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PerkinElmer Introduces Thermomechanical Analysis System for Improved Electronics Manufacturing

WHAT: [PerkinElmer, Inc.](#), a global leader focused on improving the health and safety of people and the environment, today introduced the [TMA 4000](#), a thermomechanical solution to measure thermal expansion in electronic materials and other products. Additionally, the TMA can detect potentially harmful materials to ensure all electronic products are safe. With the industrial test requirements and the material changes needed to meet [RoHS regulations](#), understanding the thermal expansion of material is integral to the manufacturing process. The TMA 4000 is specifically designed for the accurate measurement of the coefficient of thermal expansion to ensure optimal manufacturing processes and to avoid unnecessary expenses as a result of wasted material. When a sample is softening from heat it is important to control the force that comes in contact with it; even noise from the force motor can result in deformation of a sample. To combat this, the TMA 4000 uses an Archimedean float suspension to support the weight of the probe and force coil to be able to apply only the required amount of force. This allows measurement on delicate and difficult samples in a range of geometries, including compression, flexure and extension as well as expansion.

The TMA 4000 complements PerkinElmer's leading differential scanning calorimeter; the [DSC 8500](#), which provides a unique modulated temperature technique StepScan™ as well as fast scanning techniques such as HyperDSC™ at heating and cooling rates of up to 750 degrees Celsius. The complementary nature of these techniques allows a greater understanding of how materials behave.

ADDITIONAL APPLICATIONS IN INDUSTRY: In food and food packaging, thermal size changes as temperature affects laminated films, seals and material volumes. Mouth feel is strongly related to softening points occurring at certain temperatures. Changes in temperature also mean changes in the volume of products enclosed.

In industries like polymers, automotive, and pipelines, expansion and contraction due to heating or cooling can affect whether motors bind, seals leak or gaskets fail. For example, welds in low expansion materials like Invar alloys must be checked to see if welding alters the expansion of the metal.

About PerkinElmer, Inc.

PerkinElmer, Inc. is a global leader focused on improving the health and safety of people and the environment. The company reported revenue of approximately \$2.1 billion in 2012, has about 7,500 employees serving customers in more than 150 countries, and is a component of the S&P 500 Index. Additional information is available through 1-877-PKI-NYSE[®], or at www.perkinelmer.com

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