

# THE RODON GROUP<sup>®</sup>



***YOUR HIGH VOLUME,  
SMALL PLASTIC PARTS  
SPECIALIST***



800-523-8792  
[www.rodongroup.com](http://www.rodongroup.com)



# ABOUT RODON

The Rodon Group is an ISO 9001:2008 certified, high volume plastic injection molder. In business since 1956, we make billions of parts each year in our 125,000 square foot facility. We offer a turnkey manufacturing solution including mold design, mold building and high volume parts manufacturing. Our globally competitive prices eliminate the risks of sourcing offshore.

In 1956, Mr. Irving Glickman saw the potential of thermoplastics and founded The Rodon Group. Today, Rodon is one of the largest family-owned and operated injection molders in the United States serving a diverse group of industries including consumer products, windows and doors, medical, construction, pharmaceutical and toys. The company has grown from a modest four press operation to over 105 molding machines with robotic capabilities.



We invest in emerging technologies such as computer aided part and mold design, state-of-the-art quality control and advanced robotics. The Rodon Group's philosophy is simple. We offer clients the best quality, service and value available. Our 99.8% level of accepted parts quality rating proves our philosophy spells success. The company's growth accelerated in 1992 when Irving's son, Joel Glickman, invented the popular construction toy system known as K'NEX. The Rodon Group, a subsidiary of K'NEX Brands, L.P., has manufactured over 32 billion parts for K'NEX.

K'NEX is the only construction toy company committed to manufacturing in the United States. K'NEX and Rodon are proud to be family owned and operated. K'NEX Brands, the world's most innovative construction toy company, was established to make and sell what has become one of the world's leading integrated construction systems for children and is America's STEM building solution. "Community is one of our core values, so as a company, we are proud to invest in American workers who demonstrate unparalleled commitment to innovation and some of the greatest working spirit in the industrial world," said Michael Araten, President and CEO of K'NEX and The Rodon Group.

Over the years, our U.S. manufacturing capabilities have been nationally recognized. In November of 2012, The Rodon Group had the honor of welcoming President Obama to our facility. In addition, our American manufacturing initiatives have been featured by such media organizations as The Wall Street Journal, The Associated Press, The Philadelphia Inquirer, FOX Business News, CNBC, ThomasNet News, Plastics News, Industry Week and MoldMaking Technology.





# AMERICAN MADE AND BUILDING A LEGACY

Rodon has been on the forefront of American manufacturing, offering a “Cheaper than China” pricing policy and reshoring billions of manufactured parts back to the United States.

We are active members of the organization American Made Matters and the Made in America Movement, whose missions are to educate consumers about buying U.S.-made products to help strengthen the American Dream. We are a third generation family business located in Hatfield, PA and are proud to be a part of the local community supporting American manufacturing.

“At K’NEX and Rodon, we’ve learned that manufacturing in America can actually be more cost effective than manufacturing overseas,” said Michael Araten, President and CEO of both K’NEX Brands and The Rodon Group. “We are thrilled to make this quality, cost effective domestic manufacturing available to other businesses looking to eliminate the risks of offshore sourcing.”



## ADVANCED MANUFACTURING

At The Rodon Group, we have been investing in robotics and manufacturing automation for over a decade. We installed our first manufacturing robot in 2004 and have been investing in new technology ever since. In fact, we were one of the first manufacturers to utilize Baxter, an adaptive manufacturing robot from Rethink Robotics. Our state-of-the-art operation helps guarantee your parts arrive when and where you need them and at a competitive price.

Each press is microprocessor-controlled and self-diagnostic, with capacities from fractional to 43 ounces, and clamping force from 46 to 400 tons. We have experience with over 800 polymer compounds in products that span the medical, food and construction industries.

Quality control checks of product tolerances, color and physical appearance are made at every step of the manufacturing process. We utilize KEYENCE Vision Inspection systems and Mitutoyo QuickVision systems to inspect parts and maintain our high quality control standards.



## AUTOMATED TURNKEY SOLUTIONS

We can help you save time and money through our injection molding automation. Our “Cheaper than China” pricing is due in large part to our investment in a series of fully automated, robotic machines which run on a 24-hour production schedule. Instead of labor intensive hand-packing, our machines do that work around the clock.

