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Technical Data

SILICONE rubber provides the maximum in reliability – whether exposed to adverse environmental conditions, stored for indefinite periods, or used under normal conditions. Resisting conditions which normally cause rubber to deteriorate, silicone rubber offers a useful life which is unmatched by other known elastomers. It resists temperature extremes, ozone, corona, radiation, moisture, compression set, weathering, and chemical attack.

Silicone has been with us since 1944, and has gone through hundreds of improvements. Originally sacrificing physical strength and elongation, we now have a large variety of compounds available which provide resistance to a broad range of temperatures with excellent electrometric physical properties.

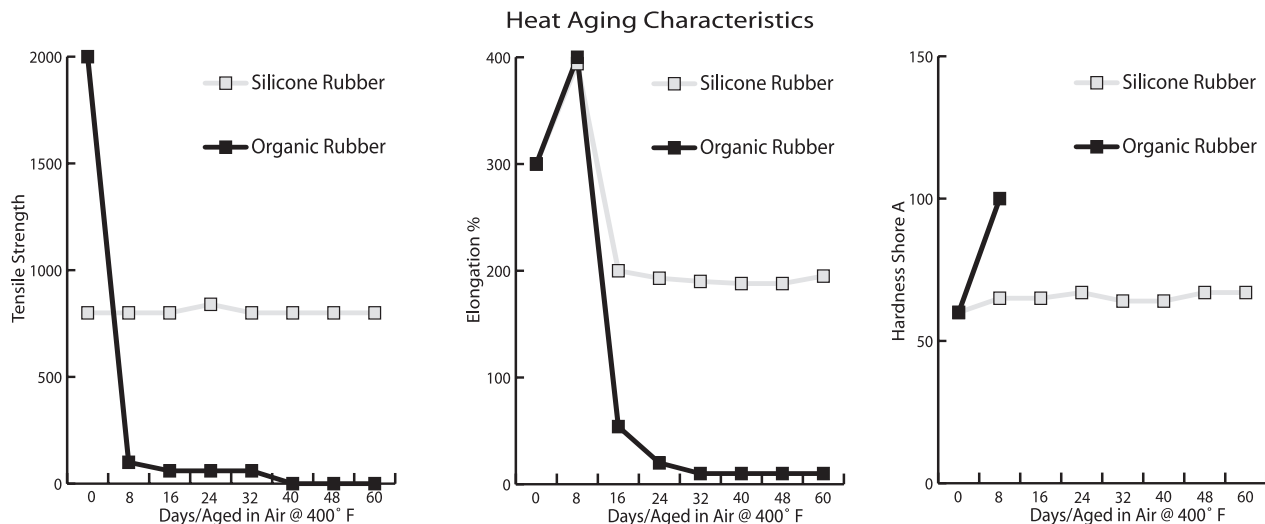
When comparing elastomers for an application, one should not only consider the physical requirements. The "Total Cost", or the cost of the part including purchase price, installation, maintenance, and service life, should also be considered. Many elastomers are available at a much lesser cost than silicone, but fail to provide the user the reliability, and durability over an extended period of time. Users should consider the "Total Cost" package when selecting or specifying silicone rubber parts for an application.

CHEMICALLY, silicone rubber is quite different from other elastomers. It is this difference, which gives them their unique combination of properties and permit silicone to perform in many applications where no other elastomer can be used. The basic difference between silicone polymers and "Organic" polymers is in the molecular make-up. Silicone or Dimethyl Polysiloxane, is made up of silicone/oxygen linkages, the same found in high temperature materials such as quartz, glass, and sand. Natural rubbers, or Organic polymers, are made up of carbon/carbon linkages. Many organic polymers witness "unsaturation" where carbon atoms are joined together by double bonds, making them susceptible to the adverse affects of ozone.

Through altering the chemical make-up of the silicones by adding phenyls, vinyl and, fluorine's, significant variations in physical properties can be achieved. The addition of phenyls improves low temperature flexibility and resistance to gamma radiation. Vinyl side groups improve the vulcanization characteristics and the compression set of the cured material. Fluorosilicones enable the user to witness the physical properties inherent in standard silicone and maintain resistance to solvents and fuels.

TEMPERATURE EXTREME STABILITY is silicones most outstanding property. Under normal operating conditions, temperatures as high as 500°F and as low as -150°F do not destroy the physical and electrical properties of silicone. At elevated temperatures, the tensile, elongation, and abrasion resistance of silicone is far superior to that of most organic elastomers. The advantages of silicone over natural rubbers is readily apparent in **Figure 16A**, which compares the effects of heat aging at 400°F. To show the true superiority of silicone, we have shown the effects in increments of **DAYS** for silicone, while the increments for organic rubber are shown in **HOURS**. Before aging, the organic rubber had higher tensile and elongation characteristics, but after only an hour into the test the silicone shows to be the elastomer of choice. As shown in **Figure 16A**, silicone shows stability throughout the term of the test. The estimated Useful Life of silicone at different temperatures is shown in **Table 16B** We consider the useful life to be the elastomer's ability to retain flexibility (measured here in elongation). In many applications, such as electrical cables, and insulator pads, the flexibility requirement may not be as critical, extending the "Useful Service Life" far beyond that indicated.

FIGURE 16A



Mechanical Sealing Products

Technical Data

FLAMMABILITY: Certain silicone rubber products inherently possess a profile of fire hazard characteristics which make them useful for applications where good flame retardation and minimum fire hazard is desired. For example, most silicone rubber products will pass MIL-STD-417A horizontal resistance to flame (test method M). However, to pass the more stringent vertical flame retardant specification, flame retardant ingredients are essential. Silicone rubber can be compounded and fabricated to meet many specifications, including:

