



Aircraft Armor Systems

Ceradyne manufactured lightweight ceramics have been featured in aircraft protection systems worldwide for more than 30 years. Today, Ceradyne supplies complete DEFENDER® armor systems that include ceramic armor seats, components, and panel systems for the Apache, Gazelle, Super Puma, Super Cobra, Blackhawk, Chinook, and other military helicopters. Ceradyne armor tiles are also specified in many fixed wing applications such as the C-130 and C-17 aircraft.

Seating and Wing Panels

Ceradyne can supply components, ceramic tile kits, or complete integrated seating and wing panel assemblies for existing and new development aircraft (fixed-wing or helicopters). Armored seats are typically constructed from a one-piece molded aramid composite shell with monolithic boron carbide tile appliqué. Seats are finished with a covering of durable nylon fabric that suppresses spall during ballistic impact. Protection levels include 7.62 and 12.7 mm AP. Ceradyne's dedication to this business segment has earned top supplier quality ratings with Boeing, Bell, and Sikorsky.

Structural Components

For new development in aircraft armoring as well as support for the legacy fleet, Ceradyne ceramics and integrated components offer the lightest protection available. From boron carbide tile kits to complete armored component systems, Ceradyne specializes in add-on protection for aircraft. Over the years, our continuous support of existing platforms has earned recognition from the Defense Supply Center Richmond as a "Best Value Gold Medalist".



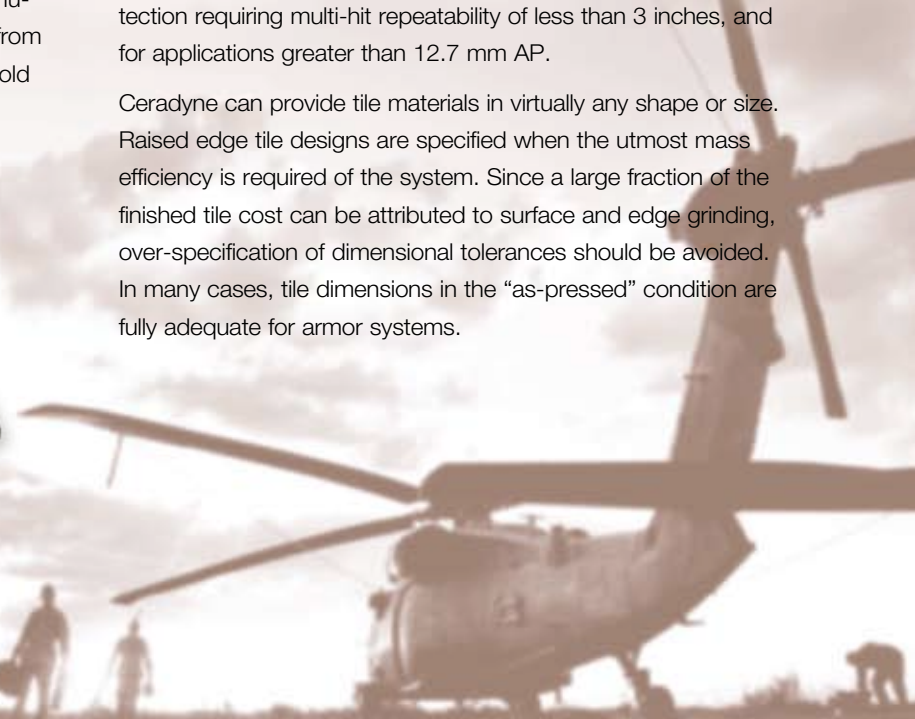
Cockpit and Floor Armor Systems

For modular add-on aircraft cockpit and floor armors such as the MH-47 Chinook, MH-60 Blackhawk, and UH1H Super Huey, Ceradyne offers custom solutions tailored to specific threat and multi-hit requirements. Our kits are the lightest available and integrate features for drop damage resistance and full environmental durability to insure long life and consistent performance.

Armor Tile Components

For the most demanding multi-hit applications, only armors based on tile mosaics provide the necessary control over impact damage. The mosaic approach is often favored for 7.62 mm AP protection requiring multi-hit repeatability of less than 3 inches, and for applications greater than 12.7 mm AP.

Ceradyne can provide tile materials in virtually any shape or size. Raised edge tile designs are specified when the utmost mass efficiency is required of the system. Since a large fraction of the finished tile cost can be attributed to surface and edge grinding, over-specification of dimensional tolerances should be avoided. In many cases, tile dimensions in the "as-pressed" condition are fully adequate for armor systems.



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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.