

company overview

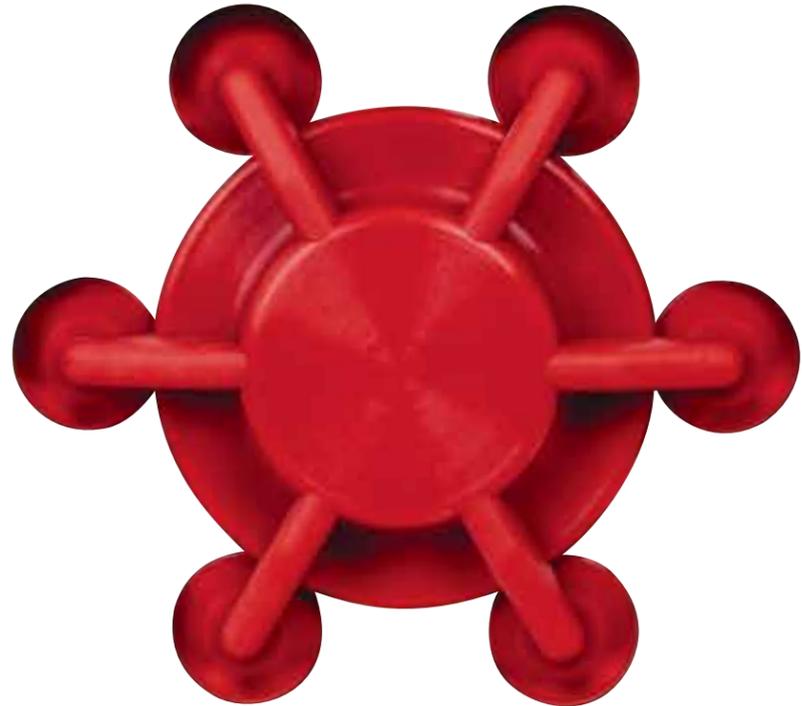
For more than 65 years, Caplugs has been the leader in product protection with innovative parts that solve industrywide challenges. Comprehensive manufacturing capabilities, processes and a wide range of materials allow us to meet your needs.

Over 400 million caps, plugs, packaging, tubing and masking products are always in-stock and ready to ship. While a dedicated team of in-house engineers is also available for complete custom designs. With a global manufacturing and sales presence and responsive customer service representatives, Caplugs brings solutions you can rely on.

shercon[®] masking product line

As the experts in precision masking solutions, we can offer the most comprehensive range of standard masking devices and in-house custom capabilities with the full Shercon masking line. Our broad range of parts securely protects your product during any finishing process including painting, powder coating, anodizing, plating and e-coating.

6,000+ masking parts in-stock and ready to ship



why caplugs?

As the industry leader, we are uniquely positioned to provide the best masking solutions. We don't just sell parts - we're here to ensure your needs are met with the **right part** that protects your product. Whether it's through one of our standard parts, or by working with you one-on-one to design a custom part, we are committed to **your unique product needs**.

Masking Solutions Made Easy

Most Comprehensive Products and Capabilities

- Most standard parts in-stock and ready to ship
- Broadest range of product styles and sizes
- Most extensive in-house custom capabilities
- Stringent quality management system to ensure the highest quality
- Proven supplier across all industries and applications
- THE industry experts