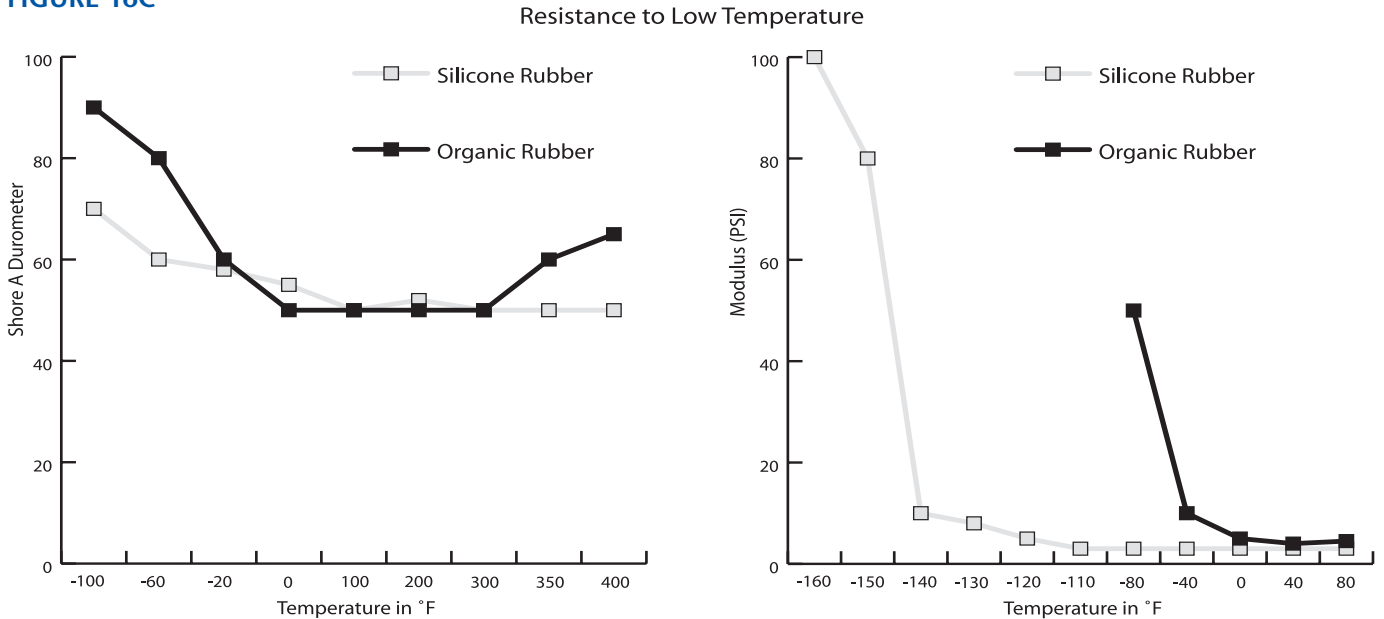
- UL-94, V-1 or V-0
- UL Code 62
- BMS 159-C

LOW TEMPERATURE FLEXIBILITY is yet another advantage silicone has over most organic rubbers. Silicone's durometer and modulus show little change at temperatures as low as -100°F. Extreme low temperatures require the addition of **PHENYLS**, which exhibit brittle points as low as -150°F, and remain serviceable at -120 to -130°F. In **Figure 16C**, we show a comparison between commonly used "low temperature" organic rubbers and standard (methyl) silicones when exposed to temperature variations.

TABLE 16B

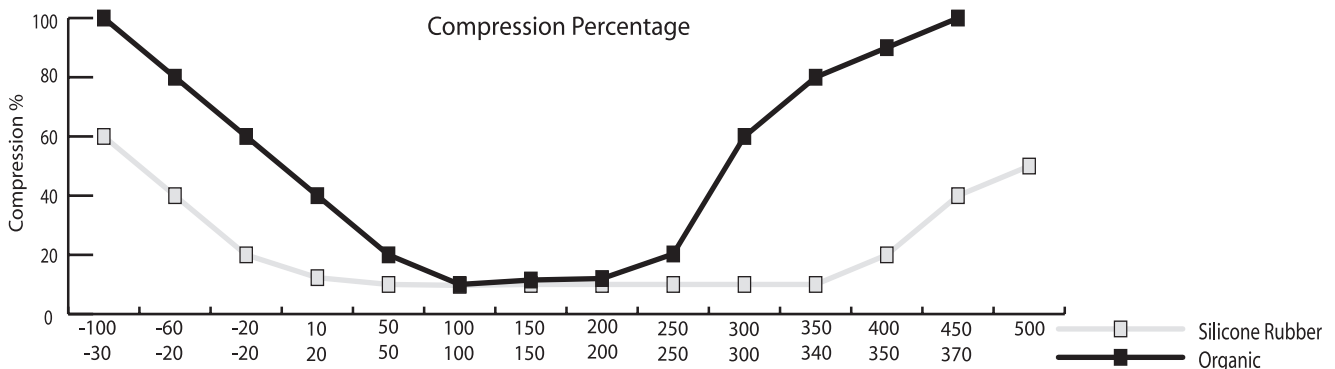
Service Temperature	Useful Life (Retention of 50% Elongation)
200°F	10 to 20 years
300°F	5 to 10 years
400°F	2 to 5 years
500°F	3 months to 2 years
500–600°F	1 week to 2 months
600–700°F	6 hours to 1 week
700–800°F	10 minutes to 2 hours
800–900°F	2 to 10 minutes

FIGURE 16C



COMPRESSION SET and deformation resistance of silicone is superior to that of organic rubber, as shown in **Figure 16D**, which depicts the compression set values over a range of temperatures, when both elastomers are subjected to the same compressive forces.

FIGURE 16D



Mechanical Sealing Products

Technical Data

THE PHYSICAL STRENGTH of elastomers is measured by testing the Tensile, Tear, Elongation, and Compression Set. In general, silicone rubber is strong, resilient, and stretchable at temperatures where organic rubber fails. When compared with many popular organic rubbers at room temperature, silicone is relatively weak. But, as shown previously, silicone shows far superior stability when subjected to temperature

fluctuations. When specifying an elastomer for a specific application, one must consider the environments in which the elastomer is asked to perform, and the expected life of the unit into which the elastomer is installed. The typical values one can expect of silicone at room temperature are shown in [Table 16E](#).

WEATHERING RESISTANCE is another important concern when specifying material to be used. Silicone rubber resists the deteriorating effects of sunlight, ozone, and gasses, which cause weathering. Inherently water repellent, silicone is not affected by moist operating conditions. Very dry conditions and low humidity will not leach, dry out, or affect silicone in any way.

GOOD FUNGUS RESISTANCE When rubber is used in any warm, damp environment, its properties resist attack by mold or fungus. And, although silicone rubber is not antifungicidal, its not a nutrient for fungi nor is it adversely affected by fungus or mold.

RESISTANCE TO WATER Silicone also resists the deteriorating effects of the agents found in rainwater: nitrates, sulfates, chloride, and hydrogenous. Surface water containing minerals, acids, bases, and salts from the soil normally have no detrimental effect on silicone. We show in [Table 16F](#) the minimal effects long term immersion have on silicone due to it's resistance to moisture absorption. In fact, testing performed by the Navy Applied Science Lab, showed that silicone rubber did not change in appearance or physical properties after four years of undersea exposure (comparisons made with control samples shelf-aged at ambient temperatures).

