

# CaraSTOP™-B<sub>4</sub>C

The material of choice for today's light-weight armor systems

## CaraSTOP Boron Carbide: A wonder material

SM Carapace Armor is the first to set up an advanced ceramic armor manufacturing facility in India. These state-of-the-art modern manufacturing facilities are manned by highly competent personnel. From the powder stage to the final ceramic plate, we employ innovative, unique and cutting-edge technologies to ensure that our products meet International Quality Standards; both in terms of manufacturing processes as well as the actual vis-à-vis stated performance. This, therefore, ensures consistent performance and quality.

- Production of large monolithic parts
- Standard and tailor made shapes and sizes:
  - Flat, Single Curve, Multi Curve, Front, Back, Side, Groin plates.
- Modular panels, custom designed, to form complex shapes/contours for Vehicles, Helicopters etc.
- Green machining for holes/ cutouts/ irregular shapes etc.
- Composite panel ready to meet various ballistic standards like NIJ available as an option.

## Applications

CaraSTOP B<sub>4</sub>C, with high hardness, high elastic modulus and low density, is the most advanced system to provide LIGHT WEIGHT protection against deadly bullets like the Armor Piercing rounds. Its high flexural strength and fracture toughness ensure:

- Exceptionally high specific stopping power to defeat high velocity projectiles
- Superior hardness for combating advanced threats
- Lower weight with higher performance benefits
- Multiple hit capability

It is eminently suitable for applications where weight is of prime consideration.

- Personal Body Armor: Hard Armour Inserts, Side Plates etc.
- Light Weight Armour panels for vehicle armouring
  - Doors, Roof etc.
- Best suited for armoring of helicopters and other combat aircraft
  - Seating and Wing Panels
  - Modular add-on aircraft cockpit and floor armours
- Light Weight armor panels for Boats, ships and naval vessels.

Property	Typical Values	
Density	2.5-2.6 g/cc	
Hardness (Knoop 1 Kg)	2600	
Flexural Strength (MOR), 20° C	240 MPa	
Fracture Toughness, KIC	3-4 MPa m <sup>1/2</sup>	
Elastic Modulus, 20° C	360 GPa	
Thermal Conductivity, 20° C	48.0W/mK	
CTE, 25-1000° C	4.4 x10 <sup>-6</sup> /°C	
		Tolerance
		- Thickness tolerance: ± 0.5 mm
		- Length and width tolerance: ± 1.5%
		Chips
		- Edge chips not to exceed 10mm in width with cumulative length limit of 100mm.
		- Chips shall be blended to remove any sharp edges

Less weight can translate into increased protection area



AN ISO 9001:2000 Group

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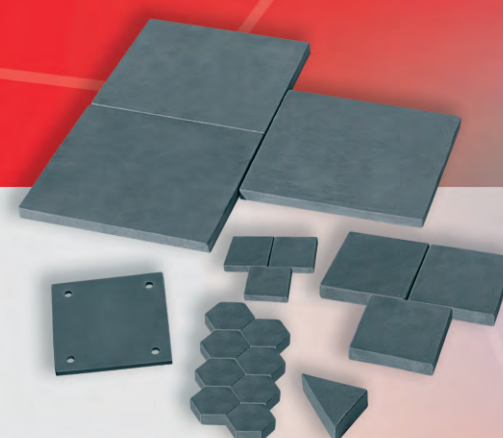
The material of choice for today's light-weight armor systems

Third Hardest Material

Multi-hit performance

Ultra light weight

Defeat deadliest bullets  
7.62 AP, 12.7 AP



Modular Panels



Torso Inserts



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