INSULATION OF HEATED TANKS

INTRODUCTION

Considerable interest has been expressed towards insulating various outdoor tanks, such as fire pump suction tanks, thus reducing the heating requirement. Noncombustible insulation is naturally preferred by AXA XL Risk Consulting, but the trend is towards using cellular plastics because of their excellent insulating characteristics. This section offers some basic guidelines on this subject.

POSITION

Do not use cellular plastics for fire exposure protection or where loss of the insulation could create a hazardous condition such as with cryogenic storage of flammable fluids, or potential overheating of a process. In addition, do not use cellular plastics in concentrated process equipment arrays where a flammable liquid or vapor spill is likely. Limit the use of cellular plastics as follows:

- Use prefabricated or laminated panel systems, which encapsulate polyurethane or polyisocyanurate foam plastics within a metallic envelope. Use cellular plastic with an ASTM E84 flame spread of 25 or less in the panel construction. Insulation systems of this type are acceptable for applications on single tanks or vessels, or on multiple groupings of tanks or vessels.
- Use sprayed-on polyurethanes and polyisocyanurates with a flame spread rating of 25 or less for applications on single tanks or on tanks separated by a distance equal to 50% of their height.

  Sprayed foam plastics on exterior surfaces normally require weathering protection that is achieved by some type of top coating. Coatings listed in the U.L. *Online Certifications* under Roof Covering Materials (TEVT), for “Spray Applied Foam and Coating System” suitable for a Class A rating, will be acceptable. Maximum roof deck inclines may be ignored in this instance.

DISCUSSION

Cellular plastic insulation could be damaged by transient high temperatures that other insulation could survive, and, as a result, produce an abnormally high property damage loss.