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## Covering Sprinkler Heads In Spray Booths

Fire sprinklers protecting spray areas require protection against overspray residue, as this residue will cause the fire sprinkler to delay in activation or not activate at all.

NFPA 33, *Standard for Spray Application Using Flammable or Combustible Materials*, requires that fire sprinklers protecting spray areas be protected against overspray residue either by location or covering, so that they will operate quickly in the event of a fire.

A past test of fire sprinklers with various types of bag covers revealed that bagged sprinklers actually fused slower than sprinklers with up to eight layers of paint. However, the 'button' of the sprinkler was glued to the frame by the paint in 4 of 5 tests, thus the real advantage of bagging the sprinklers is not to allow fusing in an acceptable time, but is to allow the actual activation, with water discharge.

### **In summary, this is what was learned from past tests:**

1. Sprinklers covered with up to 1/64 inch of paint still activate much quicker than bagged sprinklers. However, if a bag is not used, the paint has a tendency to 'glue' the links to the frame resulting in no water discharge.
2. The bag type can significantly influence the time to sprinkler activation (i.e., paper, plastic, tea bag, etc.).
3. A bagged quick response sprinkler significantly reduces the time to activation versus a bagged standard sprinkler.

When using a bag cover, the plastic bag should be cellophane having a thickness  $\leq 0.038$  mm (0.003 in.) and the paper bag should be 'thin'. The bags should be replaced frequently, so that heavy residue does not accumulate.

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