Critique of ISO TS 13571- Life Threatening Components of Fire- Guidelines for the Estimation of Time Available for Escape Using Fire Data

Abstract

API has released a document which provides a critique of ISO Technical Specification (TS) 13571- *Life Threatening Components of Fire- Guidelines for the Estimation of Time Available for Escape Using Fire Data.* The critique is timely because this "lower level" ISO Technical Specification will soon be balloted to become a full ISO Standard. In addition, there is an effort to adopt the document as an ASTM standard which would have larger implications for plastics in the U.S. The detailed critique, prepared by Dr. Marcelo Hirschler of GBH International, reviews different aspects of the document as it discusses how to assess the time available for escape from a fire and compare it with the time required for escape based on the generation of fire gases. The document has positive points regarding this concept; however, its treatment of incapacitating gases, such as HCl, from a fire is flawed. The ISO document could be used to develop limits on the use of plastics, including polyurethanes. Besides the common use of chlorine or bromine containing flame retardants in urethanes, there may be other irritant fire gases that could be identified and put into the equation to even further restrict the use of polyurethanes and other plastics. Possible limitations on polyurethanes could involve both rigid foam used as insulation or flexible foam in furnishings. This critique discusses the details of ISO TS 13571, the scientific basis of its concepts, its practical implications and flaws found in the rationale used to develop 13571.