

Burning characteristics of polymers as a function of pressure and oxygen concentration

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Due to the diversity of materials transported via cargo planes a fire can be very unpredictable and dangerous. The risks associated these fires give rise to a potential loss of life and millions of dollars worth of cargo. A lack of fire suppression system on many cargo airplanes leaves decompression as the only way to battle in-flight fires. The effectiveness of the decompression has not been well researched therefore an in-depth study needed to be performed. Federal Aviation Administration pressure modeling facility was used to simulate burning behavior of several polymers. The tests were performed at different oxygen concentrations and pressure to try to simulate different altitudes. The results will help in determining the viability of decompression at high altitudes as the means of controlling fires.