



Polycarbonate in Military and Police Protective Gear

Military personnel, law-enforcement officers, and other critical roles in high-risk professions rely on protective gear for their security and wellbeing while carrying out their duties in hazardous and sometimes hostile conditions.

Polycarbonate plastic — manufactured using the building-block chemistry known as Bisphenol A, or BPA — plays a key role in the manufacture of the

life-protecting equipment used by soldiers, police, and others who require reliable, long-lasting, and effective safety gear.

From police shields to protective helmets to riot gear and more, polycarbonate plastic helps protect those who protect us through its unique strength, transparency, light weight, and resistance to fire or extreme temperatures.

Applications

Offering great versatility and a range of unique properties and benefits, polycarbonate plastic is ideal for the manufacture of many types of protective gear:



Riot Shields: Polycarbonate riot shields are lightweight, shatter-resistant, and able to provide excellent protection against projectiles and physical attacks.



Ballistic Helmets: Polycarbonate provides superior impact resistance and protection against ballistic threats and is designed to be lightweight and comfortable for extended wear.



Bulletproof Windows: Polycarbonate enables bulletproof windows in high-security buildings, military bases, and embassies by providing clear visibility and robust and durable protection against ballistic threats.



Face Shields: Polycarbonate is used to make highly transparent face shields to protect security personnel from debris, physical attacks, chemical splashes, fire, and other hazards while providing excellent optical clarity.



Protective Eyewear: Polycarbonate lenses help military and law enforcement personnel through their shatter-resistant properties that provide protection against impact, assault, UV radiation, and hazardous materials.



Armored Vehicles: Polycarbonate is used in the windows of military and police vehicles, providing protection from ballistic impacts and other threats while maintaining visibility in dangerous and hazardous environments.

Benefits

1

Superior Impact Resistance: Polycarbonate is approximately 250 times stronger than glass, providing exceptional protection against high-impact forces, protecting personnel from projectiles and physical attacks.

2

Lightweight and Comfortable: Despite its strength, polycarbonate is significantly lighter than traditional materials like glass and metal, helping to reduce fatigue and increase mobility during extended operations.

3

Optical Clarity: With up to 90% light transmission, polycarbonate offers excellent visibility to help provide clear vision, enhancing situational awareness and response in high-stress environments without compromising safety.

4

Bulletproof Capabilities: Polycarbonate can be laminated with other materials to create gear and equipment that can withstand bullets from handguns and high-powered rifles.

5

Versatility: Polycarbonate is used in a wide range of applications, from riot gear and protective barriers to vehicle armor and eyewear. Its adaptability allows it to meet the diverse needs of military and law enforcement personnel.

6

Heat Resistance: Polycarbonate maintains its structural integrity and protective capabilities even under extreme temperatures, making it reliable in various operational environments.

Polycarbonate's unique properties make it an essential material in the development of advanced protective gear for military and law enforcement. Its strength, lightweight nature, and versatility help ensure that personnel are well-protected and able to perform their duties with confidence and efficiency.

Learn More About Polycarbonate & BPA

The American Chemistry Council promotes the business interests and general welfare of the polycarbonate and bisphenol A (BPA) industry through relevant technical, communications, and public policy activities. The membership consists of major manufacturers of polycarbonate plastic and BPA worldwide. For more information about BPA, please visit factsaboutbpa.org.