We pride ourselves on providing Just-in-Time manufacturing to suit the fulfillment demands of each client. Quality control checks are performed as components are sorted, weighed and sealed for

stock or shipment. In keeping with our commitment to automation and conservation, our servo robots provide custom stacking and packing to minimize cartons and freight charges.

Our dedicated staff of professionals oversees the entire manufacturing process from start to finish, guaranteeing your project is done on time and with the highest quality available in the market today. This commitment to quality has made us the choice of a variety of businesses including consumer products, window & doors, construction, pharmaceutical, toys and food & beverage.

# CUSTOM, HIGH VOLUME INJECTION MOLDING

When businesses have a need for high volume, intricate parts, they turn to plastic injection molding. This process provides a high level of production while minimizing the cost per unit. The Rodon Group, an ISO 9001-2008 certified manufacturer, has earned a reputation for being one of the best in the industry.

With decades of experience in building precision molds, we have the skills required to meet the most exacting standards. We are world renowned for producing injection molded plastic components of the very highest quality and precision at **highly competitive prices**. You can be sure of excellence in all stages of design, tooling and manufacturing.

Our turnkey approach to manufacturing insures you get the quality, price and delivery required without the problems of dealing with off-shore suppliers. We work with each individual client and use the best material available for each application. We will design and build your mold and monitor your quality specifications throughout the manufacturing process. Rodon will stock and monitor pre-determined quantities of your products to ensure Just-in-Time delivery of your plastic injection molded components. Let us help you with your next custom project. We'll turn your ideas into achievements.



## FACILITY

Automation abounds at Rodon, from our 3D computerized design capabilities and automated tool fabrication processes to our computerized and automated plastic injection molding machines and robots. The entire Rodon facility is set up to produce the highest quality, most economical plastic injection molded components in the industry.

Our presses are managed by an expert staff that continuously evaluates the condition of equipment to ensure optimal performance. Every machine is equipped with a robot, either a robotic picker or a full-blown servo-robot. Parts are counted and boxed as they are made and automated conveyors index the box out of the way and install an empty box in its place.

Baxter, our first adaptive manufacturing robot assists with completing repetitive production tasks and complements our highly automated facility. Each press is microprocessor-controlled and self-diagnostic, with capacities from fractional to 43 ounces, and clamping force from 46 to 400 tons.

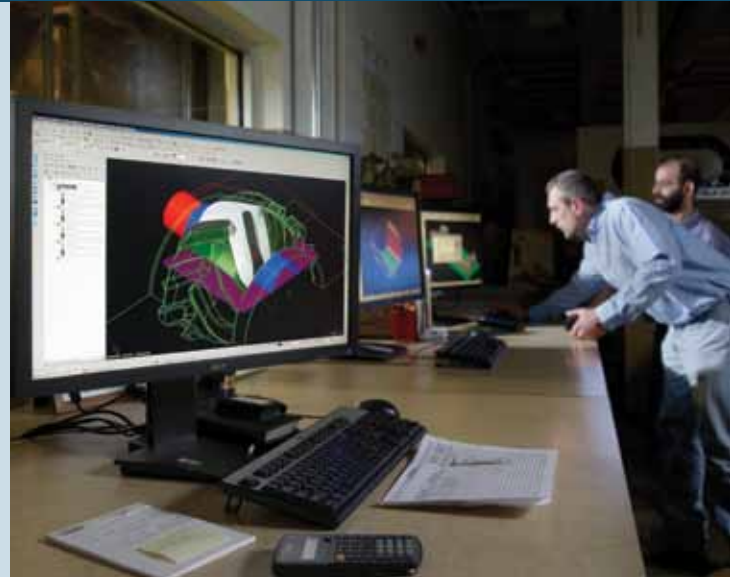




# DESIGN

With an experienced staff of designers equipped with state-of-the-art software, Rodon will accurately and promptly move your project through concept and design and into the tooling and production phase. We use AutoCAD® networks, CNC-EDM and CNC Machining Centers to meet your “if only we could” goals, as well as your needs for pre-designed components of consistent quality and cost. The design team has an average of 20 years of experience in building and designing tools that optimize the manufacturing process. Our turnaround time on new project concepts and designs are second to none in the industry. Our designers work directly with our tool makers to build tools that maximize part quality.

