Advanced Industrial Delivers Precision Medical Grade Plastic Solutions

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Advanced Industrial, a precision CNC plastics machining company based in Mooresville, North Carolina, provides medical grade plastic components engineered to meet the rigorous demands of the healthcare and medical device industries. The company offers a comprehensive portfolio of biocompatible materials and precision machining services designed to support manufacturers of surgical instruments, implantable devices, and diagnostic equipment.

The medical grade plastics available through Advanced Industrial are certified to ISO 10993 and USP Class VI biocompatibility standards, ensuring they meet the stringent requirements for patient contact and clinical use. These certifications require extensive testing, including cytotoxicity analysis, hemolysis evaluation, and chemical characterization, providing manufacturers with documented assurance that components satisfy regulatory expectations.

Advanced Industrial's medical grade plastic material portfolio includes several high-performance polymers suited to different clinical applications. PEEK composites, specifically TECATEC PEEK MT CW50, feature carbon fiber reinforcement that delivers enhanced mechanical strength while maintaining X-ray permeability,

a critical property for components used in imaging environments. Medical grade PEEK variants from the TECAPEEK MT line offer resistance to more than 1,500 sterilization cycles, making them well suited for reusable surgical instruments that require repeated autoclave processing.

Polyphenylsulfone, marketed as TECASON MT, provides resistance to more than 800 sterilization cycles and serves applications where chemical resistance and dimensional stability are essential. Medical grade acetal, known as TECAFORM AH MT, offers excellent sliding properties and electrical insulation characteristics valued in device assemblies requiring low-friction movement. Polypropylene in the TECAPRO MT formulation is used for surgical trays and caddies, while PCT-G Tritan copolyester provides optical transparency combined with gamma sterilization stability for applications requiring visual clarity.

"Medical grade plastics demand a level of precision and material traceability that goes well beyond standard industrial machining," said Paul Cedrone, CEO of Advanced Industrial. "Every component we produce for the medical sector is held to exacting tolerances and supported by full material documentation, because the end use of these parts leaves no room for compromise."

The scope of work through which Advanced Industrial Advanced Industrial highlights medical grade plastic expertise encompasses both prototype development and production-volume machining. The company's CNC capabilities allow it to produce complex geometries from these specialized polymers while maintaining the tight tolerances that medical device manufacturers specify. Batch-to-batch biocompatibility testing and multi-cycle sterilization validation are part of the standard quality process for medical components.

Custom material formulations, including color-matched variants, are available to meet specific device branding or identification requirements. This capability supports manufacturers who need components that are not only functionally compliant but also visually consistent with their device design specifications.

"The range of medical grade materials we work with allows us to match the right polymer to each application's specific performance requirements," Cedrone said. "Whether a component needs to withstand hundreds of sterilization cycles or provide radiolucency during imaging procedures, material selection is where quality outcomes begin."

Advanced Industrial serves medical device manufacturers, healthcare equipment producers, and contract manufacturers across the United States. The company's facility in Mooresville, North Carolina, is equipped for both small-batch and mid-volume production runs, providing flexibility for development-stage projects as well as established product lines.

Biocompatible plastic machining represents a significant segment of the precision plastics industry as healthcare technology advances and device manufacturers seek materials that combine mechanical

performance, regulatory compliance, and machinability. Advanced Industrial's focus on medical grade polymers positions the company to support these requirements with documented material quality and precision fabrication capabilities.

For more information about medical grade plastic machining services, visit cncplastics.com.

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For more information about Advanced Industrial, contact the company here:Advanced IndustrialPaul Cedrone800-865-7351info@cncplastics.com112 Meadow Hill CircleMooresville, NC 28117

Advanced Industrial

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

Website: https://cncplastics.com/

Email: info@cncplastics.com

Phone: 800-865-7351

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