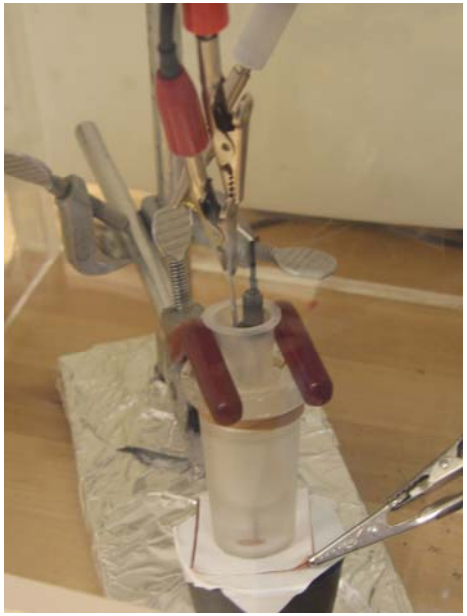
AN ASSESSMENT OF THE USE OF FLAME RETARDANT PLASTICS FOR MUSEUM APPLICATIONS



Danielle Leikach
The Protection Engineering Group, Inc.

Halogenated flame retardant plastic sheeting may help to reduce the spread of flame in museums; however, the treated plastics contain chemicals that may be harmful to museum objects in situ, particularly metals. This study assesses historical and contemporary problems and benefits associated with flame retardant plastics with respect to museum applications. This issue was addressed by pairing statistical data on museum fires with standard and novel electrochemical testing methods for assessing corrosivity, while also creating a format for future assessments of fire-safety related practices as they are applied in museum settings. Flame retardant plastics were found to cause corrosion in copper, approximately 1.2 milli-inches per year (mpy), compared to pure polyethylene which corrodes at approximately 0.83 mpy. Conventional testing methods show that flame retardant plastics can be considered safe for limited museum use and that they delay ignition from small heat sources, but they must be assessed for each individual scenario.

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Topics in Museum Conservation

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MUSEUM SUPPORT CENTER
4210 Silver Hill Road
Suitland, MD 20746
301-238-1240

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