

# A review of Recent Advances in the Use of Thermography in Pulp And Paper Industry

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## ABSTRACT

The aim of the present paper is to shortly overview existing work and to describe the most relevant work and experiences devoted to the use of infrared thermography in paper industry. All objects at a temperature above absolute zero ( $-273^{\circ}\text{C}$ ) emits electromagnetic radiation, which fall in the infrared part of electromagnetic spectrum i.e. 1 to 1000  $\mu\text{m}$ . This radiation is invisible to naked human eyes and termed as infrared. However, with the help of modern and proper instrument we can convert this invisible radiation to visible representation of the temperatures on the surface of the object. This representation of invisible to visible is termed as "Infrared Image" or a "Thermogram" and it becomes a versatile tool for surface temperature mapping. This feature represents a great potentiality to be exploited in many parts of paper industry, but this technique is still not adequately exploited in industrial instrumentation because of lack of adequate knowledge. At first sight, it seems too expensive and difficult to use. The present paper highlights the two applications, either as validating infrared thermography as a full measurement instrument, or as presenting infrared thermography as a novel technique enable to deal with several requirements, which are difficult to perform with other techniques. This review study is also an attempt to give indications for a synergic use of the different thermographic methods in various fields of paper industry.