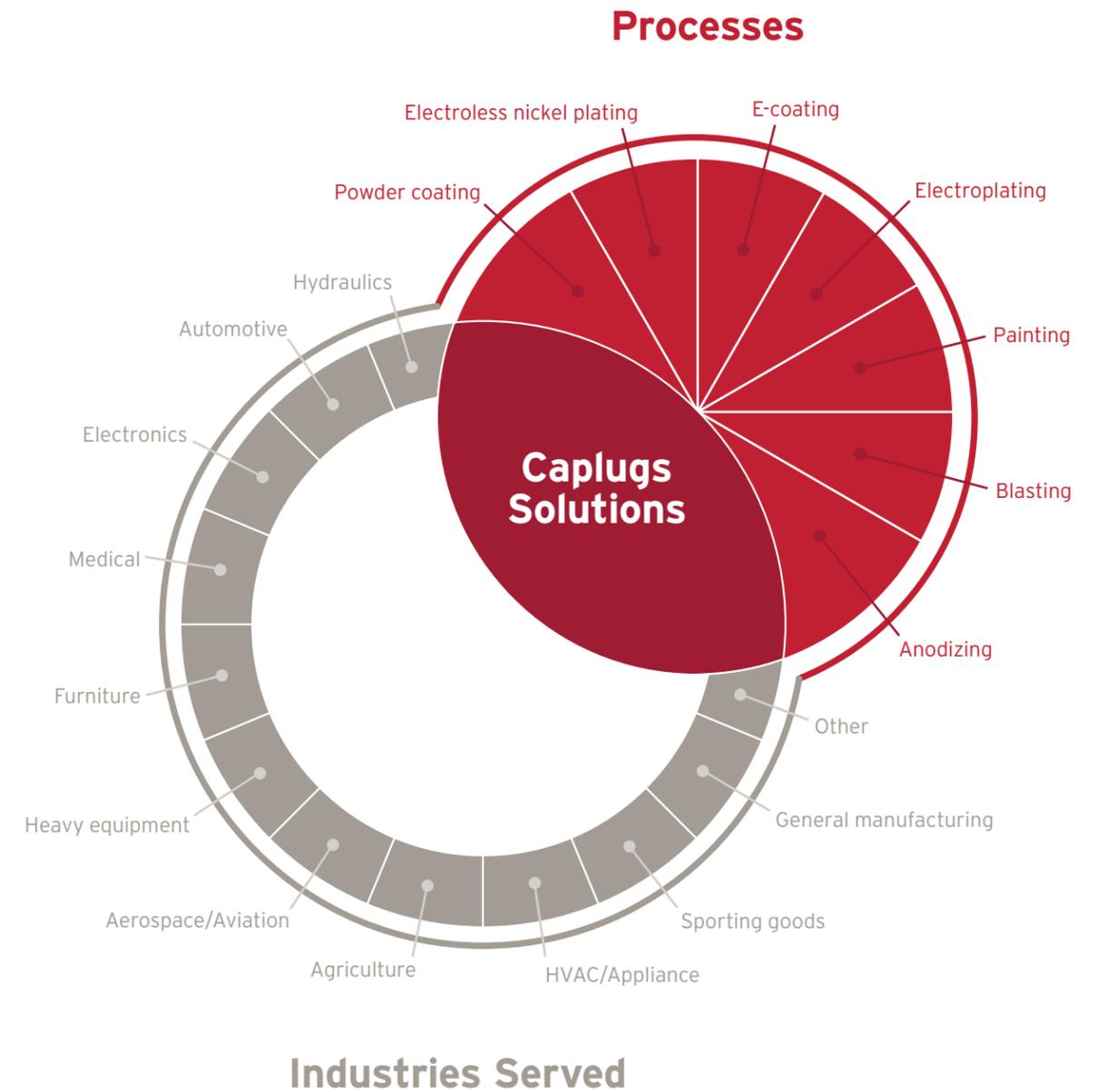


Unmatched Service and Support

- Responsiveness to match your fast-paced business needs
- Over 100 sales representatives and direct sales for local support
- 20+ customer service representatives
- Expert technical representatives
- Global coverage, localized service
- Comprehensive web site with free samples and easy ordering

experience and expertise

Caplugs has experience solving challenges across a wide range of industries and applications, including **masking solutions** used in harsh environments **during an array of finishing processes**.



quality certifications

Caplugs has a comprehensive **quality management** system and the latest technologies in testing and measurement equipment to provide consistent quality.

Critical processes are followed to ensure a **high level of accuracy, consistency, repeatability** and record retention is achieved.

Caplugs ensures a **superior** and **consistent** product is delivered with the documentation our customers need.

