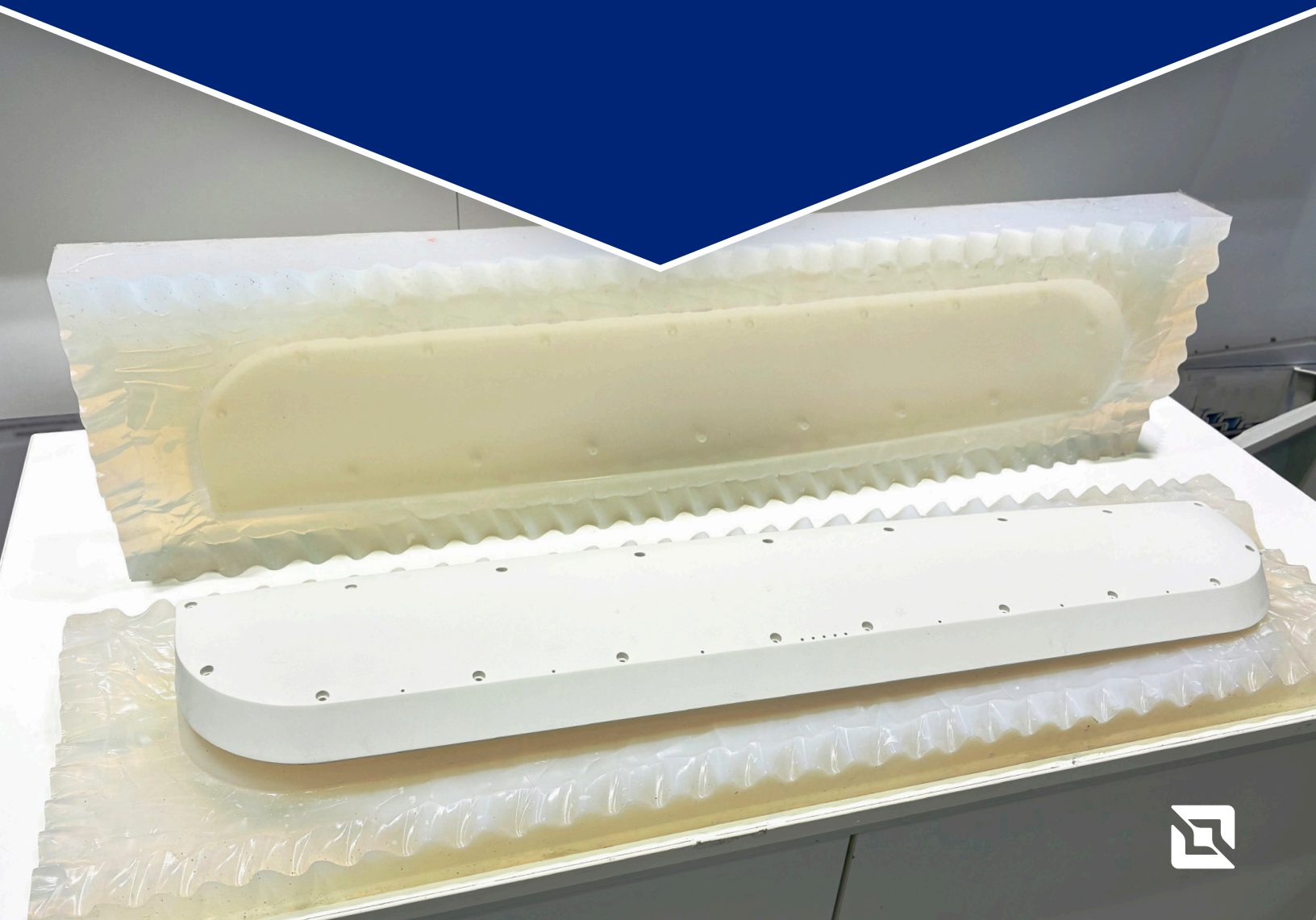


FAQs

On cast urethane molding





How long does cast urethane production take?

Typical lead time is 6 weeks from purchase order to delivery of the first mold quantity. This timeline includes mold fabrication, material preparation, and production of the initial components.

Compared to traditional injection molding, cast urethane offers significantly faster tooling and startup times, making it ideal for prototyping, bridge production, and low-to-mid volume production where faster startup is important.





How many components can be produced from a mold?

The number of components produced from a mold depends on component geometry, surface texture, and overall size. On average, a single mold produces approximately 20–25 components before it needs to be replaced. Simpler geometries and smoother finishes may allow for higher quantities.





Can inserts be incorporated into cast urethane components?

Yes, metal or plastic inserts can be cast directly into the component. During the casting process, inserts are placed in the mold prior to pouring in the liquid urethane. As the urethane cures, it encapsulates the insert, creating a strong mechanical bond. This process is commonly used for threaded inserts, reinforcement components, or mounting hardware.





Can you vary the performance of the plastic? i.e. tension, flexural or impact strength

Yes. One of the key advantages of cast urethane is the ability to customize the material formulation to meet the specific performance requirements of the application. By adjusting the resin system and catalyst, properties such as tensile strength, flexibility, abrasion resistance, and impact strength can be optimized. This flexibility allows cast urethane to simulate a wide range of thermoplastic materials.





Can cast urethane components be painted or color matched?

Yes, components can be finished with custom-blended polyurethane paint that is color matched to customer specifications. This coating provides a Class A cosmetic finish, making it suitable for visible components, product housings, and display prototypes that require a professional appearance.





Are cast urethane materials UV resistant?

Many of our urethane materials include UV resistance directly in the resin formulation. For materials that do not, UV stabilizers can be added during processing. This is commonly done with lighter-colored resins to help protect the material from sunlight or outdoor environments.





How thin or soft can cast urethane components be?

Cast urethane materials can be formulated across a wide hardness range, from Shore A 10 (very soft and flexible) to Shore D 95 (rigid) depending on the requirements.

For wall thickness, cast urethane can support very thin sections, but design requirements depend on the component's function. For structural features that must maintain strength or stability, a minimum wall thickness of approximately 0.070" is typically recommended.





Can cast urethane be used for over molding?

Yes, cast urethane is well suited for over molding applications. The process allows us to encapsulate plastic or metal substrates within polyurethane materials of varying thicknesses and hardness levels. This technique is commonly used to create protective coatings, ergonomic grips, vibration-dampening components, or multi-material assemblies.

