



## News Release

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### **DuPont Electronic Materials Enable New Breakthrough in Hypothermia Prevention Gear from North American Rescue** *Collaboration on Materials Technology Provides Life-Saving Benefits*

RESEARCH TRIANGLE PARK, N.C. and GREER, S.C., Dec. 6, 2011 - DuPont Electronics & Communications (DuPont) and North American Rescue (NAR), a leading developer and supplier of life-saving gear, today announced the launch of a new line of battery-activated hypothermia prevention products focused on decreasing preventable death and improving patient outcomes through patient thermal management. NAR's ARC<sup>°tc</sup>™ suite of hypothermia prevention products, featuring the ARC<sup>°tc</sup>™ Thermal Wrap BA, ARC<sup>°tc</sup>™ HPMK BA and ARC<sup>°tc</sup>™ Cocoon BA, are enabled by [DuPont™ Kapton® polyimide film](#) and [DuPont conductive thick film inks](#) that provide critical heating capability even in the most challenging field environments.

According to NAR, there is a very high association between hypothermia and mortality in trauma victims. NAR has developed the thermal wrap as an early intervention measure for Emergency Medical Services, Military and Law Enforcement personnel to provide heat loss prevention as soon as possible after an injury occurs. As the foremost provider of leading hypothermia prevention products to the military, which includes the patented HPMK®, NAR is now expanding into the world of innovative, battery-activated devices to further address the demands of early hypothermia prevention.

“Our customers needed a solution to be lightweight, portable, efficient, resistant to fluids and fully functional in spite of any puncture or damage to the materials,” said Joanne Walter, senior vice president of Product Development, North American Rescue, LLC. “Our patented design utilizing DuPont materials has met the challenge to overcome the environmental and material limitations that have crippled previously available solutions, and make portable hypothermia prevention a significantly more reliable life-saving measure.”

Vacuum packaged in a pouch until ready for use, the products are lightweight, compact and quickly deliver 104° F ± 2° (40° C) of constant uniform radiant heat directly to a victim through heating surfaces built into the devices that last a minimum of five hours from a fully charged battery. This overcomes the limitations of chemical, self-heating devices because it is resilient in all environments, operating even when wet (including bodily fluids), at high altitudes (low oxygen) and/or in spite of punctures to the heating surfaces..

“DuPont was pleased to collaborate with NAR to provide material solutions for this critical application,” said Carl Haeger, applications development manager, DuPont Circuit & Packaging Materials. “The design of the ARC<sup>°tc</sup>™ hypothermia prevention products required unique materials to solve multiple technology needs including even heating requirements, self limiting temperature control capabilities, low power consumption and fast heat up time. It also had to be durable, rugged and lightweight. We were able to tailor the offerings from

a broad DuPont product portfolio to meet NAR's specific needs. It's exciting to be a part of this revolutionary development."

After evaluating alternative options, including resistive wire and carbon fibre heating solutions from other materials suppliers, NAR chose DuPont materials as the technology backbone for the device. The ARC<sup>o</sup>tc<sup>TM</sup> product suite is made with [DuPont<sup>TM</sup> Kapton<sup>®</sup> RS polyimide film](#) and multiple DuPont conductor pastes.

The resistive tolerance of Kapton<sup>®</sup>, along with DuPont silver and other specialty conductor pastes, allows for better thermal control, protecting the device from overheating while enabling fast heat up time, delivering radiant heat quickly to the patient. Kapton<sup>®</sup> also enables the device to operate for a longer duration on a limited battery supply. And because of the superior electrical properties of Kapton<sup>®</sup>, smaller electrical conductors could be utilized, thereby reducing the weight and cost of the device. The resistive property of Kapton<sup>®</sup> also adds to the durability and ruggedness of the device since Kapton<sup>®</sup> cannot be easily cracked, rubbed off or otherwise easily damaged. It allows for continuous heater operation even if the heater is punctured, cut or saturated with fluids.

For more information about DuPont electronic materials, please visit <http://electronics.dupont.com>. For more information on North American Rescue products, please visit <http://www.narescue.com/ARCTc>.

Since 1996, North American Rescue has been unwaveringly dedicated to increasing the survivability of today's warriors both at home and abroad. As a premier developer and supplier of life-saving gear and supplies in the tactical arena, NAR leads the way in providing mission critical products that have a direct correlation to decreasing preventable combat death. Guided by seasoned former Special Operations medics, experienced Law Enforcement / SWAT / prehospital healthcare providers and product development professionals, the NAR team possesses a unique insight into the unconventional challenges of tactical medicine and is committed to providing breakthrough products that span the full spectrum of tactical casualty care, from the point of wounding to the doors of the trauma center.

DuPont (NYSE: DD) has been bringing world-class science and engineering to the global marketplace in the form of innovative products, materials, and services since 1802. The company believes that by collaborating with customers, governments, NGOs, and thought leaders we can help find solutions to such global challenges as providing enough healthy food for people everywhere, decreasing dependence on fossil fuels, and protecting life and the environment. For additional information about DuPont and its commitment to inclusive innovation, please visit <http://www.dupont.com>.

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**Photos:** high resolution images can be downloaded at:

[http://www2.dupont.com/Electronics/en\\_US/assets/images/gallery/ArcTc\\_ThermalWrap\\_013.jpg](http://www2.dupont.com/Electronics/en_US/assets/images/gallery/ArcTc_ThermalWrap_013.jpg)

[http://www2.dupont.com/Electronics/en\\_US/assets/images/gallery/Tactical\\_Arctc\\_ThermalWrap.jpg](http://www2.dupont.com/Electronics/en_US/assets/images/gallery/Tactical_Arctc_ThermalWrap.jpg)

**Caption:** The ARC<sup>o</sup>tc<sup>TM</sup> Thermal Wrap from North American Rescue is the next generation of innovative hypothermia management gear, enabled by advanced electronic materials from DuPont. Photo courtesy of North American Rescue, LLC.

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