

Pentz Cast Solutions

Aluminum Casting: Core Comparisons

Core Process	Core Process Description/Applications	Casting Finish	Dimensional Stability/Accuracy	Typical Tooling Cost	Typical Volume
Automated SO2 Core	<p>Highly productive automated system that produces cores with exceptional finish, precision tolerances, and intricate geometries, that are easy to remove during core knock out. A resin binder is mixed with dry silica sand and blown into a CNC machined urethane core box. The mixture is cured with SO2 gas. Once the core has hardened, it is automatically ejected from the core box.</p> <p>Pentz utilizes a state-of-the-art Laempe automated SO2 core making system. With 45 second core cycles, it is one of the most productive core making systems in the world.</p> <p>Applications: Small to large size cores.</p>	Excellent	Excellent	\$1,500 - \$3,000	Low, Medium or High Volume
Automated Shell Core	<p>Very productive fully automated system that produces strong cores with a good finish and dimensional stability. Resin-coated sand is blown into a heated metal core box and melted/baked until hardened. Once the core has set, excess sand is poured out, leaving a shelled-out core.</p> <p>Applications: Small to medium size cores.</p>	Excellent	Very Good	\$2,000 - \$3,000	Medium to High Volume
No Bake Core	<p>Highly versatile manual method to produce cores. Sand and an SiO2 binder are mixed together with a catalyst. The mixture is packed into a core box and cured at room temperature. Once the core has set, it is removed from the core box.</p> <p>Applications: Medium and large size cores.</p>	Good to Very Good	Excellent	\$500 - \$3,000	Low Volume
CO2 Core	<p>Very versatile manual method to produce cores. A resin binder is mixed with dry sand in a core box and cured by permeating CO2 gas through the mixture. The mixture hardens into a core.</p> <p>Applications: Small size cores and lower quantities.</p>	Good	Good	\$500 - \$2,000	Lower Volume