- Print to prototype
- Use of AutoCAD, Solidworks and other state-of-the-art design software for optimal mold and part design
- Complimentary tool design time
- Challenging part and mold features are effectively addressed using Rodon’s experience in mold design and fabrication, honed over 50 plus years
- Turnaround time on new project concepts and design is focused on speed and includes as much tool design time as your project requires, at no cost to you



# TOOLING

Rodon fabricates the best tooling in the industry and our tool warranty reinforces our claim. As long as Rodon is running a tool that we have built, there will NEVER be any repair or maintenance charges. CNC machining centers, CNC EDM and a highly technical staff ensure quality and precision from concept to completion.

- High tolerance & volume capability
- From automated CNC EDM and CNC machining centers, to details performed by tool makers with an average of 22 years of experience, your mold is fabricated to exact tolerances
- Our tooling is always made with stainless steel mold bases and cavities to ensure all your parts are up to your specifications
- We offer tool financing programs for qualified customers
- The Rodon mold guarantee is your key to precise and low cost components. Our tooling is designed and built for high volume, high tolerance production for the life of your project

# MANUFACTURING AND QUALITY

Our plant has over 105 presses with a range of 46-400 tons, fully automated and with a full production schedule (24 hours, 7 days a week) during most of the year to maximize efficiency. Quality control checks of product tolerances, color and physical appearance are made at every step of the manufacturing process. We serve a diverse group of over 50 industries and over 500 unique products including consumer products, window & door, medical, food & beverage, construction, pharmaceutical and toys.



## Quality in Precision Injection Molding

Flawless performance, exemplary products and competitive prices are all attributes our customers use to describe The Rodon Group. We challenge ourselves each day and have developed into one of the finest injection molders in the world. We invite you to challenge us and our capabilities.

## Efficiency

Every aspect of our office and production facility reflects our dedication to quality, precision and efficiency. From our computer-aided design department and CNC driven tool room to our highly automated manufacturing floor, we pride ourselves on our attention to detail.

## Skill

We are passionate about providing our customers with defect-free products at the best price possible. Trained plastic processing and QA technicians utilize verified procedures that guarantee our product quality 24/7. In addition to our established Metrology Lab standard inspection processes, Rodon is exceedingly proficient at providing real-time 100% part vision inspection during manufacture.

## Precision

Every Rodon injection mold is designed and manufactured in-house by skilled craftsman that optimize each phase of the mold making process. Our molds, produced from tool grade stainless steel, provide reliable economy and productivity. This results in a symphony of automated machinery running around the clock supplying our customers with exceptional quality products at cheaper-than-China prices.

## Consistency

From universal plugs and caps, to custom fasteners and gears, our dedication to precision and quality means that you can depend on parts that meet your exact specifications and cost requirements order after order, year after year. If one of our standard products or components doesn't meet your requirements, just give us a call and chances are we can produce the variation you need at minimal or no additional cost.

## ISO 9001:2008 Certified

Rodon is proud to manufacture our products under an ISO 9001:2008 certified quality management system. Our Quality Management System is registered and certified by the internationally recognized British Standards Institution (BSI).





# SUSTAINABLE MANUFACTURING

The Rodon Group is committed to environmental sustainability. The company's green initiatives make it a leader in the plastics industry. Our manufacturing process minimizes packaging, transportation costs, waste, water consumption and energy.



ENERGY  
CURTAILMENT  
SPECIALISTS, INC.

## Conserving Landfills

All scrap is reused and recycled. Rodon is one of the first molding facilities in its area to have been designated as a "Landfill Free Facility" by the Sustainable Waste Solutions, LLC. SWS provides a landfill-free alternative for recycling, waste transportation, and disposal to companies of all sizes and across a broad range of industries throughout Southeastern Pennsylvania, Lehigh Valley and Delaware. Using an advanced energy-from-waste resource recovery facility, they generate enough electricity from waste to power tens of thousands of homes per day in Southeastern Pennsylvania.