Caplugs comprehensive quality management system includes:

- Formal internal auditing process
- Six Sigma method
- FMEA
- Gage R & R
- Dimensional report
- Risk assessments
- Statistical process controls
- Measurement equipment:
 - CMM
 - Vision System
 - Beta LaserMike
 - CNC RAM Optical Instrumentation
 - Mark-10 Digital Force Fixture up to 50 lbs.



Quality Certifications

Caplugs' stringent quality management systems ensure the necessary process controls exist to provide our customers with consistent, quality products.

• Our quality systems in the New York and Pennsylvania facilities are certified to ISO 9001 & ISO/TS 16949

• Our quality systems in our California and Texas facilities are certified to ISO 9001

• Our quality systems in Shanghai and Hangzhou, China are certified to ISO 9001 & ISO/TS 16949

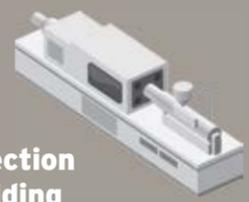
• Buffalo, NY ISO 13485 certification applies to all clean room medical products

• Our environmental systems in the New York, Pennsylvania and California facilities are certified to ISO 14001

ISO 9001
ISO/TS 16949
ISO 14001
ISO 13485
REGISTERED

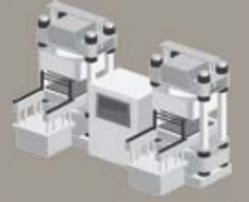
production capabilities

With our multiple production processes, we can provide a solution that best meets your needs. Caplugs boasts the largest inventory available, with over 15,000 standard parts and 6,000+ different, masking-specific parts in-stock and ready to ship.



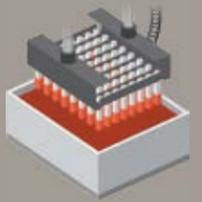
Injection Molding

- 9 to 700 ton presses
- Quick-change procedures
- Interchangeable molding system



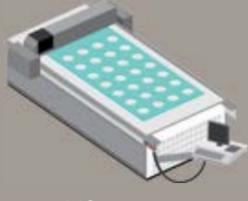
Compression Molding

- 100 to 1,200 ton presses
- Prototypes in 15 days
- Capable of rubber-to-metal bonding



Vinyl Dip-molding

- Variety of shapes, sizes and colors
- Inexpensive tooling with quick turnaround



Die-cutting

- Any shape and size
- Choose from a variety of materials
- Prototypes in 24 hours



Extrusion

- Tubing, netting, edge liners and other profiles
- Cut to desired length in-line or run in spools

Part Modification
We can also alter existing parts through secondary operation processes including pad printing, slicing, cutting or hole punching



Materials

Our team of knowledgeable design engineers will help you select the right materials from many available standard options to suit your particular application.

Compound mixing and development

- In-house chemists can mix materials to achieve desired performance characteristics
- Custom compounds are also available to meet specific requirements



A resilient, reusable silicone material recommended for temperatures up to 600°F (315°C)



An economical vinyl material ideal for one-time use recommended for temperatures up to 500°F (260°C)