TABLE 16E SUMMARY OF PHYSICAL PROPERTIES AT ROOM TEMPERATURE

Durometer Hardness, Shore A	25-90
Tensile Strength, psi	Up to 1600
Elongation, %	Up to 700
Tear Resistance, lb/in	Up to 250
Compression Set, %	Down to 5

TABLE 16F INFLUENCE OF 23°C WATER IMMERSION

	Original Values	After 125 Months Immersion
Volume Resistivity, (ohm-cm)	1x10 ¹⁶	5.5 X 10 ¹⁵
Dielectric Constant, 60 Hz	3.0	3.2
Power Factor, 60 Hz	0.0011	0.0011

Immersion Condition	Swell, Percent	Hardness change, Shore A Scale Points
7 Days at 73.4°F	+1	-1
7 Days at 158°F	+1	-3
7 Days at 212°F	+1	-5
1 Day at 249.8°F	+5	-6
3 Days at 249.8°F	+6	-6
1 Day at 350.6°F	+15	-16
3 Days at 350.6°F	Sample Broke Up	Sample Broke Up

TABLE 16G SUMMARY OF ELECTRICAL PROPERTIES-SILICONE RUBBER

Volume Resistivity, ohm-cm	1x10 ¹⁴ - 1x10 ¹⁶
Electric Strength volts/Mil	400-700
Dielectric Constant 60 Hz	2.95-4.0
Power Factor, 60 Hz	0.001-0.0100

OZONE and CORONA, as stated, cause most organic rubbers to break down rapidly, and lose their inherent physical properties. Silicone on the other hand can withstand high concentrations of ozone (200ppm) with comparable effects resembling that of heat aging on silicone. The corona resistance of silicone approaches that of mica with the added advantage of silicone's flexibility.

ELECTRICAL PROPERTIES of silicone compare favorably with the best insulating organic materials. [Table 16G](#) depicts the typical electrical properties to expect from silicone. Silicone rubbers fatigue life under continuous stress is high, allowing it to outperform organic rubbers when subjected to voltage for a prolonged period of time.

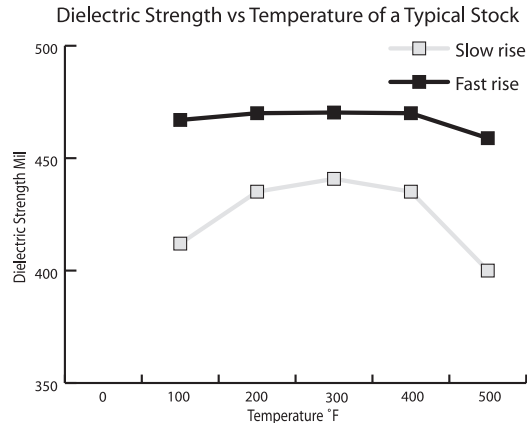
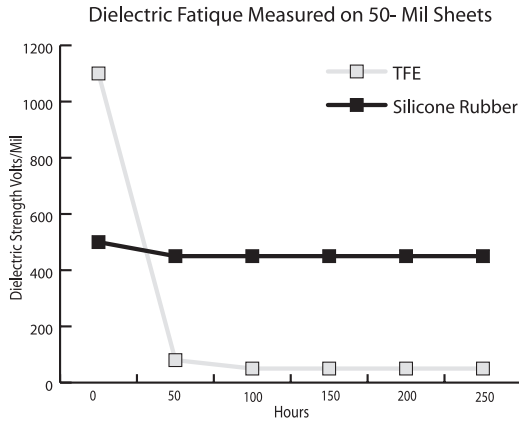
TABLE 16H INFLUENCE OF FREQUENCY ON DIELECTRIC CONSTANT AND POWER FACTOR

Frequency	Dielectric Constant	Power Factor
60 Hz	2.96	0.0004
10 Hz	2.96	0.0004
10 Hz	2.95	0.0010
10 Hz	2.91	0.0051

DIELECTRIC FATIGUE and ELECTRICAL STRENGTH stability are two more attributes silicone provides where organic rubbers often fail. At normal temperatures the electrical strength of silicone rubber is in the same order as the values for organic elastomers. [Figure 16G](#) shows that there is very little change in voltage resistance over the operating temperature range for which silicones are used. When continuously subjected to high voltage stresses for prolonged periods of time, other elastomers will evidence a drop-off in electric strength or show dielectric fatigue. Values shown in [Figure 16G](#), depict those of silicone rubber. Dielectric constant and power factor vary in different compounds. The absolute values in [Table 16H](#) will also be influenced by current frequency. For this reason silicone rubber is not used for applications where constancy in these properties as a function of frequency are essential.

Mechanical Sealing Products

Technical Data



Silicone rubbers can also meet **CHEMICAL RESISTANCE** requirements in elevated temperature applications.

Table 16j shows the effect of a variety of materials on a low compression set silicone compound after one week's immersion at 77°F. At elevated temperatures, organic rubbers lose their effectiveness to resist these types of chemicals, and begin to break down.

Note: The figures for volume and durometer change, can help determine the suitability of silicone rubber, in your application

THERMAL CONDUCTIVITY compared to most other elastomers, silicone rubber has a high thermal conductivity. Values range 0.330 to 0.515 x 10³ gr-cal/sec/cm²/cm²/°C

ADDITIONAL THERMAL PROPERTIES:

Thermal expansion- the coefficient of volumetric thermal expansion for silicone rubber is in the range of 5.9 to 7.9 x 10⁻⁴/°C. The linear coefficient of thermal expansion is roughly one-third of the volumetric coefficient of thermal expansion, and can be used to calculate the total linear thermal expansion of a silicone rubber part over a temperature range.

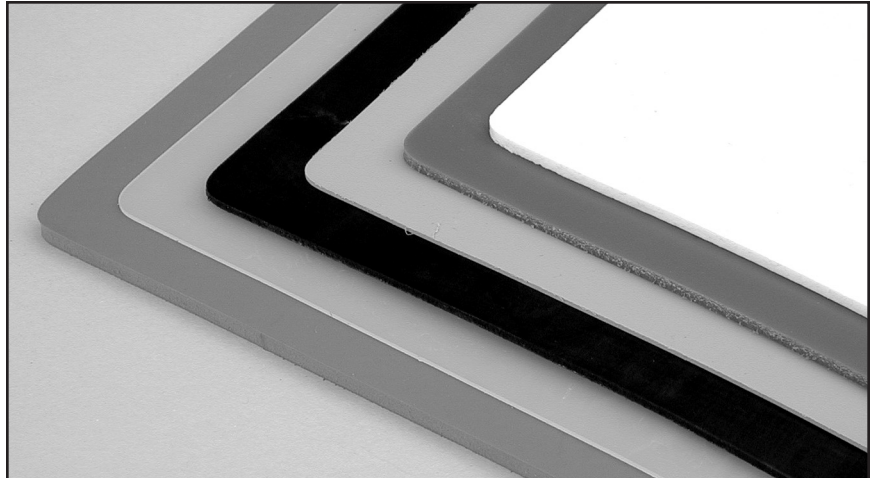
RADIATION RESISTANCE: The ability of silicone rubber to resist radiation damage at normal Temperature is comparable to many other synthetic polymers. However, at temperatures extremes, silicone rubber offers a combination of thermal, oxidation, and radiation resistance superior to most polymers.