## Conserving Cardboard

We conserve 150 tons of cardboard per year, enough to fill 3000 cubic yards of landfill space or 3 football fields about a foot deep! Using servo robots to incrementally stack parts, we reduce part distortion while tripling or quadrupling the number of parts packed into the same size carton. Rodon's customers are offered a returnable and reusable packaging program to further reduce cardboard use.



## Conserving Energy

As a member of Energy Curtailment Specialists, Inc. (ECS), the largest private demand response provider in North America, Rodon curtails their energy usage during peak periods of demand, typically in the summer on extreme heat days when energy usage is at its highest. We joined the program to help maintain available electricity for the surrounding community, and to help with the prevention of blackouts.

Installation of plant wide, motion sensor activated, high efficiency lighting saves on energy costs. Recently, Rodon was recognized by PPL Electric Utilities Corporation for the energy efficient measures we have taken over the years and was recognized by the E-power Energy-Smart Business Honor Roll.

## Non-toxic Materials

The Rodon Group uses only non-toxic colorants and resins. Rodon also runs FDA-regulated products, uses resin sources certified by FDA, RoHS, REACH, and NSF. All lubricants and cleaners used in processing are non-toxic and no hazardous chemicals are used in the plant.





# CUSTOM PARTS

## Custom Components to Meet Your Precise Requirements

Here is just a sampling of custom parts we manufacture for customers around the world. In most instances, our clients choose us because of our reputation for precision, quality and advantageous pricing in the manufacture of pre-designed parts.

We help our customers realize their design goals, come in ahead of schedule, on budget and at a level of precision and quality unequalled anywhere in the world.



