

Sign Materials: Acrylic vs Polycarbonate

Both Polycarbonate and Acrylic are durable, flexible and often compared to one another because both are transparent and most frequently used in the sign industry. Although being very similar there are significant differences between them, and you may wonder what exactly sets them apart from each other. Let's take a look!

Although we manufacture our signs with both types of sign grade polycarbonate and sign grade acrylic, here's a breakdown of the differences between the two.



Acrylic

Its Chemical name is Polymethyl Methacrylate (PMMA) and it is most commonly known as Plexiglass. This is our go-to option when manufacturing signs. Generally speaking, since acrylic is lightweight, has a variety of colors, is scratch and UV ray resistant and is crystal clear it is the better choice when concerned about aesthetics. Its also stronger than glass but not as strong as polycarbonate. Its lower cost also makes it an attractive option compared to the cost of polycarbonate.

Pros

- Shinier
- Less expensive than polycarbonate
- High level of impact resistance
- Greater resistance than polycarbonate against evenly distributed loads
- Greater resistance than polycarbonate against scratching
- Greater UV resistance than polycarbonate
- Easier to cut than polycarbonate
- Can be polished smooth if necessary
- Provides cleaner glue joint compared to polycarbonate
- Protects against UV rays
- Greater clarity, clarity can be restored through polishing
- Available in a wider variety of colors than polycarbonate

Cons

- Very rigid
- Cracks more easily than polycarbonate
- Can crack easily during drilling
- More likely to chip than polycarbonate



Polycarbonate

Polycarbonate is generally considered a shatterproof material, outmatching glass and acrylic in strength and durability and just as lightweight. Though it may not be as aesthetically pleasing as acrylic, it has unmatched strength and flexibility. Polycarbonate is easy to work with, used for various purposes for safety reasons and can endure significant distortions without cracking, unlike acrylic which can crack more easily. That said, if scratched or loss of clarity occurs, it cannot be restored. We use a sign grade polycarbonate in letters that are backlit to protect the LEDs or for large cabinet signs (such as the one pictured), to provide extra strength and durability against inclement weather and to protect against UV rays.

Pros

- Higher level of impact resistance
- Less rigidity than acrylic and can be bought in flexible grades
- Can handle a range of temperatures
- Highly resistant to acids and other chemicals such as gasoline
- Can be drilled without worry of cracking
- Can be cold formed or bent without heating
- Protects against UV rays
- Low level of flammability

Cons

- Easier to scratch
- More expensive in comparison to acrylic
- Poorer clarity, cannot be polished to restore clarity
- Low level of resistance to abrasive cleaners and surfaces
- Can be dented easily



Specs: One welded channel logo w/ polycarbonate face and LED's - self contained.

Face: 7328 white lexan (no seams) w/ digital print.

Trim: aluminum trim painted black /

Illumination: Principal Flex series pure white LED's 6300k.

Both Acrylic and Polycarbonate have their pros and cons but knowing a little more about each of them can help you make an informed decision. We hope this helped and if you have any questions or still unsure of what to do, just give us a call at 800-544-6381.