Sports Helmet Plastic Material Solutions

High Performance Modified Plastics for Outdoor Equipment

With the continuous growth of cycling, outdoor sports, and professional protective equipment markets, sports helmet manufacturers are looking for plastic materials that can provide excellent impact resistance, lightweight performance, durability, and stable processing characteristics.

As a professional modified plastic material supplier, we provide customized engineering plastic solutions for sports helmet applications. Through material formulation optimization and performance improvement, our solutions help customers develop safer, lighter, and more reliable sports equipment products.

Plastic Material Requirements for Sports Helmet Applications

Sports helmets are commonly used in outdoor environments where materials need to withstand impact, sunlight exposure, temperature changes, and long-term use. Therefore, high-performance plastic materials are essential for achieving product safety and durability.

1. High Impact Resistance

Impact resistance is one of the most important requirements for sports helmet materials. Modified engineering plastics with enhanced toughness can improve the ability of products to withstand external impact and maintain structural stability.

2. Lightweight and High Strength

Lightweight design has become a key trend in sports equipment. High-performance plastics can reduce product weight while maintaining excellent mechanical strength, improving wearing comfort for users.

3. Weather and UV Resistance

Outdoor sports products are exposed to sunlight, humidity, and temperature variations. Plastic materials with excellent weather resistance and anti-aging performance can extend product service life.

4. Excellent Processing Stability

Stable melt flow, good dimensional stability, and consistent processing performance help manufacturers achieve better injection molding efficiency and product quality.

Recommended Engineering Plastic Materials for Sports Helmets



Sports helmets in a range of styles and colors across our product lineup.

PC (Polycarbonate) Material

PC is widely used in applications requiring high impact strength and durability.

Key Features:

- • Excellent impact resistance
- • High temperature resistance
- • Good dimensional stability
- • Outstanding mechanical performance

Typical Applications: Helmet shells, protective covers, and high-strength components.

ABS Modified Plastic Material

ABS modified materials provide a good balance between processing performance, mechanical properties, and surface appearance.

Key Features:

- • Excellent injection molding performance
- • Good surface finish
- • Easy color customization
- • Balanced strength and toughness

Typical Applications: Helmet housings, decorative components, and structural parts.

PC+ABS Engineering Plastic

PC+ABS combines the advantages of polycarbonate and ABS, making it suitable for high-performance plastic products.

Key Features:

- • High impact strength
- • Good toughness
- • Excellent appearance quality
- • Stable processing performance

Typical Applications: Premium sports helmet shells and functional components.

PA6 / PA66 Modified Nylon Material

Modified nylon materials are widely used for components requiring high strength and wear resistance.

Key Features:

- • High mechanical strength
- • Excellent toughness
- • Wear resistance
- • Good dimensional stability

Typical Applications: Helmet buckles, adjustment systems, connectors, and support components.

Customized Modified Plastic Solutions

Different sports helmet designs require different material performance. We provide customized material development based on customer requirements, including:



Packed helmet shells ready for stable batch production.

- • High impact modified plastics
- • Glass fiber reinforced nylon materials
- • UV resistant outdoor materials
- • Flame retardant engineering plastics
- • High surface appearance materials
- • Customized color matching solutions

By optimizing resin systems, reinforcement materials, and additives, we help customers achieve better material performance for different applications.

Why Choose Our Modified Plastic Materials?

We focus on the research, development, and production of modified engineering plastics. Our technical team provides professional material solutions according to product requirements, processing conditions, and end-use environments.

Our capabilities include:

- • Customized material formulation development
- • Engineering plastic performance optimization
- • Application-based material selection
- • Stable batch production support
- • Technical support for customer projects

From material selection to performance improvement, we help global customers create high-quality plastic products with reliable material solutions.



Close-up of helmet ventilation designs and surface finishes.

High-performance modified plastics provide stronger support for the future development of sports equipment.