Tubes & Vials



Rods, Links & Bearings



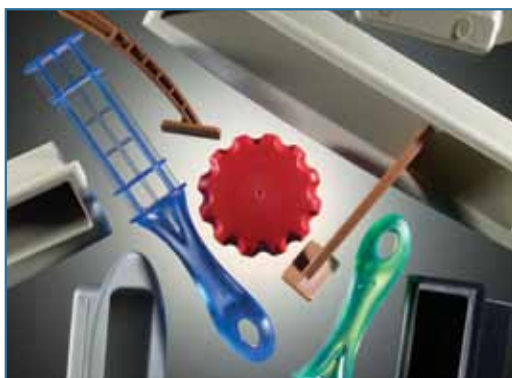
Point of Purchase Display Products



File Cabinet & Furniture Hardware



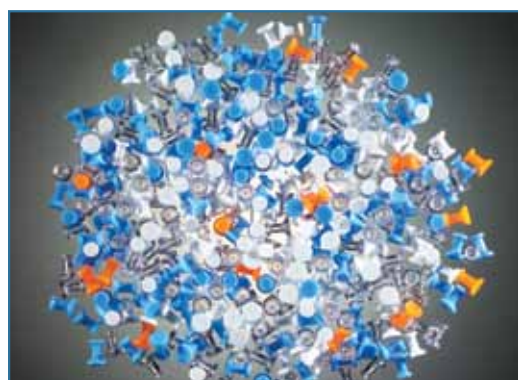
Specialty Hand Tools



Custom Handles & Knobs



Drive Assembly Components



Push Pin Heads



Pharmaceutical & Medical Products



Bed Frame Hardware



# CUSTOM PARTS



Sign Holders & Frames



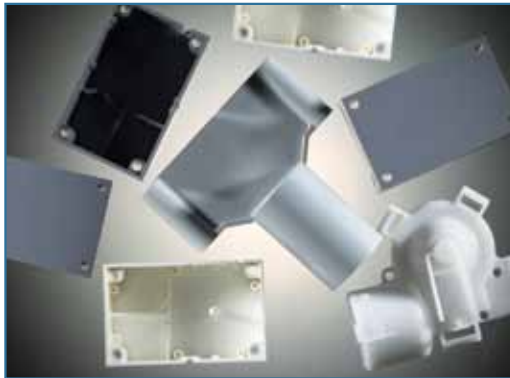
Window & Screen Hardware



Custom Caps & Plugs



Toy Components



Motor & Drive Housings



Shower & Bath Products



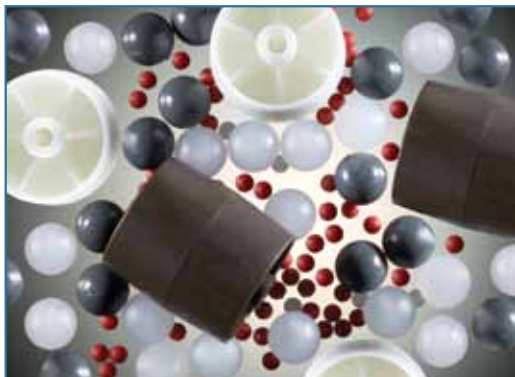
Tube Connectors & Brackets



Food & Beverage Components and Assemblies



Eyeglass Cases & Clips



Wheels & Bearings



Standard Caps, Plugs, Hose washers & Fasteners



Custom Fasteners



# STANDARD PARTS

Our standard caps, plugs, fasteners and spacers deliver consistent quality year after year. If our standard doesn't meet your exact specifications, just give us a call. Chances are we can produce the variation you need.

Our line of Universal Plugs is designed to maximize manufacturing efficiency by speeding production and lowering inventory costs. Its unique annular fin design provides a positive fit for a wide range of tubing wall thicknesses with a single component. Within its 14-23 gauge range, the Universal Plug greatly reduces the number of plug I.D.'s needed in inventory. One plug per tube O.D. does the job, often with improved fit. Round, square or rectangular, Universal Plugs can make a substantial difference in efficiency and production costs.

Standard plugs include a wide range of plastic plugs, flat head plugs, rectangular plugs, square plugs, forked plugs, ball plugs, specialty plugs, split stem & stem bumpers, beveled edge hole plugs and flat top hole plugs. In-house design services for specific custom plastic plugs are available. To see for yourself, contact us for samples today.



## Ball Head Universal

Part No.	Tube O.D.
C16U21	1/2"
C20U21	5/8"
C24U21	3/4"
C28U21	7/8"
C31U21	31/32"
C32U21	1"
C36U21	1 1/8"
C40U21	1 1/4"
C48U21	1 1/2"
C56U12	1 3/4"
C64U12	2"



## Square Universal

Part No.	Tube O.D.
T16U2	1/2"
T20U2	5/8"
T24U2	3/4"
T28U2	7/8"
T32U2	1"
T40U2	1 1/4"
T48U2	1 1/2"
T64U2	2"
T80U2	2 1/2"
T96U2	3"



## Rectangular Universal

Part No.	Tube O.D.
P32U64	1 x 2"
P32U96	1 x 3"
P48U96	1 1/2 x 3"
P64U96	2 x 3"
P64U112	2 x 3 1/2"



## Flat Head Universal

Part No.	Tube O.D.
C16U2	1/2"
C20U2	5/8"
C24U2	3/4"
C28U2	7/8"
C32U2	1"
C36U2	1 1/8"
C40U2	1 1/4"
C48U2	1 1/2"
C56U2	1 3/4"
C64U2	2"

## Flat Head Plugs



Part No.	Tube O.D.	Fits Gauges
C162	1/2"	19-18
C202	5/8"	20
C20B2	5/8"	21
C242	3/4"	19-18
C24B2	3/4"	22
C282	7/8"	20
C28C2	7/8"	16
C312	31/32"	20-18
C322	1"	21-20
C32A2	1"	18
C32B2	1"	22
C32C2	1"	16
C36D2	1 1/8"	14
C403	1 1/4"	20-19
C40A2	1 1/4"	18
C40C3	1 1/4"	16
C40D2	1 1/4"	14
C442	1 3/8"	20
C44A2	1 3/8"	18
C48A2	1 1/2"	18
C48A2A	1 1/2"	15
C48D2	1 1/2"	14
C52C2	1 5/8"	16
C563	1 3/4"	20
C56C3N	1 3/4"	16
C58C2	1 13/16"	16
C64C3N	2"	16
C64D3	2"	14
C80F2	2 1/2"	15