RELEASE CHARACTERISTICS: Silicone rubber provides better release from sticking than any other rubber. One example of an application utilizing these release properties is the use of silicone rubber for rollers used in processing sticky materials such as hot polyethylene and adhesive.

TABLE 16j CHEMICAL RESISTANCE- SILICONE RUBBER

MATERIAL	WEIGHT CHANGE %	VOLUME CHANGE %	DUROMETER CHANGE %
ACIDS			
Nitric conc.	+10	+10	-30
Nitric 7%	<1	<1	-2
Sulfuric conc.	*	Disintegrates	*
Sulfuric 10%	<1	<1	-2
Acetic conc.	+2	+3	-4
Acetic 5%	+4	+4	+8
Hydrochloric conc.	+1	+1	-6
Hydrochloric 10%	+2	+4	-4
Hydrochloric 3%	<1	+1	-2
BASES			
Sodium Hydroxide 20%	<1	<1	-2
Sodium Hydroxide 1%	<1	<1	-4
Ammonium Hydroxide conc.	+2	+2	-4
Ammonium Hydroxide 10%	+3	+2	-6
SALTS			
Sodium Chloride 10%	<1	<1	-2
Sodium Carbonate 2%	<1	<1	0
SOLVENTS			
Ethyl Alcohol	+5	+6	-10
Acetone	+5	+15	-15
Toluene	+75	+120	-30
Gasoline, Regular	+65	+130	-25
Gasoline, Aviation	+60	+110	-30
Mineral Spirits Carbon	+65	+110	-30
Tetrachloride	+130	+110	-25
HYDRAULIC FLUIDS			
Hollingshead H-2	+4	+5	-10
Hollingshead H-2 (1)	+9	+12	-15
Skydrol	+4	+4	-8
Skydrol (1)	+7	+8	-10
PRL3161	+5	+7	-8
PRL3161(1)	+9	+9	-15
OILS			
Castor Oil	<1	<1	-4
Lard Oil	<1	<1	-4
Linseed Oil	<1	<1	-2
Mineral Oil	+5	+6	-6
ASTM # 1 Oil (2)	+3	+5	-6
ASTM # 3 Oil (2)	+20	+31	-20
Silicone Oil SF 96 (100) 2	+25	+35	-25
Silicone Oil 42,000 cstc (2)	+9	+10	-12
OTHER			
Water	<1	<1	<1
Hydrogen Peroxide 3%	<1	<1	<1
Pyanol 1476	+4	+4	-8

(1) 70 hours @ 212°F (2) 70 hours @ 300°F



SOLID ELASTOMERS SPECIFICATIONS

Manufactured to ZZ-R-765, AA-59588, applicable MIL, AMS and SAE standards. Commercial grades available in durometers FROM 10 to 85. Thicker sheets, 2" and more are available special order. Many sizes and specifications in stock for immediate delivery.

AMS 3301	AMS 3326	Mil-R-5847
AMS 3302	AMS 3327	Mil-R-25988
AMS 3303	AMS 3345	Mil-R-83248
AMS 3304	AMS 3346	Mil-STD-417
AMS 3315	AMS 3347	ZZ-R-765 E/A-A-59588
AMS 3320	AMS 3356	ASTM D 2000-FK
AMS 3325	AMS 3357	ASTM D 2000- GE
ASTM D 2000-FC	ASTM D 2000-FE	ASTM D 2000-HK

STANDARD SHEET SIZES

Hardness	Range from 10 durometer Shore A to 85
Normal Available Colors	Red/Orange
Additional colors available upon request	Grey; Tanslucent; White; Black; Blue; and Brown
Custom color matching	Available on special order

Dash No.	Thickness	Sheet Size
0101	.015	12" X 12"
0102	.031	12" X 12"
0103	.047	12" X 12"
0104	.062	12" X 12"
0105	.078	12" X 12"
0106	.093	12" X 12"
0107	.125	12" X 12"
0108	.156	12" X 12"
0109	.188	12" X 12"
0110	.218	12" X 12"
0111	.250	12" X 12"
0112	.281	12" X 12"
0113	.312	12" X 12"
0114	.375	12" X 12"
0115	.437	12" X 12"
0116	.500	12" X 12"
0117	.625	12" X 12"
0118	.750	12" X 12"
0119	1.000	12" X 12"
0120	1.250	12" X 12"
0121	1.500	12" X 12"
0122	.015	24" X 24"
0123	.031	24" X 24"
0124	.047	24" X 24"
0125	.062	24" X 24"
0126	.078	24" X 24"
0127	.093	24" X 24"
0128	.125	24" X 24"
0129	.156	24" X 24"
0130	.188	24" X 24"
0131	.218	24" X 24"
0132	.250	24" X 24"

Dash No.	Thickness	Sheet Size
0133	.281	24" X 24"
0134	.312	24" X 24"
0135	.375	24" X 24"
0136	.437	24" X 24"
0137	.500	24" X 24"
0138	.625	24" X 24"
0139	.750	24" X 24"
0140	1.000	24" X 24"
0141	1.250	24" X 24"
0142	1.500	24" X 24"
0143	.015	36" X 36"
0144	.031	36" X 36"
0145	.047	36" X 36"
0146	.062	36" X 36"
0147	.078	36" X 36"
0148	.093	36" X 36"
0149	.125	36" X 36"
0150	.156	36" X 36"
0151	.188	36" X 36"
0152	.218	36" X 36"
0153	.250	36" X 36"
0154	.281	36" X 36"
0155	.312	36" X 36"
0156	.375	36" X 36"
0157	.437	36" X 36"
0158	.500	36" X 36"
0159	.625	36" X 36"
0160	.750	36" X 36"
0161	1.000	36" X 36"
0162	1.250	36" X 36"
0163	1.500	36" X 36"



In our commercial grades, as well as ZZR 765 A-A-59588, Hardness 40, 50, 60 and 70, are inventory items normally available for immediate shipment

Hardness	Range from 20 durometer Shore A to 80
Normal Available Colors	Red/Orange
Additional colors available upon request	Grey; Tanslucent; White; Black; Blue; and Brown
Custom color matching	Available on special order
Width	36" untrimmed standard (other widths upon request)

SOLID SILICONE RUBBER CONTINUOUS SHEETING

Dash No.	Thickness	Width
0101	.010	18"
0102	.015	18"
0103	.020	18"
0104	.031	18"
0105	.062	18"
0106	.093	18"
0107	.125	18"
0108	.156	18"
0109	.188	18"
0110	.250	18"
0111	.375	18"
0112	.010	24"
0113	.015	24"
0114	.020	24"
0115	.031	24"
0116	.062	24"
0117	.093	24"
0118	.125	24"
0119	.156	24"
0120	.188	24"
0121	.250	24"
0122	.375	24"

