



Advanced Industrial Highlights Semiconductor Plastic Machining Capabilities

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MOORESVILLE, NC - October 04, 2026 -

Advanced Industrial, a North Carolina-based precision plastics machining company, today highlighted its semiconductor plastic machining capabilities, drawing attention to the engineered polymer components it produces for wafer processing, wet chemistry, and test equipment used throughout semiconductor manufacturing.

The announcement comes as semiconductor manufacturers and equipment builders continue to require parts that hold tight tolerances while resisting aggressive chemicals, heat, and particle generation. Advanced Industrial machines components from high-performance thermoplastics for these applications and handles production runs of varying sizes.

The company's semiconductor work covers a broad range of parts, including wafer handling components, spin chucks, vacuum wand tips, polishing rings, and test sockets. It also produces electrical insulators, valve components, bearings, bushings, guards, shields, static control components, chemical tanks, flexible tubing, and the wet benches and workstations found in cleanroom fabrication environments.

"Semiconductor equipment leaves very little room for error, and the plastic parts inside those tools have to perform exactly as designed, every time," said Paul Cedrone, CEO of Advanced Industrial. "Our team works closely with engineers to match each component to the right material and to hold the tolerances their process demands. That combination of material knowledge and machining discipline is what our semiconductor customers rely on."

Material selection plays a central role in semiconductor plastic machining. Advanced Industrial works with PEEK, PTFE, Torlon, Celazole, Ultem, Ertalyte, acetal, polysulfone, polycarbonate, polyimides, and cast nylon, choosing among them based on the requirements of each application.

Each of these engineering plastics offers a different balance of properties. Depending on the material, those properties can include chemical resistance, creep resistance, flame retardance, electrical insulation, and low particle generation, all of which affect how a component performs inside process chambers, chemical delivery systems, and wafer transport equipment.

Low particle generation is particularly important in semiconductor fabs, where microscopic contamination can reduce wafer yield. Chemical resistance is equally critical for components exposed to acids, solvents, and slurries during wet processing and chemical mechanical planarization.

Advanced Industrial uses modern CNC machining equipment to meet rigid design and tolerance requirements. The company's capabilities allow it to produce complex geometries and fine features in materials that can be difficult to machine, including polymers that are sensitive to heat buildup, internal stress, and dimensional movement during cutting.

"Machining high-performance plastics is very different from machining metal," Cedrone said. "These materials move, they react to heat, and each one behaves differently on the machine. Decades of work in semiconductor applications have taught us how to control those variables so that the part that ships matches the print."

According to the company, its experience in semiconductor applications spans several decades. That background allows Advanced Industrial to support engineering and procurement teams on components ranging from simple insulators to multi-feature wafer handling parts.

Beyond semiconductor manufacturing, Advanced Industrial serves customers in the oil and gas and medical sectors, including through its supply of medical-grade plastics. The company also manufactures custom plastic bearings and gears for a variety of industrial uses.

Demand for precision polymer components has grown alongside continued investment in semiconductor

fabrication capacity. New fabs and equipment upgrades rely on a steady supply of custom and replacement parts, many of which are made from the same high-performance plastics the company machines.

Advanced Industrial works with customers from material selection through finished components. The company produces custom parts to customer drawings and specifications, supporting both new equipment designs and the maintenance of existing tools.

Advanced Industrial is a precision plastics machining company that machines engineering and high-performance plastics for the semiconductor, oil and gas, and medical industries, among others.

For more information about Advanced Industrial's semiconductor plastic machining capabilities, visit <https://cncplastics.com/semiconductor/> or call 800.265.7351.

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Advanced Industrial

Advanced Industrial is a plastic Distributor/Fabricator, specializing in high-performance plastic shapes and CNC-machined components.

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