

# Polycarbonate – a key contributor to a modern lifestyle

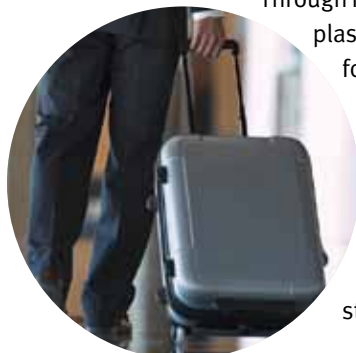


Polycarbonate plastic is a high performance, sustainable and eco-efficient material used in a large variety of essential everyday applications. It has a unique combination of properties, offering clarity, durability, safety, versatility, and heat and shatter resistance. Products made from polycarbonate include sheets for roofing and glazing, optical media, IT-parts, spectacle lenses, medical devices, leisure articles, and food contact materials. These products contribute substantially to the safety and well-being of consumers.

Polycarbonate has more than half a century's history of safe and reliable use. Its outstanding balance of properties is in most cases critical to the functional performance of the final applications. Polycarbonate enables the manufacture of technical high performance products in sophisticated forms and sizes, ranging from bicycle helmets to stadium roofs. Polycarbonate technology improves the quality of life and enhances the safety and convenience for users and consumers all around the world. Our modern lifestyle would not be possible without polycarbonate.

**High durability:** Polycarbonate plastic is an extremely durable material. This makes it the material of choice for many building and construction applications, for automotive headlamp lenses, for CDs and DVDs and for other consumer applications. For these products, long product life and reliable performance are critical.

**Shatter resistance:** Polycarbonate is virtually unbreakable. Through its high impact resistance, polycarbonate plastic provides greater safety and comfort for applications where reliability and high performance are essential. Such applications include motorcycle helmets, hard hats, protective visors, eyewear lenses, unbreakable bottles and drinking beakers, as well as enhanced internal safety features and structures in car interior applications.

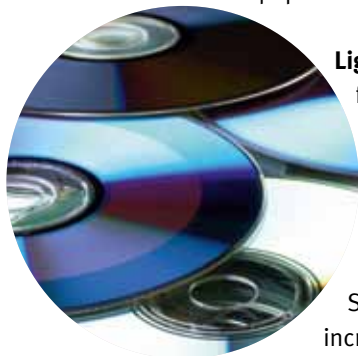


## Some of the common applications of polycarbonate plastic include:

- CDs, DVDs, Blu-Ray and other discs
- Housings for electronic equipment: cell phones, cameras, hairdryers, computers, and TVs
- Electrical equipment: plug connections, fuse boxes, lamp covers, cable ducts and switches
- Covers for solar panels
- Security glazing, e.g. transparent cabins for ski lifts
- Protective glasses for machines, historic/ archaeological buildings/artwork
- Roofs of sport stadia, industrial and municipal buildings, and hangars
- Roof lights
- Conservatory and professional green house glazing
- Car glazing
- Roof modules in cars
- Automotive parts: headlamps, radiator grills, and bumpers
- Car interior applications: airbag covers, instrument panel supports, metallised trim and emblems
- Medical devices: blood oxygenators, respirators, dialysers, and single-use operating instruments
- Safety goggles and protective visors
- Sunglasses
- Children's bicycle helmets
- Hard hats
- Reusable 4 gallon water bottles
- ID-cards/documents
- Electrical kettles and coffee makers



**Transparency:** Polycarbonate plastic is an extremely clear plastic that offers excellent visibility and actually transmits light better than alternative materials. This clarity makes polycarbonate plastic a crucial and much valued material for the production of optical lenses, light guides, safety goggles and automotive and aircraft cabin windows, as well as medical equipment and architectural glazing.



**Lightweight:** For applications such as roofs for sports arenas, stations and hangars, polycarbonate's light weight allows for architectural and design creativity. This leads to increased resource efficiency and reduced financial and environmental costs for transportation. Significant weight reduction resulting in increased energy efficiency, high design flexibility and the potential for functional integration – these are key advantages in using polycarbonate for automotive glazing applications.

**Thermostability:** Polycarbonate plastic provides excellent heat resistance. This is essential in numerous applications because it facilitates good hygiene conditions when cleaning at higher temperatures. This is key to products that come into direct contact with the human body, such as intensive care medical equipment or food storage containers that need to be sterilised at high temperatures.

**Innovative potential:** The performance of polycarbonate is being constantly improved. For consumers, the benefits of polycarbonate come from its long life cycle, easy handling, attractive design potential and the reliable performance of the finished product. Through technical and scientific innovation, new applications and product benefits are being offered, which enable market sectors to develop, providing consumers with additional services and benefits. The electronic communications, home entertainment and data storage industries are very obvious examples of this. CDs, DVDs and video games have transformed this entire entertainment media world. A very recent example is diffuser sheets which facilitate the manufacture of new large flat screens TVs.



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