Dash No.	Thickness	Width
0123	.010	36"
0124	.015	36"
0125	.020	36"
0126	.031	36"
0127	.062	36"
0128	.093	36"
0129	.125	36"
0130	.156	36"
0131	.188	36"
0132	.250	36"
0133	.375	36"
0134	.010	48"
0135	.015	48"
0136	.020	48"
0137	.031	48"
0138	.062	48"
0139	.093	48"
0140	.125	48"
0141	.156	48"
0142	.188	48"
0143	.250	48"
0144	.375	48"

AVAILABLE SPECIFICATIONS

AMS 3193, AMS 3194, AMS 3195,
AMS 3196, MIL R 46089,
ASTM D 1056, 2D2, 2D3,
SAE 3195 MIL C 3133, TE 7, TE 12

Closed cell sheet is manufactured to AMS and MIL specification. Density can be selected to meet specific requirements for low closure load seals. 36" x 36" and 24" x 24" sheets in 1/16" though 5/8" thickness standard in red, and other colors are available upon request. Most sizes and specifications in stock for immediate delivery. Several sizes are available in roll form as well.

FEATURES FOR SILICONE SPONGE:

- High temperature capability, standard for silicone.
- Easy compressibility for applications requiring a lower closure sealing force
- Silicone sponge is closed cell, minimizing water absorption.



SILICONE SPONGE SHEETS AMS SPECIFICATION

Properties	3194	3195	3196
Compression Deflection (psi @ 75% original thickness)	12-20	6-14	12-20
Maximum Density (lbs./cu.in.)	.030	.020	.030
Compression set (% original deflection, max.)	60%	60%	60%
Low Temperature Brittle Point (°F)	-130	-130	-100

STANDARD SPONGE MOLDED SHEET SIZES

Dash No.	Thickness	Sheet Size
0101	.031	12" X 12"
0102	.062	12" X 12"
0103	.093	12" X 12"
0104	.125	12" X 12"
0105	.156	12" X 12"
0106	.188	12" X 12"
0107	.218	12" X 12"
0108	.250	12" X 12"
0109	.312	12" X 12"
0110	.375	12" X 12"
0111	.437	12" X 12"
0112	.500	12" X 12"
0113	.562	12" X 12"
0114	.625	12" X 12"
0115	.750	12" X 12"
0116	.875	12" X 12"
0117	1.00	12" X 12"
0118	1.250	12" X 12"
0119	1.500	12" X 12"
0120	1.750	12" X 12"
0121	2.00	12" X 12"
0122	.031	24" X 24"
0123	.062	24" X 24"
0124	.093	24" X 24"
0125	.125	24" X 24"
0126	.156	24" X 24"
0127	.188	24" X 24"
0128	.218	24" X 24"
0129	.250	24" X 24"
0130	.312	24" X 24"
0131	.375	24" X 24"
0132	.437	24" X 24"

Dash No.	Thickness	Sheet Size
0133	.500	24" X 24"
0134	.562	24" X 24"
0135	.625	24" X 24"
0136	.750	24" X 24"
0137	.875	24" X 24"
0138	1.00	24" X 24"
0139	1.250	24" X 24"
0140	1.500	24" X 24"
0141	1.750	24" X 24"
0142	2.00	24" X 24"
0143	.031	36" X 36"
0144	.062	36" X 36"
0145	.093	36" X 36"
0146	.125	36" X 36"
0147	.156	36" X 36"
0148	.188	36" X 36"
0149	.218	36" X 36"
0150	.250	36" X 36"
0151	.312	36" X 36"
0152	.375	36" X 36"
0153	.437	36" X 36"
0154	.500	36" X 36"
0155	.562	36" X 36"
0156	.625	36" X 36"
0157	.750	36" X 36"
0158	.875	36" X 36"
0159	1.00	36" X 36"
0160	1.250	36" X 36"
0161	1.500	36" X 36"
0162	1.750	36" X 36"
0163	2.00	36" X 36"

Thickness above .750" are laminated to the required height.

AVAILABLE SPECIFICATIONS

AMS 3193, AMS 3194, AMS 3195,
AMS 3196, MIL R 46089,
ASTM D 1056, 2D2, 2D3,
SAE 3195 MIL C 3133, TE 7, TE 12

Closed cell sheet is manufactured to AMS and MIL specification. Density can be selected to meet specific requirements for low closure load seals. 36" x 36" and 24" x 24" sheets in 1/16" though 5/8" thickness standard in red, and other colors are available upon request. Most sizes and specifications in stock for immediate delivery. Several sizes are available in roll form as well.

FEATURES FOR SILICONE SPONGE:

- High temperature capability, standard for silicone
- Easy compressibility for applications requiring a lower closure sealing force
- Silicone sponge is closed cell, minimizing water absorption.



CONTINUOUS SHEETING

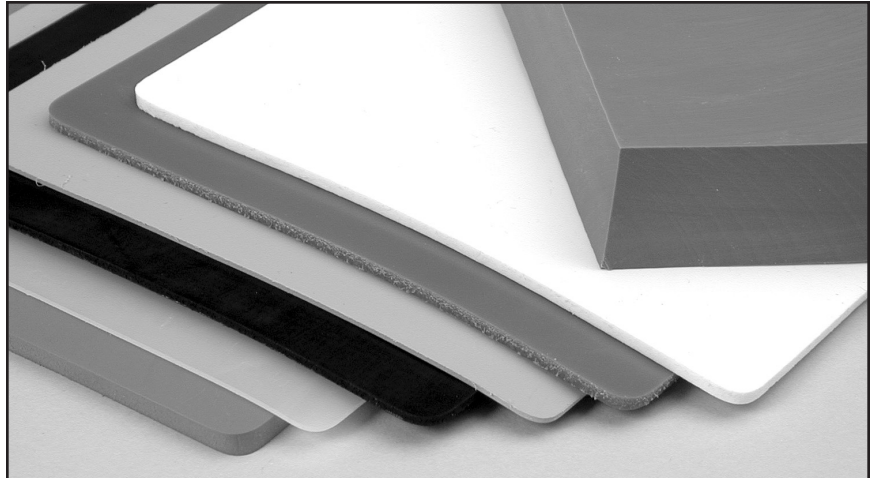
Dash No.	Thickness	Width
0101	.031	18"
0102	.062	18"
0103	.093	18"
0104	.125	18"
0105	.156	18"
0106	.188	18"
0107	.218	18"
0108	.250	18"
0109	.312	18"
0110	.375	18"
0111	.500	18"
0112	.031	24"
0113	.062	24"
0114	.093	24"
0115	.125	24"
0116	.156	24"

