



Advanced Body Armor Systems

As a vertically integrated, high capacity producer of DEFENDER® ceramic armor upgrade plates, Ceradyne is a key supplier to the U.S. Military and a vital resource to the defense industry worldwide. Ceradyne has developed an infrastructure that allows global support for armor protection through on time production of varying levels and designs within an extended manufacturing capacity second to none.

Hot pressed boron carbide and silicon carbide ceramic is integrated with optimized composite structures to produce rugged multi-hit armors. For lower cost NIJ level III and IV protection, a line of commercial DEFENDER® armor offers the best value choice. For steel-core ball and armor piercing protection that exceeds NIJ requirements, Ceradyne's next generation technology offers the highest performance and the lightest weight available.

Shape Capability

Ceradyne's unique hot pressing process enables the cost-effective production of flat and multi-curved plates. Customer specifications are met using in-house graphite tool design and machining for rapid prototyping of custom shapes and curvatures.

Ceramic Materials

For weight critical body armor applications, Ceradyne recommends hot pressed boron carbide and silicon carbide for their high mass efficiency and high volume production suitability. Ceradyne can supply bare ceramic billets or finished body armor plates in quantities of 35,000 or more pieces per month.

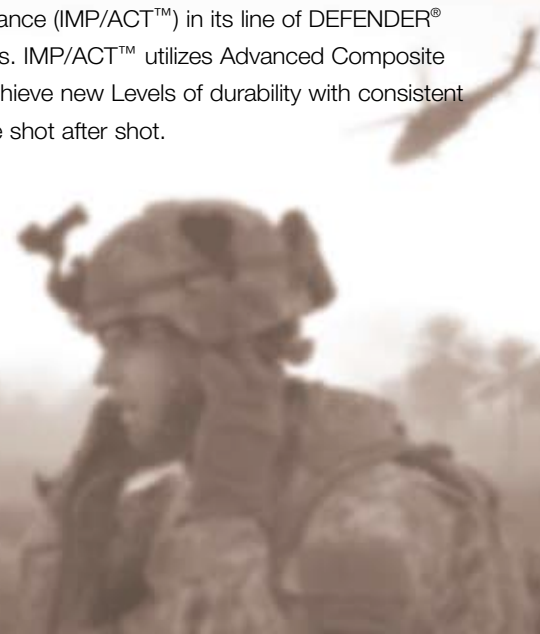


Composite Backing Systems

Depending on specific requirements for weight, thickness, back-face deformation and cost, Ceradyne will specify one of a wide variety of composite backing structures. Typical low cost systems utilize Aramid or S-2 glass/polyester pre-preg while Kevlar KM2® is used in cost-effective high performance systems. Polyethylene-based fibers (Dyneema® or Spectra Shield®) are also used in combination with a variety of resins chosen specifically to meet application requirements. Ceradyne is committed to an in-house development program for the continuous improvement of composite backing systems by working directly with composite manufacturers.

Multi-Hit Technology

For the most demanding performance requirements, Ceradyne has developed Advanced Composite Technology for Improved Multi-Hit Performance (IMP/ACT™) in its line of DEFENDER® body armor plates. IMP/ACT™ utilizes Advanced Composite Technology to achieve new Levels of durability with consistent high performance shot after shot.





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Special Operations Force Protection

Ceradyne is the only vertically integrated company serving this segment of the DOD and SOF market. We own and operate the source of our raw materials allowing precise control of our supply chain. Ceradyne has committed resources to design and develop DEFENDER® ceramic based armor solutions from body armor to LTAS government tested and approved vehicle armor. There have been and continues to be multiple companies that supply armor solutions to the DoD and SOF but none are distinguished by their ability to react to new requirements and surge production demands like Ceradyne.

A variety of special operations forces use Ceradyne body, side and shoulder armor. A low visibility side and shoulder plate protects up to NIJ Level III+ threats when worn in conjunction with soft armor. Other side plates also provide NIJ Level III+ protection. A third special operations side plate delivers stand alone NIJ Level IV protection. In addition to ceramic armor plates currently in the field, Ceradyne continues to develop advanced protection for other vulnerable body areas including hips, legs and arms.

Advanced Armor Technology

Modern body armor is becoming more ergonomic so the relative rigidity of a ceramic upgrade plate must be configured with a curvature for a comfortable body fit without undue bulk. Ceradyne's monolithic tile hot pressing process is ideal for concealable designs with compound curvature. Double curve, triple curve, and even more complex geometries are currently produced in extra-small through extra-large sizing for upper and lower torso, side and shoulder, and special designs for extremity protection. The lightest weight ceramic body armors available anywhere in the world feature Ceradyne monolithic boron carbide and silicon carbide tiles.

In-House Ballistics Testing

Ceradyne utilizes its own ballistic range to test materials and armor designs against a full spectrum of ball and armor piercing threats from 5.56 to 12.7 mm.

The ceramic strike-face of a lightweight armor system shatters the bullet on impact. The effectiveness of ceramic is enhanced by a metallic or composite backing layer that provides structural support and absorbs residual energy. Properties of high hardness and strength, together with low density, impart the unique efficiency of ceramics as a principal component of advanced armors.



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Lifesaving Materials and Technology

Ceradyne, Inc. (NASDAQ:CRDN) is a publicly traded corporation specializing in the development and production of advanced ceramic materials. Worldwide vertically integrated manufacturing facilities produce advanced ceramic solutions for the most demanding applications in automotive/engine, industrial wear, medical, electronic, and defense industries. Since the earliest use of ceramic armor on combat helicopters, Ceradyne has supplied government and industrial armor developers with the materials and technology for advanced ballistic protection. Ceradyne is a worldwide leader in the development and integration of light armor technology.



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