



# Semiconductor

Semiconductor manufacturing involves harsh chemicals, exacting high purity requirements and resistance to electrical shock, as well as cost effectiveness.

## Applications

- Semiconductor device test sockets
- Circuit boards
- High temperature components
- Integrated circuit chip carriers
- High-purity piping systems
- Semiconductor trays and boxes
- Electrical insulators
- Chemical tanks
- Piping components such as valves, fittings, pipe and tubing, filtration elements
- Wafer handling parts
- Wet benches and work stations
- Microelectronics
- Flexible tubing
- Components used to control static electricity
- Ultrapure water systems
- Vacuum wand tips
- Waste transfer lines

## Advantages May Include

- Lightweight
- Abrasion resistant in polishing slurries
- Resistant to corrosive acids
- Inert to common process chemicals
- Low outgassing characteristics
- Minimal contamination to flow
- Perform well in extreme heat; nonflammable
- Static dissipative properties
- Sophisticated joining equipment minimizes or eliminates possible joint contamination
- Cost effective
- Electrical insulating properties



- Low particle generation in bearing and wear applications

## Materials

- Acetal (POM)
- Chlorinated Polyvinyl Chloride (CPVC)
- Ethylene-Chlorotrifluoroethylene (ECTFE)
- Ethylene-Tetrafluoroethylene (ETFE)
- Fluorinated Ethylene Propylene (FEP)
- Perfluoroalkoxy (PFA)
- Polyamide-Imide (PAI)
- Polycarbonate (PC)
- Polyetheretherketone (PEEK)
- Polyetherimide (PEI)
- Polyethylene Terephthalate (PET)
- Polyphenylene Ether (PPE)
- Polyphenylene Sulfide (PPS)
- Polypropylene (PP)
- Polysulfone (PSU)
- Polytetrafluoroethylene (PTFE)
- Polyvinyl Chloride (PVC)
- Polyvinylidene Fluoride (PVDF)
- Polyimide (PI)

## Did you know?

The precision of new silicon chips is beyond belief. Imagine dropping a ball through a straw only a few microns larger than the ball without touching the sides of the straw — from the height of a 40 story building!



## Environmental and Safety

Considering the total carbon footprint, including costs of raw materials, manufacture, transport, fabricate, install, maintain, plastics compare favorably with more traditional materials. Also, plastics are safer to handle and install. When you consider that most plastics are readily recyclable, they can become the most environmentally responsible and safest choice for many demanding semiconductor applications.

