Bureau of Indian Standards
The National Standards Body of India

"IS 14443:1997 Polycarbonate Sheets – Specification"

Product Definition:

Polycarbonate Sheets are **high-performance thermoplastic sheets** known for their **durability, high impact resistance, strength**, **thermal stability** and **optical clarity**. These sheets are often used in the **building and construction industry**, **greenhouses**, and **safety/security applications** due to their **impact resistance** and **thermal stability**. They are also favored for **instrument panels** and other applications requiring **clear visibility** combined with **mechanical protection**.

The standard outlines the essential characteristics and performance standards for **polycarbonate sheets.**

Quality Parameters Expected by Consumers:

When purchasing **polycarbonate sheets**, consumers look for key quality parameters, such as **UV resistance**, **transparency**, **fire-retardant properties**, and the ability to withstand **extreme temperatures**. They also expect easy **workability** like **cold bending**, **machinability**, and **formability**, which allow the material to be used in a variety of **design applications** without compromising its **structural integrity**.

Additionally, buyers often seek **scratch-resistant** and **abrasion-resistant** sheets to maintain long-lasting clarity and aesthetic appeal. Other critical factors include **thermal insulation**, **soundproofing**, and **chemical resistance**, ensuring the material performs well in various environmental conditions.

How IS 14443:1997 Ensures These Expectations:

IS 14443:1997 specifies the **standardized requirements** for polycarbonate sheets, including both **solid section** and **multi-wall varieties**, as well as **thinner gauge films**. The standard ensures that these sheets meet rigorous tests for **impact strength**, **dimensional stability**, **light transmission, flame retardancy,** and **bullet/explosion/rupture/vandal resistance**.

Additionally, the standard provides guidelines for **fabrication techniques**, ensuring that **manufacturers** and **end-users** can form and fabricate these sheets while maintaining the material's **performance characteristics**. This includes instructions for **cutting, drilling**, and **bending** the sheets to meet specific project needs. With **code of good fabrication practices** included, the standard ensures **optimum performance** for various **application environments**

By adhering to IS 14443:1997, manufacturers can guarantee that their polycarbonate sheets deliver on the quality expectations of consumers, offering reliable and long-lasting solutions for a variety of applications.