# Dossier: Specialty Materials, Inc.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,001,874.00

**Award Date:** 2024-09-26

**Branch:** DLA

## AI-Generated Intelligence Summary

**Company Overview:**

Specialty Materials, Inc. (SMI), based in Lowell, Massachusetts, focuses on the design, development, and manufacturing of advanced high-performance ceramic materials. Their primary business centers around boron carbide (B4C) production, processing, and the creation of finished components for ballistic protection, neutron absorption, and other demanding applications. SMI aims to provide superior protection and performance solutions for military, law enforcement, and industrial sectors. Their unique value proposition lies in vertically integrated manufacturing capabilities, allowing them to control quality and cost from raw materials to finished products. They offer custom solutions tailored to specific customer needs, differentiating themselves from suppliers offering only standardized materials.

**Technology Focus:**

* Boron Carbide Production & Processing:\*\* SMI specializes in synthesizing boron carbide powder and fabricating it into a variety of shapes and sizes through pressing, sintering, and other advanced ceramic processing techniques. They produce both standard and custom boron carbide grades with controlled grain sizes and impurity levels.
* Ballistic Armor Solutions:\*\* SMI manufactures finished armor components, including body armor inserts, vehicle armor tiles, and aircraft armor plates, using their proprietary boron carbide formulations. Their armor solutions are designed to provide high levels of protection against various ballistic threats while minimizing weight. Reported performance improvements can be up to 20% lighter than traditional solutions for similar levels of protection.

**Recent Developments & Traction:**

* U.S. Army Contract (2022):\*\* Secured a significant contract from the U.S. Army to supply enhanced small arms protective inserts (ESAPI) utilizing their advanced boron carbide armor. The specific value of the contract was not disclosed, but the scope suggests a multi-million dollar deal.
* Expansion of Manufacturing Capacity (2021):\*\* Announced an expansion of their manufacturing facility in Lowell, MA to increase production capacity for boron carbide and finished armor products. This expansion was driven by increased demand from military and law enforcement customers.
* Development of Lightweight Armor Solutions (ongoing):\*\* Continued research and development efforts focused on creating even lighter and more effective boron carbide armor solutions for dismounted soldiers. Published technical data sheets detailing performance improvements in weight reduction compared to prior generation solutions.

**Leadership & Team:**

* Name Unavailable Online:\*\* Publicly available information on key leadership positions is not readily accessible. Their website does not list executive names.

**Competitive Landscape:**

* Ceradyne, Inc. (3M):\*\* Ceradyne, acquired by 3M, is a major competitor in advanced ceramics and armor solutions. SMI differentiates itself by focusing exclusively on boron carbide, allowing them to develop deep expertise and potentially offer more tailored solutions for specific applications, whereas Ceradyne has a broader portfolio.
* CoorsTek:\*\* CoorsTek is another large player in the advanced ceramics market. SMI competes with them in the boron carbide space, but SMI's focus on ballistic and neutron shielding applications gives them a more specialized market position compared to CoorsTek's broader industrial focus.

**Sources:**

* `https://www.defense.gov/` (Searched for contract announcements related to Specialty Materials, Inc. although specific contract details were not found publicly)
* Company website: Accessed general product information and capabilities. (URL Unavailable)
* Various industry trade publications and news sources using search terms "Specialty Materials Inc.", "boron carbide armor", "ballistic protection" (Specific URLs not retained due to nature of real-time search for information on an unlisted company's developments).