Dash No.	Thickness	Width
0117	.188	24"
0118	.218	24"
0119	.250	24"
0120	.312	24"
0121	.375	24"
0122	.500	24"
0123	.031	36"
0124	.062	36"
0125	.093	36"
0126	.125	36"
0127	.156	36"
0128	.188	36"
0129	.218	36"
0130	.250	36"
0131	.312	36"
0132	.375	36"
0133	.500	36"

AVAILABLE SPECIFICATIONS

AMS 3325, AMS 3326, MIL R 25988,
SAE 25988, ASTM D 2000 FE

Fluorosilicone sheeting, is available to MIL-R-25988 as well as other fluid resistant specifications. The material has better fuel and oil resistance than other silicone elastomers but, maintains silicone's high temperature advantage. In applications where contact with jet fuel, solvents, gasoline, or crude oil is required, this elastomer is serviceable over a temperature range of -60°C to 177°C (-76 to 350°F). In dry heat, the serviceable temperature range is extended up to 232°C (450°F). Physical properties, including Tensile strength, elongation, and tear resistance, are comparable to those of general purpose silicone rubber compounds.



TYPICAL INDUSTRIES UTILIZING FLUOROSILICONE RUBBER

- Aircraft, Military and Commercial Aviation
- Petrochemical and Oil Refining Industries
- Electronics

FLUOROSILICONE MOLDED SHEET SIZES

Dash No.	Thickness	Sheet Size
0101	.015	12" X 12"
0102	.031	12" X 12"
0103	.047	12" X 12"
0104	.062	12" X 12"
0105	.078	12" X 12"
0106	.093	12" X 12"
0107	.125	12" X 12"
0108	.156	12" X 12"
0109	.188	12" X 12"
0110	.218	12" X 12"
0111	.250	12" X 12"
0112	.281	12" X 12"
0113	.312	12" X 12"
0114	.375	12" X 12"
0115	.437	12" X 12"
0116	.500	12" X 12"
0117	.625	12" X 12"
0118	.750	12" X 12"
0119	1.000	12" X 12"
0120	1.250	12" X 12"
0121	1.500	12" X 12"
0122	.015	24" X 24"
0123	.031	24" X 24"
0124	.047	24" X 24"
0125	.062	24" X 24"
0126	.078	24" X 24"
0127	.093	24" X 24"
0128	.125	24" X 24"
0129	.156	24" X 24"
0130	.188	24" X 24"
0131	.218	24" X 24"

Dash No.	Thickness	Sheet Size
0132	.250	24" X 24"
0133	.281	24" X 24"
0134	.312	24" X 24"
0135	.375	24" X 24"
0136	.437	24" X 24"
0137	.500	24" X 24"
0138	.625	24" X 24"
0139	.750	24" X 24"
0140	1.000	24" X 24"
0141	1.250	24" X 24"
0142	1.500	24" X 24"
0143	.015	36" X 36"
0144	.031	36" X 36"
0145	.047	36" X 36"
0146	.062	36" X 36"
0147	.078	36" X 36"
0148	.093	36" X 36"
0149	.125	36" X 36"
0150	.156	36" X 36"
0151	.188	36" X 36"
0152	.218	36" X 36"
0153	.250	36" X 36"
0154	.281	36" X 36"
0155	.312	36" X 36"
0156	.375	36" X 36"
0157	.437	36" X 36"
0158	.500	36" X 36"
0159	.625	36" X 36"
0160	.750	36" X 36"
0161	1.000	36" X 36"

AVAILABLE SPECIFICATIONS

AMS 3325, AMS 3326,
MIL R 25988, SAE 25988,
ASTM D 2000 FE

Hardness	Range from 40 durometer Shore A to 80
Normal Available Color	Blue
Width	36" untrimmed standard (other widths upon request)

Continuous roll form for maximum yield



TYPICAL INDUSTRIES UTILIZING FLUROSILICONE RUBBER

- Aircraft, Military and Commercial Aviation
- Petrochemical and Oil Refining Industries
- Electronics

CONTINUOUS SHEETING

Dash No.	Thickness	Sheet Size
0101	.016	18"
0102	.031	18"
0103	.047	18"
0104	.062	18"
0105	.093	18"
0106	.125	18"
0107	.125	18"
0108	.188	18"
0109	.250	18"
0110	.375	18"
0111	.016	24"
0112	.031	24"
0113	.047	24"
0114	.062	24"
0115	.093	24"
0116	.125	24"
0117	.125	24"
0118	.188	24"
0119	.250	24"
0120	.375	24"
0121	.016	36"
0122	.031	36"
0123	.047	36"
0124	.062	36"
0125	.093	36"
0126	.125	36"
0127	.125	36"
0128	.188	36"
0129	.250	36"
0130	.375	36"

Some typical resistance values are listed below.

Values for other fluids are available upon request.

Immersion Medium	Immersion Conditions	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %	Volume Change, %
ASTM # 1 oil	3Days/302°F	-5	Nil	-5	Nil
ASTM Ref. Fuel B	3 Days/302°F	-20	-60	-35	+30
SAE 10w-30w Motor Oil	30 Days/350°F	-9	-76	-80	+3
Gasoline, Regular/ Low Lead	24 Hrs/ 77°F	-12	-39	-30	+21
Jet Fuel JP - 4	3Days/350°F	-25	-65	-20	+25
Turbo Oil # 35	3 Days/302°F	-10	-30	+25	+10
Mineral Spirits	30 Days/75°F	Nil	Nil	Nil	Nil
Trichloroethylene	5 Days/ 120°F	-10	Nil	Nil	+20
Hydraulic Fluid, Type A	3Days/302°F	-5	-10	-5	+5
ASTM Ref. Fuel B	3 Days/302°F	-20	-60	-35	+30
SAE 10w-30w Motor Oil	30 Days/350°F	-9	-76	-80	+3
Gasoline, Regular/ Low Lead	24 Hrs/ 77°F	-12	-39	-30	+21
Jet Fuel JP - 4	3Days/350°F	-25	-65	-20	+25
Turbo Oil # 35	3 Days/302°F	-10	-30	+25	+10
Mineral Spirits	30 Days/75°F	Nil	Nil	Nil	Nil
Trichloroethylene	5 Days/ 120°F	-10	Nil	Nil	+20

