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## Marmot Collaboration Lights Up Wearable Technology



Marmot Collaboration Lights Up Wearable Technology: The Marmot Project Team, the W.L. Gore & Associates, Inc. Advance Development Group and the R&D department of Novatech Electro-Luminescent, Inc. of Chino, California, are collaborating in the development of a new, wearable technology concept garment named the Phenomenon EL.

The Best Solution for Online G

This advance concept garment features the latest development in safety and close proximity illumination for the wearer without any adverse weight penalty. Electroluminescent (EL) panels are strategically integrated into this Marmot waterproof/breathable all-weather GORE-TEX® XCR® performance shell concept garment to provide visibility and identification at great distance at night.

Such a garment will provide greater safety and visibility in all directions during storms for mountain professionals such as mountain guides and ski patrollers, and quicker, more accurate location and identification for emergency service units like mountain rescue, sheriff, police and fire departments. The EL panels on the garment sleeves can be used to illuminate an immediate area around the wearer to read maps (see photo above), affect repairs, and perform tasks. The panels can be used in children's garments to provide greater safety and visibility. In addition, there are many other military, industrial and consumer applications.

Electroluminescence (EL) is the conversion of electrical energy into

- Altitude pre-acclimatization
- Backcountry Gear
- Backpacks
- Bags & Luggage
- Bindings
- Boot & Fabric
- Cameras
- Camp Furniture
- Camping Accessories
- Car Racks
- Carabiners
- and more here



light. It was developed in 1936 and found commercial application in the early 1960's in illuminated aircraft instrument dials. Since then, it has been applied in a broad range of products, ranging from consumer products to telecommunications, automobiles, safety equipment and functional architectural applications. In 1987, US Coast Guard research concluded that EL lighting is more conspicuous than point source navigation lighting. EL light is shadow less, homogeneous, can be shaped to fit into small places, available in many colors, does not produce heat, is insensitive to shock, is weatherproof and is flexible. EL lighting has never been integrated as wearable technology into high performance waterproof/breathable outerwear until now.

"The Phenomenon EL jacket is a true cutting edge concept garment," said Jim Frazier, VP of Design for Marmot. "It is awesome looking and it works, but we have only just begun serious field trials for the functionality, durability and longevity of the system. We have to make sure," Frazier added, "the full system is reliable in all conditions as the Marmot team athletes and professional mountain guides will push this piece to the very edge of it's performance envelope and it can not fail. This piece represents a major breakthrough in garment design and development and will initiate a whole new field of products for the outdoor enthusiast. In the next several months, we'll be previewing the Phenomenon EL concept garment internationally at the same time as our Fall 2004 Outerwear Collections as a glimpse of things to come."

"I believe this kind of convergence of technologies will be liberating," said Alden Short, a Marmot Project designer. "The relationship between fashion, function and technology now becomes less distinct. This is performance outerwear that works with a switch. You can turn it on."

Novatech Electro-Luminescent, Inc. of Chino, California, is a specialty electroluminescence (EL) manufacturer that developed the EL lighting panels on the Phenomenon EL Jacket. W.L Gore's Advanced Development/Electronics Group developed the all-weather power system for the garment. Marmot's Project Group developed the Phenomenon EL garment and integrated the EL system into it.

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