
CUSTOM PLASTICS MACHINING

Precision Machined Plastic Components & Assemblies

Over 25 Years of Engineering Excellence

From Prototype to Production — Built to Your Exact Specifications

Engineering Precision in Every Part

Custom Plastics Machining is a plastics machining and fabrication company with over 25 years of experience serving demanding industries. We specialize in the design and machining of plastic components, fabricated assemblies, and plastic welding services — delivering precision from prototype through production.

Led by an engineer from the aerospace and defense sector, our team takes a critical, problem-solving approach to every project. We work closely with customers to meet exact specifications and provide dependable results where quality, consistency, and reliability matter most.

25+	5	100%	MA
Years of Experience	Core Service Areas	Custom Solutions	Woburn-Based Facility

Why Choose Custom Plastics Machining?

- **Engineer-Led Expertise**
Our leadership comes from aerospace & defense — bringing the highest standards of precision and accountability to every order.

- **True Custom Capability**
We don't just offer off-the-shelf solutions. We can design and machine to your exact requirements.

- **Full-Service Fabrication**
From design through delivery, we handle machining, welding, assembly, and engineering under one roof.

- **Responsive & Reliable**
Direct communication with engineers who understand your application and deliver on time.

- **Prototype to Production**
Whether you need a single prototype or ongoing production runs, our process scales with your needs.



We offer a comprehensive range of plastic machining and fabrication services. All work is performed in-house at our Woburn, MA facility with engineer oversight at every stage.

CNC Milling	<p>Precision 3-axis CNC milling of complex plastic components from engineering drawings or CAD files.</p> <ul style="list-style-type: none">• Complex geometries and tight tolerances• Wide range of materials• Short-run to production quantities• Full inspection and quality documentation available
CNC Turning	<p>CNC lathe-based turning for cylindrical, threaded, and rotationally symmetric plastic parts.</p> <ul style="list-style-type: none">• Precision diameters and threads• Custom fittings and connectors• Compatible with HDPE, Polypropylene, Delrin, PVC, and more• Fast turnaround on standard profiles
Custom Plastic Tanks	<p>Fabricated plastic tanks designed and built to your specifications for chemical storage, processing, and industrial use.</p> <ul style="list-style-type: none">• Polypropylene, PVC, HDPE construction• Custom sizes, shapes, and fittings• Hot-gas welded seams for leak integrity• For corrosive, chemical, and specialty fluids
Plastic Welding & Fabrication	<p>Hot-gas and extrusion welding of thermoplastics to join, repair, or assemble plastic structures and component assemblies.</p> <ul style="list-style-type: none">• Structural joining of plastic components• Field repair and on-site services available• Polypropylene, PVC, HDPE, and PVDF• Chemical and corrosion-resistant assemblies
Engineering Design / CAD	<p>In-house design and CAD engineering support for new parts, custom fittings, reverse engineering, and design for manufacturability consideration.</p> <ul style="list-style-type: none">• 3D CAD modeling and 2D drawings• Reverse engineering from samples• Design for manufacturability (DFM) review• Material selection consultation

Engineering Plastics We Machine

Industries We Serve

HDPE	High-density polyethylene — excellent chemical resistance, food-safe applications
Polypropylene (PP)	Lightweight, chemical-resistant — ideal for tanks and fluid systems
UHMW-PE	Ultra-high molecular weight PE — wear-resistant liners and guides
Delrin® / Acetal	Precise, dimensionally stable — gears, bushings, structural parts
PVC / CPVC	Rigid, chemical-resistant — fittings, piping, and structural components
Nylon (PA)	Strong and wear-resistant — mechanical parts, guides, and rollers
PEEK	High-performance thermoplastic for extreme temperature/chemical environments
Polycarbonate	Impact-resistant and optically clear — guards and sight windows
PVDF (Kynar)	Exceptional chemical resistance for aggressive media applications
PTFE	Ultra-low friction and chemical resistance — seals, liners, spacers

<ul style="list-style-type: none"> ■ Chemical Processing
<ul style="list-style-type: none"> ■ Water & Wastewater Treatment
<ul style="list-style-type: none"> ■ Pharmaceutical & Biotech
<ul style="list-style-type: none"> ■ Semiconductor & Electronics
<ul style="list-style-type: none"> ■ Aerospace & Defense
<ul style="list-style-type: none"> ■ Food & Beverage Processing
<ul style="list-style-type: none"> ■ Oil & Gas
<ul style="list-style-type: none"> ■ Industrial Manufacturing
<ul style="list-style-type: none"> ■ Medical Devices
<ul style="list-style-type: none"> ■ Marine & Offshore
<ul style="list-style-type: none"> ■ Research & Laboratory
<ul style="list-style-type: none"> ■ General Industrial OEM

Quality & Process

Every part at Custom Plastics Machining is produced with engineer-level oversight from start to finish. We review drawings, advise on material selection, machine to specification, and inspect before shipment. We approach every project — large or small — with the discipline and precision those industries demand.