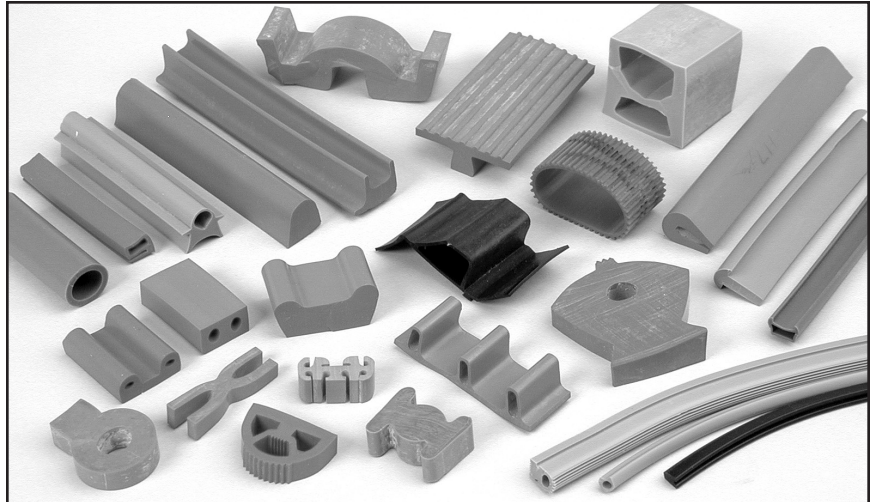
AVAILABLE SPECIFICATIONS

AMS 3301, AMS 3302, AMS 3303,
AMS 3304, AMS 3305, AMS 3307,
AMS 3308, MILR 5847, ZZ R 765,
A A 59588, ASTM D 2000, SAE 2000

We produce extrusion in silicone rubber to MIL, AMS, ASTM, as well as federal or commercial specifications. Standard dies are available for a wide range of shapes and sizes. Tooling for most round cord and rectangular sizes, are in house, eliminating the cost of tooling when ordering.

TYPICAL APPLICATIONS:

Gaskets or seals, requiring high and low temperature advantage



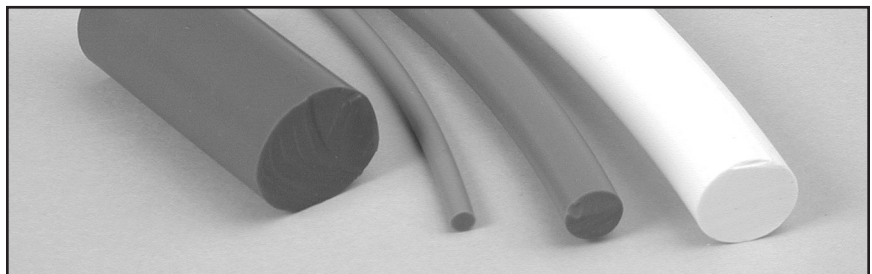
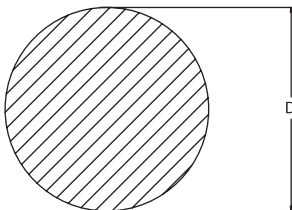
TYPICAL APPLICATIONS UTILIZING SILICONE RUBBER EXTRUDED SEALS

- FOOD PACKAGING AND SEALING EQUIPMENT MACHINERY
- AIRCRAFT AND MILITARY EQUIPMENT
- ARCHITECTUAL WINDOW GLAZING
- COMMERCIAL AND LABORATORY OVEN SEALS
- ENVIROMENTAL CLOSURE SEALING

**If your required specifications not shown, please call.
We comply with many silicone specs not listed above**

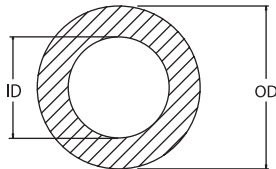
**Solid Silicone
Rubber Cord Stock**

series 1211



Dash No.	Diameter
0101	.031
0102	.047
0103	.062
0104	.078
0105	.093
0106	.125
0107	.156
0108	.188
0109	.210
0110	.250
0111	.281
0112	.312
0113	.375
0114	.437
0115	.500
0116	.531
0117	.625
0118	.637

Dash No.	Diameter
0119	.718
0120	.750
0121	.781
0122	.812
0124	.875
0125	.937
0126	1.00
0127	1.125
0128	1.250
0129	1.375
0130	1.500
0131	1.625
0132	1.750
0133	2.000
0134	2.125
0135	2.250
0136	2.375
0137	2.500



AVAILABLE SPECIFICATIONS
AMS 3301, AMS 3302, AMS 3303, AMS 3304, AMS 3305, AMS 3307, AMS 3308, MILR 5847, ZZ R 765, A A 59588, ASTM D 2000, SAE 2000

We produce extrusion in silicone rubber to MIL, AMS, ASTM, as well as federal or commercial specifications. Standard dies are available for a wide range of shapes and sizes. Tooling for most round cord and rectangular sizes, are in house, eliminating the cost of tooling when ordering.

TYPICAL APPLICATIONS:

Gaskets or seals, requiring high and low temperature advantage

Dash No.	ID	OD
0101	.031	.093
0102	.031	.125
0103	.031	.156
0104	.031	.188
0105	.031	.250
0106	.062	.125
0107	.062	.156
0108	.062	.188
0109	.062	.250
0110	.093	.156
0111	.093	.188
0112	.093	.250
0113	.093	.312
0114	.125	.156
0115	.125	.188
0116	.125	.250
0117	.125	.312
0118	.125	.375
0119	.188	.219
0120	.188	.250
0121	.188	.312
0122	.188	.375
0123	.188	.437
0124	.188	.500
0125	.250	.281
0126	.250	.312
0127	.250	.375
0128	.250	.437
0129	.250	.500

Dash No.	ID	OD
0131	.312	.375
0132	.312	.437
0133	.312	.500
0134	.375	.437
0135	.375	.500
0136	.375	.625
0137	.375	.750
0138	.375	.875
0139	.437	.500
0140	.437	.625
0141	.437	.750
0142	.437	.875
0143	.437	1.00
0144	.500	.625
0145	.500	.750
0146	.500	.875
0147	.500	1.00
0148	.625	.750
0149	.625	.875
0150	.625	1.00
0151	.750	1.00
0152	.750	1.50
0153	.875	1.00
0154	.875	1.250
0155	.875	1.500
0156	1.00	1.250
0157	1.00	1.500
0158	1.00	1.750
0159	1.00	2.00

Sizes not shown available upon request

Stock tooling already available for most cross-sections

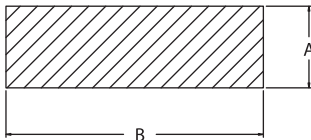
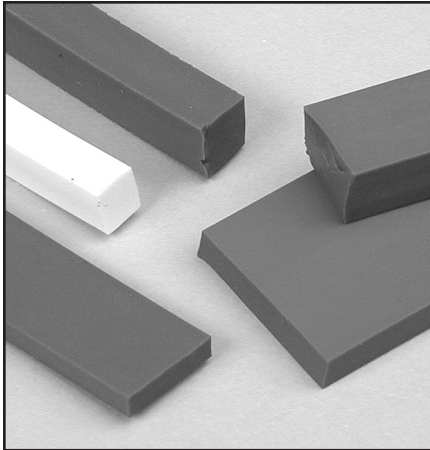


FIGURE 2.1 - Rectangle stock cross-section

AVAILABLE SPECIFICATIONS

AMS 3301, AMS 3302, AMS 3303,
AMS 3304, AMS 3305, AMS 3307,
AMS 3308, MILR 5847, ZZ R 765,
A A 59588, ASTM D 2000, SAE 2000

We produce extrusion in silicone rubber to MIL, AMS, ASTM, as well as federal or commercial specifications. Standard dies are available for a wide range of shapes and sizes. Tooling for most round cord and rectangular sizes, are in house, eliminating the cost of tooling when ordering.