Up to 600°F	Up to 350°F	Up to 190°F
600°F/315°C CSPP-SH, DFPP-SH, HFPP-SH, HUPH-SH, HUP-SH, HWP-SH, MDT-SH, MPP-SH-SP, MPP-SH, MSP-SH, MT-SH, PTM-SH, RMCP-SH, SC-SH, SFC, SFP-SH, SHPP-SH, SM-SH, SMT-SH, SPP-SH, SP-SH, SRC-SH, SRT-SH, ST-SH, SWP, TS, UC-SH, UDPP-SH, UFP-SH, UHCP-SH, UMFP-SH, UPH-SH, UP-SH, US-SH, UST-SH, UTM-SH, UVCP-SH, UVC-SH, UWM-SH, UWPP-SH, UWPP-SH, UW-SH, WC-SH, ZC-SH	350°F/177°C ETV, EZ, TP, VC, VFC, VTP	170°F/77°C AD-SH
500°F/260°C 22-SH, KP-SH	350°F/177°C BN-SH, EP58-SH, GN-SH	170°F/77°C EV-SH
500°F/260°C PC198-SH, GC-SH	300°F/149°C AIR-SH, KD11-SH, KD-SH	
500°F/260°C HCR, HETV, HEZ, HFC, HJS, HTP, HVC, HVTP	300°F/149°C RCK-SH, SCK-SH	
425°F/218°C PR-SH, PC11-SH	300°F/149°C AIR-SH, AF-SH	
400°F/204°C TF-SH	250°F/121°C FP-SH	
400°F/204°C PC21-SH, PC25-SH, PC30-SH, PC90-SH, PB-SH, PCD-SH, PC-SH	225°F/107°C LF-SH	
400°F/204°C PSC, PTC, PTP	212°F/100°C RMCP-SH	
	200°F/93°C EZ-SH	

The information in this chart depicts the intermittent temperature-resistance characteristics of the entire list of Caplugs materials. For complete service temperature information and other physical properties of Caplugs materials, consult the Material Data Chart on page 107. And, of course, take advantage of our free samples to test a part in your specific application before ordering.

For any special material requests, please contact customer service at 1.888.CAPLUGS for further information.

materials process matrix

CAPS & PLUGS	Cork	Neoprene	Vinyl	EPDM	Paper	Flex500®	Silicone	Key			
Price	\$	\$	\$	\$\$	\$	\$\$	\$\$\$	B	Best		
Temperature Limit °F	300	350	350	350	400	500	600	O	Optional		
Re-usability	High	High	High	Med	High	Low/NR	High	NR	Not Recommended		
Liquid Paint	B	B	B	B	B	O	O	NA	Not Available		
Powder Coating	NR	NR	NR	O	O	O	B				
E-Coating	NR	NR	NR	O	NR	O	B				
Plating	NR	B	B	B	NR	O	B				
Anodizing	NR	B	B	B	NR	O	B				
TAPES	Vinyl	Anodizing	Lead Foil	Aluminum	Crepe	Teflon®	Polyester	Polyimide	Silicone	Glass Cloth	
Price	\$\$	\$\$	\$\$\$	\$\$\$	\$	\$\$\$	\$\$	\$\$\$	\$\$\$	\$\$\$	
Temperature Limit °F	170	170	225	300	300	400	400	500	500	500	
Re-usability	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Liquid Paint	B	B	NR	NR	B	O	O	O	B	NR	
Powder Coating	NR	NR	NR	NR	NR	NR	B	O	B	O	
E-Coating	B	B	NR	NR	NR	NR	B	NR	B	O	
Plating	B	B	B	O	NR	B	B	NR	B	O	
Anodizing	B	B	B	O	NR	B	B	NR	B	O	