Design Review	Engineering Consultation	Material Selection	Machining & Fab	Inspection	Delivery
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Our engineers are ready to review your drawings, discuss your application, and provide a fast, accurate quote. Whether you have detailed CAD files or just a concept, we'll work with you to find the right solution.

Get in Touch	Request a Quote
<ul style="list-style-type: none"> ■ 185 New Boston Street Woburn, MA 01801 ■ Tel. (781) 937-9700 ✉ info@customplasticsmachining.com ■ www.customplasticsmachining.com 	<p>We respond quickly and will work directly with you — no sales teams or runarounds.</p> <p>Submit your drawings or reach out via phone or email to discuss your project.</p> <p>We look forward to solving your next custom plastics challenge.</p>

What to Expect When You Work With Us

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|---------------------------------------|--|
| 1. Submit Your Request | Send us your drawings, CAD files, or describe your part. We accept PDF, DXF, STEP, and other formats. |
| 2. Engineering Review | Our engineers review your design, flag any manufacturability considerations, and confirm material options. |
| 3. Receive Your Quote | Fast, transparent pricing with lead time. No hidden fees, no middlemen. |
| 4. Production & Inspection | Your parts are machined, fabricated, and inspected to specification before shipment. |
| 5. Delivery | Parts shipped or available for pickup. We follow up to make sure everything meets expectations. |

"We are here to solve any problem. Reach out to us today to talk to an engineer."

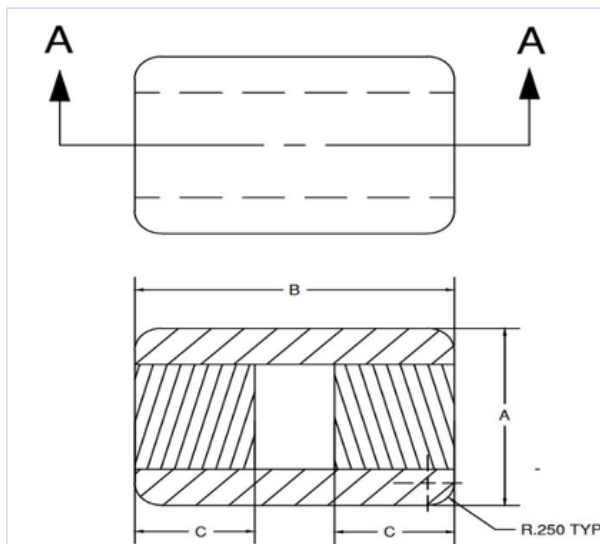
— Custom Plastics Machining

In addition to our custom machining and fabrication services, Custom Plastics Machining stocks a range of commonly used fittings as Commercial Off-The-Shelf (COTS) items — available for immediate purchase and fast delivery. All stocked items are available in Polyethylene (PE) and Polypropylene (PP).

Available Materials: PE = Polyethylene | PP = Polypropylene | All dimensions in inches unless noted.

Full Couplings (COTS Stock)

Full couplings machined from PE or PP rod stock. NPT threaded bore for pipe connection on both ends. Dimension A = OD, B = Overall Length, C = Thread Depth. Typically used for welding into assemblies.



Full Coupling

Threaded bore both ends

A = Outside Diameter

B = Overall Length

C = Thread Depth

R = 0.250" TYP corner radius

Material: PE or PP



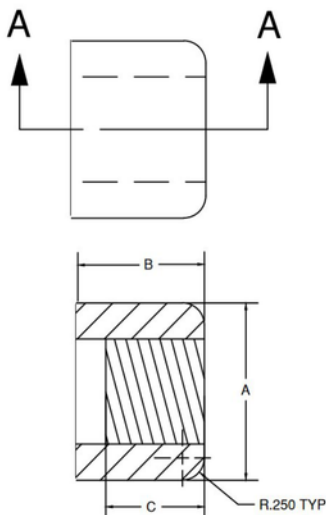
Polyethylene (PE)

Polypropylene (PP)

Part #	Size	A — OD	B — Length	C — Thread	Part #	Size	A — OD	B — Length	C — Thread
WFCE050	1/2"	1.5"	3"	.875"	WFCE050	1/2"	1.5"	3"	.875"
WFCE075	3/4"	1.5"	3"	.875"	WFCE075	3/4"	1.5"	3"	.875"
WFCE100	1" 1-	2"	3"	1.0"	WFCE100	1"	2"	3"	1.0"
WFCE125	1/4"	2.5"	3"	1.25"	WFCE125	1-1/4"	2.5"	3"	1.25"
WFCE150	1-1/2"	2.75"	3"	1.25"	WFCE150	1-1/2"	2.75"	3"	1.25"
WFCE200	2" 2-	3.25"	3"	1.25"	WFCE200	2"	3.25"	3"	1.25"
WFCE250	1/2"	3.75"	3.25"	1.25"	WFCE250	2-1/2"	3.75"	3.25"	1.25"
WFCE300	3"	4.5"	3.5"	1.5"	WFCE300	3"	4.5"	3.5"	1.5"
WFCE400	4"	5.5"	4"	1.875"	WFCE400	4"	5.5"	4"	1.875"
WFCE600	6"	8"	4"	1.875"	WFCE600	6"	8"	4"	1.875"

