident Commander (IC) and notify him they are prepared to deploy the blanket. Prior to the deployment, the IC shall make a handie-talkie announcement to all units on the scene, advising them to report any adverse effects when the blanket is deployed.

The Officer of the fire blanket team then shall have the blanket deployed. He shall monitor the handie-talkie for reports of any adverse reactions and be prepared to have his team pull the blanket back up if so ordered. The two members who were sent to the floor below shall use one of the six-foot hooks to help retrieve the two bottom straps and pull them into their location, helping to secure the blanket in place against any wind gusts that otherwise might dislodge it. (Always use hooks when operating in the vicinity of any open window.)

The 20-foot-long blanket straps allow the blanket to be positioned from two floors above the fire and secured from two floors below. This may be required in duplex or triplex apartments, where the floors immediately above and below are not accessible. Once the blanket is deployed, the members either can hold the straps or tie them off to a substantial object. These members must maintain their positions, however, in case it becomes necessary to raise or reposition the blanket.

While this assignment may not seem as "glamorous" as the nozzle team, at these kinds of fires, if the blanket is deployed, this unit will have performed one of the most critical tasks on the fire-ground. They will be the key to allowing everyone else to function on the fire floor.

#### **About the Author...**

*Battalion Chief John Norman is a 22-year veteran of the FDNY. He heads up the Special Operations Command. He majored in Fire Protection Engineering at Oklahoma State University. He is a Contributing Editor to Firehouse Magazine and a frequent contributor to WNYF.*

