

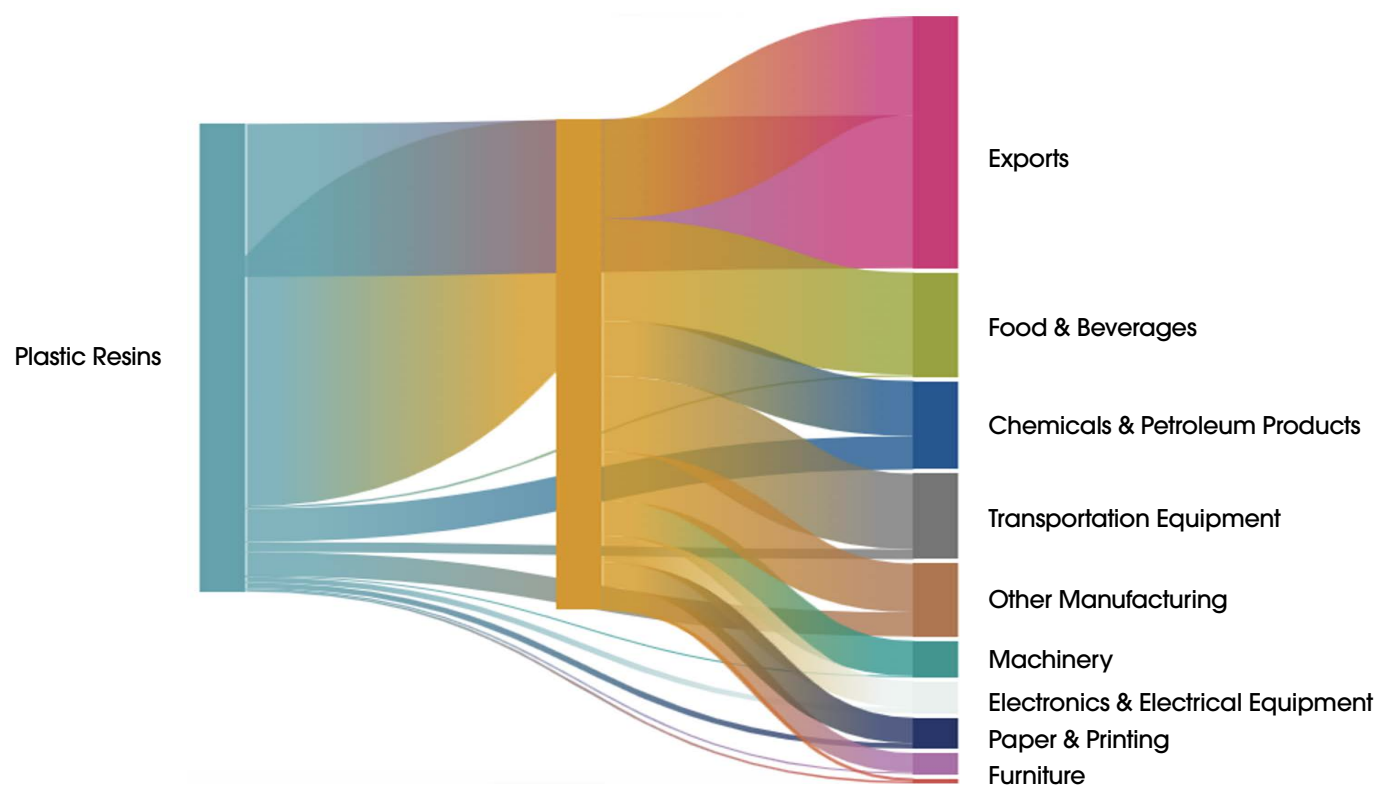


PLASTICS IN **AMERICAN MANUFACTURING**

Plastics manufacturing is among the largest U.S. manufacturing industries with nearly **670,000 employees** and **\$48.6 billion in payrolls**.