Half Couplings (COTS Stock)

Half couplings for side-entry tank and pipe connections. NPT threaded bore on one end, flat weld face on the other. Dimension A = OD, B = Overall Length, C = Thread Depth.



Half Coupling

Threaded bore one end,
weld face opposite end
A = Outside Diameter
B = Overall Length
C = Thread Depth
R = 0.250" TYP corner radius

Material: PE or PP

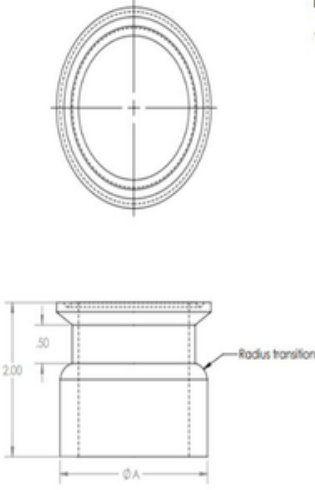
Polyethylene (PE)

Polypropylene (PP)

Part #	Size	A — OD	B — Length	C — Thread	Part #	Size	A — OD	B — Length	C — Thread
WHCE050	1/2"	1.5"	1.5"	.875"	WHCP050	1/2"	1.5"	1.5"	.875"
WHCE075	3/4"	1.5"	1.5"	.875"	WHCP075	3/4"	1.5"	1.5"	.875"
WHCE100	1"	2"	1.5"	1.0"	WHCP100	1"	2"	1.5"	1.0"
WHCE125	1-1/4"	2.5"	1.5"	1.25"	WHCP125	1-1/4"	2.5"	1.5"	1.25"
WHCE150	1-1/2"	2.75"	1.5"	1.25"	WHCP150	1-1/2"	2.75"	1.5"	1.25"
WHCE200	2"	3.25"	1.5"	1.25"	WHCP200	2"	3.25"	1.5"	1.25"
WHCE250	2-1/2"	3.75"	1.125"	1.25"	WHCP250	2-1/2"	3.75"	1.125"	1.25"
WHCE300	3"	4.5"	1.75"	1.5"	WHCP300	3"	4.5"	1.75"	1.5"
WHCE400	4"	5.5"	2"	1.875"	WHCP400	4"	5.5"	2"	1.875"
WHCE600	6"	8"	2"	1.875"	WHCP600	6"	8"	2"	1.875"

Tri-Clamp Ferrule Couplings — Welded (COTS Stock)

Welded tri-clamp (sanitary) ferrule couplings per ASME BPE-2014. Flat weld face for welding to tanks or piping. Dimension A = ferrule OD. All PE ferrules include a visible radius transition as per ASME BPE.




NOTE:
1-ALL POLYETHYLENE TRI-CLAMP FERRULES WILL HAVE A VISIBLE RADIUS TRANSITION AS INDICATED
Refer to ASME BPE-2014, Table DT-7-1 for Standard Dimensions and Tolerances

Tri-Clamp Ferrule

Weld face one end, tri-clamp face opposite A = Ferrule OD
Per ASME BPE-2014, Table DT-7-1

Material: PE or PP (HDPE)



Polyethylene (PE)				Polypropylene (PP)			
Part #	TC Size	A — OD	Radius	Part #	TC Size	A — OD	Radius
WTCE050	1/2"	0.75"	.125"	WTCP050	1/2"	0.75"	.125"
WTCE075	3/4"	1.0"	.125"	WTCP075	3/4"	1.0"	.125"
WTCE100	1"	1.5"	.250"	WTCP100	1"	1.5"	.250"
WTCE150	1-1/2"	2.0"	.250"	WTCP150	1-1/2"	2.0"	.250"
WTCE200	2"	2.5"	.250"	WTCP200	2"	2.5"	.250"
WTCE250	2-1/2"	3.0"	.250"	WTCP250	2-1/2"	3.0"	.250"
WTCE300	3"	3.5"	.250"	WTCP300	3"	3.5"	.250"
WTCE400	4"	4.5"	.250"	WTCP400	4"	4.5"	.250"
WTCE600	6"	6.5"	.250"	WTCP600	6"	6.5"	.250"

To Order or Request Pricing: Contact us with the part number and quantity. Custom sizes and materials available on request — lead times vary.