

Polycarbonate Use in Building & Construction



Building and construction in the United States is a major industry sector, with a 2023 [market valuation of nearly \\$2 trillion](#), providing jobs for 8.2 million people and representing approximately 4.5% of American GDP.

[Polycarbonate plastic](#) is one of the many materials used in this critical industry. Manufactured using the building-block chemistry bisphenol A, polycarbonate's numerous beneficial properties, including durability, weatherability, and optical clarity, help to enhance the strength, longevity, and aesthetic appearance of various construction materials. Its lightweight properties can also simplify installation and reduce the structural load on buildings.

Applications



Walling: Polycarbonate provides significant insulation when used in a multiwall format, improving energy efficiency.



LED Lightbulbs: Polycarbonate plastic offers superior benefits for LED lighting exteriors due to its crystal-like clarity and sturdiness.



Transparent Roofing: Polycarbonate roofing sheets are widely used in commercial and residential buildings due to their ability to allow natural lighting, making them ideal for skylights, patios, and pergolas.



Signage: Polycarbonate sheets are used in signs and large advertising displays. When exposed to UV radiation, polycarbonate helps improve the sign's weatherability.



Security Glazing: Polycarbonate's use in blast and bullet-resistant glazing strengthens high-security places like prisons, guard booths, bank teller shields, hurricane shutters, and more.



Industrial Glazing: Polycarbonate sheets and protective layers are used in building greenhouses, bus stop shelters, and windows.

Benefits

ENERGY EFFICIENCY

Polycarbonate is used in LED lightbulbs, which consume 75% less power than conventional lighting. Additionally, polycarbonate's use in insulation helps conserve energy by helping to maintain stable indoor temperatures, reducing the need for heating and cooling and leading to lower energy consumption and costs.

DURABILITY

Polycarbonate's shatter-resistant qualities make it ideal for commercial buildings, industrial facilities, and for certain architectural features, improving longevity.

CLARITY

Polycarbonate's transparent appearance allows natural light to enter structures, reducing the need for artificial lighting. It also offers advantages over alternative security measures such as wire glass and metal screens.

Here are some projects in the United States that have utilized polycarbonate plastic in their construction:



California Academy of Sciences

This renowned museum in San Francisco uses polycarbonate panels in its roofing system to allow natural light to penetrate while providing insulation and durability.

Brooklyn Botanic Garden

The Visitor Center at this botanical garden in New York uses polycarbonate sheets for its greenhouse roofing, optimizing light transmission and thermal insulation for plant growth.



The Shed

This cultural center in New York City uses polycarbonate panels in its movable outer shell, allowing the structure to adapt and transform for various events and exhibitions.

These projects showcase the versatility and benefits of polycarbonate plastic in modern construction, from enhancing natural light to providing durable and energy-efficient solutions. As the U.S. construction industry continues to grow, polycarbonate will play a vital role in building homes, office buildings, civic arenas, and many other structures throughout the country.

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.