MINNESOTA PUBLIC SAFETY
STATE FIRE MARSHAL
EST. 1905

QUICK RESPONSE

Saving life and property through effective licensing, plan review, and inspection of fire protection systems.

July 2011

Protective Coverings

When sprinklers are installed in environments that present unique challenges to maintain sprinkler functionality, additional measures to protect fire sprinklers may be appropriate. For example, fire sprinklers located in spray paint booths may be subject to paint over-spray residue. This can result in deposits on the sprinkler head which could adversely impact sprinkler performance.

NFPA 13 requires that sprinklers protecting spray areas and mixing rooms shall be protected against overspray residue so that they will operate in the event of fire. This protection may be provided by simply placing a bag over the sprinkler head. Cellophane bags having a thickness of 0.003 inch or less (**Exhibit 1**) or thin paper bags (**Exhibit 2**) shall be used. It is important to note that cellophane, not plastic, bags shall be used. Most common sandwich bags (**Exhibit 3**) are not cellophane bags and shall not be used.

Exhibit 1: Cellophane bag

Exhibit 2: Thin paper bag

Exhibit 3: Plastic sandwich bag

Exhibit 4

Protective coverings shall be replaced frequently so that heavy deposits of residue do not accumulate. Sprinklers that have been painted or coated by overspray or residues shall be replaced with new listed sprinklers of the same characteristics, including orifice size, thermal response, and water distribution.

Exhibit 4 shows a sprinkler that was properly protected from overspray by a thin paper bag. A fire in the spray booth burned away the paper bag allowing the fire sprinkler to properly operate and control the fire.