SAVING YOUR Treasures

A Website about what you can do to protect and preserve the things of importance in your life

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Pinhole Corrosion in Dry Pipe Sprinkler Systems

Dry pipe sprinkler systems have serious problems with pinhole corrosion caused by the growth of bacteria that create corrosion pinholes in the iron pipes causing the systems to leak and fail and from accelerated rust formation. Colonial Williamsburg has had to replace the fire suppression system in their new Bruton Heights Collections and Conservation facility and they are getting ready to replace the same type of system in the DeWitt Wallace Gallery. Both of these systems are dry pipe, pre-action systems. Danny McDaniel, Head of Security and Safety at the Colonial Williamsburg Foundation has done a lot of research on this issue and is working with a Fire Science and Engineering firm in Baltimore (see below). Danny and his consultant have decided to replace the dry pipe systems with **a wet pipe system with Schedule 40 black iron pipes joined with threaded joins with metal eutectic heads**.

Wet pipe systems have fewer problems with corrosion and they supply water better at the end of the line (a problem with double interlock dry pipe systems). Galvanized pipe does emit "cleaner water" but the zinc coating encourages galvanic corrosion at locations where base iron pipe is exposed (i.e. at every join), which is also where the bacteria gather. Threaded joins are the best, followed by Victaulic joins that are over twenty years old. Newer Victaulic joins, for some reason, are much more problematic than the older ones and rolled joins are the worst. They should not be used. Danny and his consultant (Mark Hopkins at Hughes Associates) have found that the best heads are eutectic metal heads and that they have a very low failure rate compared to other heads.

Remember the wet objects, even dirty wet objects, are better than ashes.....

http://www.haifire.com/ Hughes Associates, Inc. Fire Science and Engineering, Baltimore, MD

http://www.csemag.com/index.asp?layout=articlePrint&articleID=CA489313

http://www.pmengineer.com/CDA/ArticleInformation/features/BNP__Features__Item/0,2732,24897,00.html