## Square Plugs



Part No.	Tube O.D.	Fits Gauges
T24	3/4"	20-19
T26	13/16"	20
T28	7/8"	20
T32	1"	19-18
T32GM	1"	20
T32C	1"	16
T32C3N	1"	16
T32D	1"	14
T40C	1 1/4"	16-15
T40D	1 1/4"	15-14
T40E	1 1/4"	13-12
T48A2	1 1/2"	18
T48C3N	1"	16
T48E	1 1/2"	12
T56C2	1 3/4"	16-15
T64A	2"	19-18
T64C	2"	16
T64D	2"	15-14



## Ball Caps

Part No.	O.D.	Fits Over Tubing
AD16	1"	1/2
AD20	1"	5/8
AD24	1 1/4"	3/4
AD28	1 7/16"	7/8
AD32	1 7/16"	1
AD33	1 7/16"	1 1/32



## Rectangular Caps

Part No.	Fits Over Tubing
R3264	1 x 2"
R3296	1 X 3"
R6496	2 X 3"



## Forked Plugs\*

Part No.	Tube O.D.	Fits Gauges
FP242	3/4"	21-16
FP2421	3/4"	21-16
FP322	1"	20-16
FP3221	1"	20-16

\*Can be captured by screw or rivet



## Beveled Edge Hole Plugs

Part No.	Hole Size	Plug Diameter	Work Thickness
711	3/4"	1.04"	0.060"-0.080"
709	1"	1.40"	0.060"-0.100"



## Specialty Plugs

Inside-Outside  
AC-32 fits inside 1" and over edges  
16, 15, 14 gauges



## Flat Top Hole Plugs

Part No.	Hole Size	Plug Diameter	Work Thickness
710	3/4"	0.99"	0.10"-0.100"
708	1"	1.23"	0.10"-0.100"



## Rectangular Plugs

Part No.	Tube O.D.	Fits Gauges
P1648	1/2 x 1 1/2"	18
P2048	5/8 x 1 1/2"	20
P2064	5/8 x 2"	17
P32D48	1 x 1 1/2"	16-15-14
P3264	1 x 2"	21-20
P32A64	1 x 2"	18-17
P32C64	1 x 2"	16
P3280	1 x 2 1/2"	15
P40A80	1 1/4 x 2 1/2"	20-19-18



# STANDARD PARTS



## Tubing Caps

Part No.	Fits Over Tubing
AG10	5/16"
AG12	3/8"
AG14	7/16"
AG16	1/2"
AG20	5/8"
AG24	3/4"
AG28	7/8"
AG30	15/16"
AG31	31/32"
AG32	1"
AG36	1 1/8"
AG40	1 1/4"
AG48	1 1/2"
AG52	1 5/8"
AG56	1 3/4"
AG64	2"



## Caster Sockets for Beds

Part No.	Fits Over Tubing	Stud Length
CS2410	3/4" Round	5/16"
CS2610	13/16" Round	5/16"
CSS3212	1" Square	3/8"



## Concrete Form End Tips

Part No.	Fits Over Wire
1300	0.306
1301	0.283
1302	0.262
1304	0.225
1305	0.207
1306	0.192
1307	0.177



## Vinyl Garden Hose Washer

HW-1  
Fits standard 1" garden hose coupling; has tabs to help ensure positive sealing.



## Clips for Eyeglass Case

Clip replaces metal and fabric subassembly; gets heat sealed to vinyl case.



## Reducing Silencers

Part No.	Fits Over Tubing	Hole Size
AGL2875	7/8"	3/4"
AGL3251	1"	1/2"
AGL3285	1"	7/8"
AGL36100	1 1/8"	1"



## Standard Snap-Tie Cones\*

Sizing  
3/4" x 1 1/2"  
1" x 1"  
1" x 1 1/2"  
1 1/4" x 1 1/2"

\*Special cones possible. Please advise sizing requirements.



## Vinyl O-Rings

327 O-Rings  
1" O.D. May be preferred in place of HW-1, in specific applications.



## Stem Bumpers\*

Part No.	Tube O.D.	Head Thickness
2013	1/4"	3/16
2015	1/4"	5/16
2025	5/16"	11/32

\*Used on stacking chairs



## Square Caps

Part No.	Fits Over Tubing
S16	1/2"
S20	5/8"
S24	3/4"
S32	1"
S40	1 1/4"
S48	1 1/2"



## Angle Iron Caps

Part No.	Leg1/Leg2
L4040	1 1/4" x 1 1/4"
L4848	1 1/2" x 1 1/2"
LB3232	1" x 1" with web
LB4848	1 1/2" x 1 1/2" with web



## Removable Fasteners

CF 8-20 fits hole size 1/4", work thickness 1/4". Used where occasional removal may be required.



