



David Clark Company and NASA Johnson Space Center Develop Next Generation EVA Gloves

Beginning in 2012 in collaboration with NASA-JSC, David Clark Company Incorporated (DCCI) designed and fabricated a pair of prototype Exploration space suit gloves, incorporating many advanced features and materials.



These included a breathable pressure bladder, low torque Link-Net fingers and a high mobility wrist joint. These **Phase VII Advanced EVA Gloves** have been utilized by NASA for extensive evaluations over the past year. Most recently, DCCI

worked with NASA to design a revolutionary Exploration Thermal and Micrometeoroid Garment (ETMG) for these Phase VII gloves. The ETMG incorporates many advanced materials, each chosen to meet the highly demanding and varied requirements associate to future space exploration missions. Examples include the SuperFabric™ and Twaron™ fabric used in the fingers and palm.

These materials are highly resistant to cuts, tears and abrasion, enabling future astronauts to handle sharp objects and abrasive regolith. The ETMG also incorporates a new formulation of Aerogel, developed jointly by NASA and Aspen Aerogel. The Aerogel is integrated in the ETMG to serve as a highly efficient thermal insulator. Combined with other layers of various materials, including a low emissivity Silver-Coated Ripstop Nylon, embedded silicone, and layers of Aluminized Mylar, these gloves are designed to protect the crewmember's hands from the harsh thermal extremes of space, as well as micrometeoroids. These prototype **ETMG Phase VII** gloves will be tested extensively, and results will feed into future design iterations, in support of DCCI and NASA's continued pursuit to develop the next generation exploration space suit.

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