Properties*	Silicone Rubber	Vinyl		Flex500®**
		Standard	High-Temperature	
MECHANICAL CHARACTERISTICS				
Specific gravity (density)	1.18	1.2	1.2	1.35
Tensile strength, p.s.i.	200 - 1500	2300	2100	2000
Elongation, %	700	400	270	150
Compressive strength, p.s.i.	-	-	-	-
Tear strength (ASTM D1004)	200pli	185pli	270pli	270pli
Impact strength, ft. lb./in. of notch (1/2x1/2 in. notched bar, izod test)	-	-	-	-
Hardness, Rockwell	A25 - 80 (Shore)	A60 - 70 (Shore)	A80 - 90 (Shore)	15 Second A84-94 (Shore)
ELECTRICAL CHARACTERISTICS				
Volume resistivity, ohm/cm ³ (50% RH and 23°C)	-	-	-	-
Dielectric constant, 60 cyc.	-	-	-	-
Dissipation (power) factor, 60 cyc.	-	-	-	-
SERVICE TEMPERATURES				
Continuous °C/°F	232/450	93/200	149/250	149/300
Intermittent °C/°F	316/600	177/350	246/475	260/500
Brittleness °C/°F	-32/-29	-32/-26	-	-
RESISTANCE CHARACTERISTICS				
Water absorp., 24 hr, 1/8" thick, %	-	-	-	-
Burning rate (flammability), in./min.	Very Slow	Slow	Slow	Slow
Effect of sunlight	Very Resistant	Good Resistance	Good Resistance	Good Resistance
Effect of weak acids	Poor	Very Resistant	Very Resistant	Very Resistant
Effect of strong acids	Poor	Resistant	Resistant	Resistant
Effect of weak alkalies	Poor	Resistant	Resistant	Very Resistant
Effect of strong alkalies	Poor	Resistant	Resistant	Resistant
Effect of organic solvents	Moderate	Good Resistance to alcohols, aliphatic hydrocarbons and oils	Good Resistance to alcohols, aliphatic hydrocarbons and oils	Good Resistance
Machine qualities	Poor	Poor	Poor	Good
Clarity (Natural Material)	Clear to opaque	Clear to opaque	-	Opaque
Abrasion resistance	Low	Very Good	Very Good	Very Good

*Property specifications of Caplugs parts are subject to change without notification.

**Independent Third Party Testing supports our published claims of Flex500® successfully performing under intermittent service temperatures of over 500°F.

DIMENSIONAL TOLERANCES

Caplugs parts are designed in accord with functional dimensions and will perform to dimensions listed in this catalog. In view of the flexibility and stretch of most of the materials used in Caplugs parts, it is recommended that the following tolerances be used in checking purposes, especially by those unfamiliar with measuring this material.

Tolerances for inch dimensions given to three decimal places.

±.010" per each inch of length. Minimum is ±.010" where dimension is less than one inch.

Examples:

Tolerance for .750" dimension is ±.010"
Reason: Although .750" x ±.010" = ±.0075", ±.010" is the minimum.
 Tolerance for 1.000" is ±.010"
Reason: 1.000" x ±.010" = ±.010"
 Tolerance for 1.500" dimension is ±.015"
Reason: 1.500" x ±.010" = ±.015"

Tolerance for inch dimensions given to two decimal places.

±.020" per each inch of length. Minimum is ±.020" where dimension is less than one inch.

Examples:

Tolerance for .75" dimension is ±.020"
Reason: Although .75" dimension is ±.020" = ±.015" ±.020" is the minimum.
 Tolerance for 1.00" dimension is ±.020" = ±.020"
Reason: 1.00" x ±.020" = ±.020"
 Tolerance for 1.50" is ±.030"
Reason: 1.50" x ±.020" = ±.030"

Tolerance for metric dimensions given to two decimal places.

±.25mm per each 25.40mm of length (.01 mm per mm). Minimum is ±.25mm where dimension is less than 25.40mm.

Examples:

Tolerance for 19.00mm dimension is ±.25mm.
Reason: Although 19.00mm x ±.01 is ±.19mm, .25mm is the minimum.
 Tolerance for 25.40mm is ±.25mm = ±.010".
Reason: 25.40mm x ±.01mm = ±.25mm.
 Tolerance for 38.10mm is ±.38mm.
Reason: 38.10mm x ±.01mm = ±.38mm.

Tolerance for metric dimensions given to one decimal place.

