

## **Self Heating of Wood Pellets in Storage**

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### **Poster**

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Spontaneous heating or sparks on wood pellets may potentially cause fire and economic losses. The heat required to raise the temperature of a plant product to ignition comes from three processes: (1) respiration, (2) micro-organism metabolism, and (3) chemical reaction. Respiration and micro-organism metabolism require moisture and heat to remain active. The spontaneous heating and conditions that cause the onset of spontaneous heating are investigated experimentally. A range of initial moisture contents of pellets from completely dried samples to samples at about 15% moisture content are tested. Two methods of determining the critical temperature for the onset of the spontaneous heating were used: Frank-Kameenetskii (F-K) method and the Crossing Point Method. This paper reports the results of estimating the thermal conductivity of wood pellets.