American manufacturing¹ depends on plastics. From medical instruments and appliances to furniture, batteries and motor vehicles, plastics are a vital component of many manufacturing supply chains. Plastics are used to make components that are part of the final product and in processing and packaging of finished goods. In fact, nearly **27% of U.S. manufacturing output is in industries reliant on plastics**². Those industries employed 4.8 million people (38% of the manufacturing workforce) and paid **\$391.2 billion in wages** used to support household spending in local communities.

The chart below shows how plastics flow through the U.S. economy.



¹ Plastics manufacturing includes NAICS 325211 (plastics materials and resin manufacturing), NAICS 325991 (plastics compounding), and NAICS 3261 (plastic products manufacturing).

² Manufacturing industries where plastics account for 5% or more of materials (from the agriculture, mining, construction and manufacturing sectors) inputs are considered to be highly reliant on plastics. Nearly all manufacturing industries rely on plastics in some form or another.

Plastics Used in Manufacturing

Plastics have a number of advantages over other materials, including durability, versatility, lightweight, and cost-effectiveness. **Below are some examples of how plastics are used in manufacturing of other goods**, either as components in the finished good, or used in processing.

DURABLE GOODS	
Wood Products	Binders for engineered wood products & composites; laminates; panels and components in manufactured housing
Nonmetallic Mineral Products	Plastic components in glass containers (lids, labels, etc.); binders for fiberglass insulation; casts for glass shapes and for concrete forms
Fabricated Metal Products	Plastic components in metal plumbing fixtures; handles for tools & cutlery; ammunition casings
Machinery	Equipment housing, gears, rods, rollers, insulation, handles, switches, etc.
Computers & Electronics	Outer casing, electrical connectors, wire insulation, PCB laminates, molded components, etc.
Motor Vehicles	Electrical components & wiring, panels & fascia, interior trim, foam seating & insulation and bumper assemblies, fuel tanks, battery cases & separators.
Aircraft	Fuselage parts, wing components, foam seating & insulation, interior panels, tray tables, instrument housing, etc.
Boats & Ships	Hulls, interior panels, instrument housing, paddles
Furniture	Mechanical components (levers, wheels, etc.), foam for upholstered furniture, laminates, molded outdoor furniture
Miscellaneous Manufacturing	Components for medical equipment; foam hospital beds; certain implantable medical devices; disposable medical equipment; dental appliances
NONDURABLE GOODS	
Food & Beverages	Packaging, components used in industrial food handling equipment
Textiles & Leather Products	Buttons; zippers; product labels; water resistant fabric coatings, shoe components, luggage casings & components
Paper	Covers for diapers and other sanitary products; envelope windows
Printing	Banners & flags; customizable plastic items; components used in printing equipment
Chemicals	Coatings; adhesives; printing inks; packaging for personal care & cleaning products; manufactured fibers; synthetic rubber copolymers, etc.
Rubber Products	Plastic hoses; components in mechanical rubber products (seals, washers, caps, etc.)

Data and Methodology

An industry is considered to rely on plastics if plastics account for 5% or more of the intermediate inputs used for that industry. The analysis was conducted using the [2017 Benchmark Use of Commodities by Industry Table](#) from the Bureau of Economic Analysis. In this analysis, plastics commodities include NAICS 325211 (plastic resins and materials) and NAICS 3261 (plastics products). Data on NAICS 325991 (custom compounding of purchased resins) was not separately broken out, so it is not included.

Appendix

Detailed list of manufacturing industries for which use of plastics accounts for 5% or more of material (agriculture, mining, construction, and manufacturing) inputs.