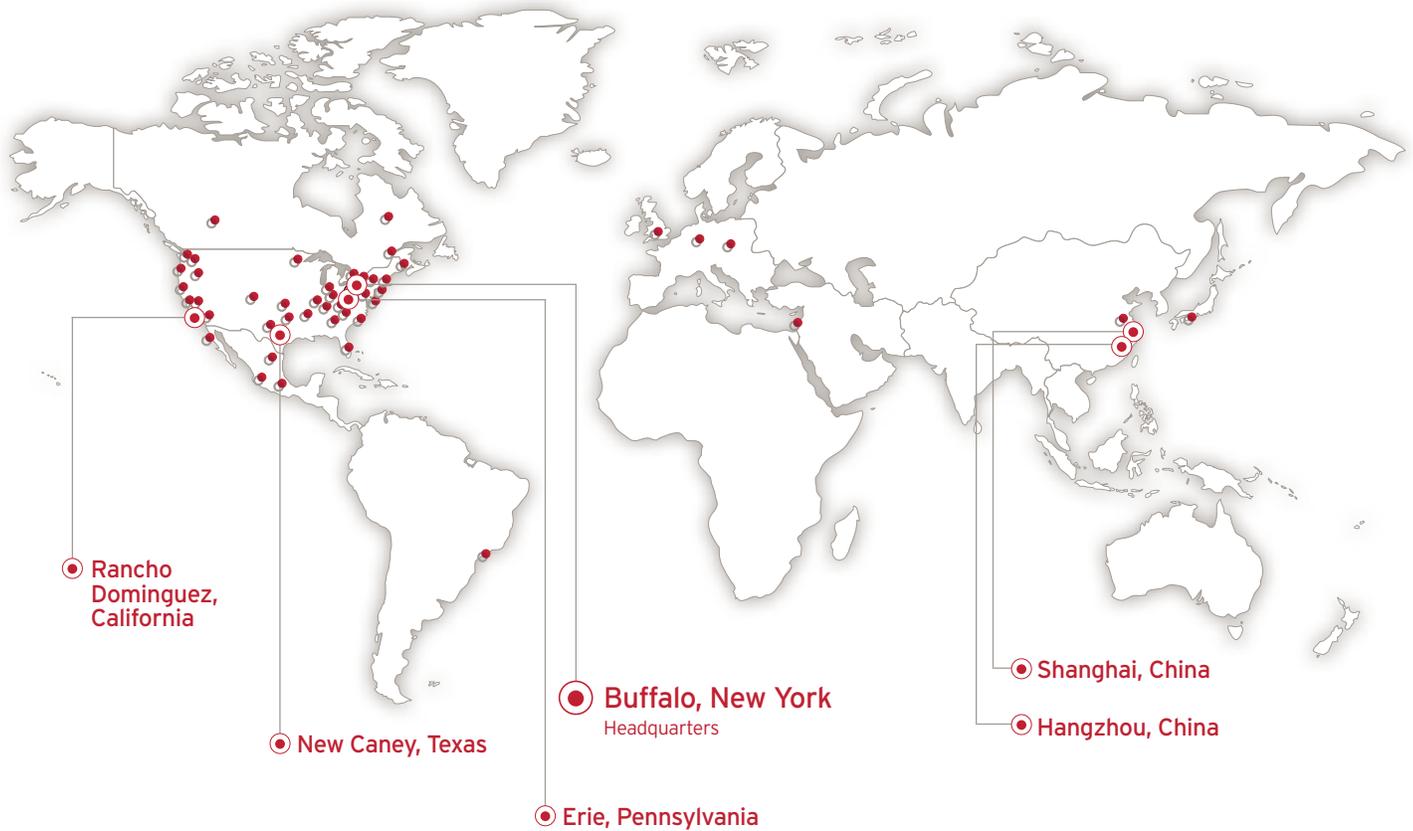
±.5mm per each 25.4mm of length (.02 mm per mm). Minimum is ±.5 where dimension is less than 25.4mm.

Examples:

Tolerance for 19.00mm dimension is ±.5mm.
Reason: Although 19.0mm x ±.02mm = ±.38mm, ±.5mm is the minimum.
 Tolerance for 25.4mm dimension is ±.5mm.
Reason: 25.4mm x ±.02mm = ±.5mm.
 Tolerance for 38.1mm dimension is ±.76mm.
Reason: 38.1mm x ±.02mm = ±.76mm.



Caplugs is the leader in product protection and masking with manufacturing locations and sales representatives all over the world to serve every customer efficiently.



○ Manufacturing Plants ● Sales Representatives

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