## Heavy Caps\*

Part No.	Fits Over Tubing
AH20	5/8"
AH24	3/4"
AH28	7/8"
AH31	31/32"
AH32	1"
AH40	1 1/4"
AH48	1 1/2"

\*Extra length, extra heavy duty, premium wall thickness. 1" height.



## Wire Tips

Part No.	Fits Over Wire
AW6	3/16"
AW8	1/4"



## Split Stem Bumpers\*

Part No.	Tube O.D.	Head Thickness
243SSB	1/4"	1/4
245SSB	1/4"	1/16

\*Used on stacking chairs



## Finned Fasteners\*

Part No.	Hole Size	Shaft	Head Diameter	Work Thickness
PF816	1/4"	1/2"	11/16"	0.180-0.220
PF820	1/4"	5/8"	11/16"	0.180-0.380
PF824	1/4"	3/4"	11/16"	0.180-0.570
PF828	1/4"	7/8"	11/16"	0.180-0.700
PF832	1/4"	1"	11/16"	0.180-0.820
PF840	1/4"	1 1/4"	11/16"	0.180-1.070
PF848	1/4"	1 1/2"	11/16"	0.180-1.320
PF856	1/4"	1 3/4"	11/16"	0.180-1.570
PF624	3/16"	3/4"	0.6"	0.07-0.53

\*These are used for one-time application, and are purposefully difficult to remove



## Push Fastener

Part No.	Hole Size	Shaft	Head Diameter	Work Thickness
PF620	3/16"	5/8"	13/32"	0.228
PF631	3/16"	5/8"	27/64"	0.325
PF811	1/4"	11/16"	1/2"	0.187



## Two Piece Removable Rivet

Part No.	Hole Size	Grip Range	Description
802	n/a	n/a	Male Part
803	1/4"	0.50"-0.050"	Female Part



## Heavy Vinyl Tips

Part No.	Fits Over Tubing
VT20	5/8"
VT24	3/4"



## Concrete Form Bullet Caps

Part No.	Fits Over Wire
3002	0.262
3004	0.225
3006	0.192



## Bushings for Telescoped Tubing

Part No. 145

You must fully evaluate product suitability and durability for your specific application under extreme actual field use conditions; Rodon LLC assumes no responsibility for end use applications, and no performance warranty is expressed or implied. See full product disclaimer at [www.rodongroup.com](http://www.rodongroup.com).



# THE RODON GROUP...

## A LEADER IN AMERICAN QUALITY AND INNOVATION

The Rodon Group's dedication to precision and quality ensures you can depend on parts that meet your exact specifications and cost requirements order after order, year after year. We offer high volume purchase agreements on most commodity and engineering resins and provide Just-in-Time shipment through our inventory control system.

### We're High-Volume Experts

The Rodon Group provides a turnkey solution for businesses with high volume needs. From mold building to manufacturing, we specialize in producing large quantities of plastic parts for industry leaders throughout the U.S. and Canada.

### Our Facility is Fully Automated

Our investment in technology allows us to meet large quantity requests on time, every time. Our 125,000 square foot, landfill-free facility houses over 105 plastic injection molding presses, running 24/7 in a quality controlled environment. Our state-of-the-art operation helps guarantee your parts arrive when and where you need them.

### American Manufacturing at its Best

The Rodon Group is a proud American manufacturer dedicated to producing precise, high quality plastic parts. We have manufactured over 32 billion parts for our sister company K'NEX, the world's most innovative construction toy company and America's STEM building solution. As one of the largest, family owned plastic injection molders in the United States, we comply with all U.S. product safety standards. Our quality control systems utilize the latest technology and we mold FDA compliant resins.



### We're Easy to Find

Along with our website, [www.rodongroup.com](http://www.rodongroup.com) and our blog, [info.rodongroup.com/blog](http://info.rodongroup.com/blog), you can also follow us on social media.



# THE RODON GROUP®

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