DURABLE MANUFACTURING

Wood Products

321200	Veneer, plywood, and engineered wood product manufacturing	6.7%
3219A0	All other wood product manufacturing	8.0%

Fabricated Metal Products

332200	Cutlery and handtool manufacturing	11.0%
332913	Plumbing fixture fitting and trim manufacturing	10.6%
33299A	Ammunition, arms, ordnance, and accessories manufacturing	5.2%

Machinery

33331	Commercial and service industry machinery	11.7%
333415	Air conditioning, refrigeration, and warm air heating equipment manufacturing	6.6%
333511	Industrial mold manufacturing	10.1%
333618	Other engine equipment manufacturing	9.2%
333912	Air and gas compressor manufacturing	6.0%
333914	Measuring, dispensing, and other pumping equipment manufacturing	14.9%
333991	Power-driven handtool manufacturing	13.4%

Computers & Electronics

334118	Computer terminals and other computer peripheral equipment manufacturing	5.0%
334290	Other communications equipment manufacturing	5.1%
334510	Electromedical and electrotherapeutic apparatus manufacturing	17.3%
334516	Analytical laboratory instrument manufacturing	6.8%
334610	Manufacturing and reproducing magnetic and optical media	52.0%
33441A	Other electronic component manufacturing	6.0%
33451A	Watch, clock, and other measuring and controlling device manufacturing	8.5%

Electrical Equipment

335120	Lighting fixture manufacturing	6.4%
3352	Appliances	14.8%
33591	Battery manufacturing	9.6%
335920	Communication and energy wire and cable manufacturing	8.8%
335930	Wiring device manufacturing	8.8%

Appendix Continued

DURABLE MANUFACTURING

Transportation Equipment

336320	Motor vehicle electrical and electronic equipment manufacturing	9.3%
336360	Motor vehicle seating and interior trim manufacturing	11.5%
336370	Motor vehicle metal stamping	6.3%
336390	Other motor vehicle parts manufacturing	8.4%
336413	Other aircraft parts and auxiliary equipment manufacturing	5.9%
336611	Ship building and repairing	5.7%
336612	Boat building	6.7%

Furniture

337	Furniture and related products	12.6%
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Miscellaneous Manufacturing

3391	Medical equipment and supplies manufacturing	19.4%
339920	Sporting and athletic goods manufacturing	8.5%
339930	Doll, toy, and game manufacturing	21.3%
339940	Office supplies (except paper) manufacturing	15.9%
339950	Sign manufacturing	27.8%
339990	All other miscellaneous manufacturing	10.8%

NONDURABLE MANUFACTURING

Food & Beverages

311910	Snack food manufacturing	13.3%
311920	Coffee and tea manufacturing	37.5%
311940	Seasoning and dressing manufacturing	28.4%
311990	All other food manufacturing	5.4%
312110	Soft drink and ice manufacturing	18.8%
31151A	Fluid milk and butter manufacturing	5.4%

Textiles & Leather Products

313200	Fabric mills	13.8%
313300	Textile and fabric finishing and fabric coating mills	7.8%
314900	Other textile product mills	7.5%
316000	Leather and allied product manufacturing	5.7%

Paper

322220	Paper bag and coated and treated paper manufacturing	16.3%
322230	Stationery product manufacturing	7.1%
322291	Sanitary paper product manufacturing	18.7%

Appendix Continued

NONDURABLE MANUFACTURING

Printing

323110	Printing	8.8%
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Chemicals

325510	Paint and coating manufacturing	26.3%
325520	Adhesive manufacturing	20.0%
325610	Soap and cleaning compound manufacturing	11.5%
325620	Toilet preparation manufacturing	25.9%
325910	Printing ink manufacturing	13.0%
3252A0	Synthetic rubber and artificial and synthetic fibers and filaments manufacturing	28.0%
3259A0	All other chemical product and preparation manufacturing	17.7%

Rubber Products

326220	Rubber and plastics hoses and belting manufacturing	6.6%
326290	Other rubber product manufacturing	7.2%

Nonmetallic Mineral Products

327200	Glass and glass product manufacturing	19.4%
327390	Other concrete product manufacturing	7.6%
327993	Mineral wool manufacturing	5.7%