TYPICAL APPLICATIONS:

Gaskets or seals, requiring high and low temperature advantage

Dash No.	"A"	"B"
0101	.062	.093
0102	.062	.125
0103	.062	.188
0104	.062	.250
0105	.062	.312
0106	.062	.375
0107	.062	.437
0108	.062	.500
0109	.062	.625
0110	.062	.687
0111	.062	.750
0112	.062	.812
0113	.062	.875
0114	.062	.937
0115	.062	1.00
0116	.062	1.125
0117	.062	1.188
0118	.062	1.250
0119	.062	1.375
0120	.062	1.500
0121	.062	1.750
0122	.062	2.00
0123	.062	2.50
0124	.062	3.00
0125	.062	3.50
0126	.062	4.00
0127	.062	5.00
0128	.062	6.00
0129	.093	.093
0130	.093	.125
0131	.093	.188
0132	.093	.250
0133	.093	.312
0134	.093	.375
0135	.093	.437
0136	.093	.500
0137	.093	.625
0138	.093	.687
0139	.093	.750
0140	.093	.812
0141	.093	.875
0142	.093	.937
0143	.093	1.00
0144	.093	1.125
0145	.093	1.188
0146	.093	1.250
0147	.093	1.375
0148	.093	1.500
0149	.093	1.750
0150	.093	2.00
0151	.093	2.50
0152	.093	3.00
0153	.093	3.50
0154	.093	4.00
0155	.093	5.00
0156	.093	6.00
0157	.125	.125
0158	.125	.188

Dash No.	"A"	"B"
0159	.125	.250
0160	.125	.312
0161	.125	.375
0162	.125	.437
0163	.125	.500
0164	.125	.625
0165	.125	.687
0166	.125	.750
0167	.125	.812
0168	.125	.875
0169	.125	.937
0170	.125	1.00
0171	.125	1.125
0172	.125	1.188
0173	.125	1.250
0174	.125	1.375
0175	.125	1.500
0176	.125	1.750
0177	.125	2.00
0178	.125	2.50
0179	.125	3.00
0180	.125	3.50
0181	.125	4.00
0182	.125	5.00
0183	.125	6.00
0184	.188	.188
0185	.188	.250
0186	.188	.312
0187	.188	.375
0188	.188	.437
0189	.188	.500
0190	.188	.625
0191	.188	.687
0192	.188	.750
0193	.188	.812
0194	.188	.875
0195	.188	.937
0196	.188	1.00
0197	.188	1.125
0198	.188	1.188
0199	.188	1.250
0200	.188	1.375
0201	.188	1.500
0202	.188	1.750
0203	.188	2.00
0204	.188	2.50
0205	.188	3.00
0206	.188	3.50
0207	.188	4.00
0208	.188	5.00
0209	.188	6.00
0210	.250	.250
0211	.250	.312
0212	.250	.375
0213	.250	.437
0214	.250	.500
0215	.250	.625
0216	.250	.687

Solid Silicone Rubber Rectangular Stock Series 1213

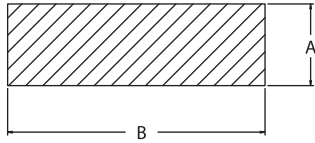


FIGURE 2.1 - Rectangle stock cross-section

Dash No.	"A"	"B"
0217	.250	.750
0218	.250	.812
0219	.250	.875
0220	.250	.937
0221	.250	1.00
0222	.250	1.125
0223	.250	1.188
0224	.250	1.250
0225	.250	1.375
0226	.250	1.500
0227	.250	1.750
0228	.250	2.00
0229	.250	2.50
0230	.250	3.00
0231	.250	3.50
0232	.250	4.00
0233	.312	.312
0234	.312	.375
0235	.312	.437
0236	.312	.500
0237	.312	.625
0238	.312	.687
0239	.312	.750
0240	.312	.812
0241	.312	.875
0242	.312	.937
0243	.312	1.00
0244	.312	1.125
0245	.312	1.188
0246	.312	1.250
0247	.312	1.375
0248	.312	1.500
0249	.312	1.750
0250	.312	2.00
0251	.312	2.50
0252	.312	3.00
0253	.375	.375
0254	.375	.437
0255	.375	.500
0256	.375	.625
0257	.375	.687
0258	.375	.750
0259	.375	.812
0260	.375	.875
0261	.375	.937
0262	.375	1.00
0263	.375	1.125
0264	.375	1.188
0265	.375	1.250
0266	.375	1.375
0267	.375	1.500
0268	.375	1.750
0269	.375	2.00
0270	.375	2.50
0271	.375	3.00
0272	.437	.437
0273	.437	.500
0274	.437	.625
0275	.437	.687

Dash No.	"A"	"B"
0276	.437	.750
0277	.437	.812
0278	.437	.875
0279	.437	.937
0280	.437	1.00
0281	.437	1.125
0282	.437	1.188
0283	.437	1.250
0284	.437	1.375
0285	.437	1.500
0286	.437	1.750
0287	.437	2.00
0288	.437	2.50
0289	.437	3.00
0290	.500	.500
0291	.500	.625
0292	.500	.687
0293	.500	.750
0294	.500	.812
0295	.500	.875
0296	.500	.937
0297	.500	1.00
0298	.500	1.125
0299	.500	1.375
0300	.500	1.500
0301	.500	1.500
0302	.500	1.750
0303	.500	2.00
0304	.625	.625
0305	.625	.687
0306	.625	.750
0307	.625	.812
0308	.625	.875
0309	.625	.937
0310	.625	1.00
0311	.625	1.125
0312	.625	1.188
0313	.625	1.250
0314	.625	1.375
0315	.625	1.500
0316	.625	1.750
0317	.625	2.00
0318	.750	.750
0319	.750	.812
0320	.750	.875
0321	.750	.937
0322	.750	1.00
0323	.750	1.125
0324	.750	1.188
0325	.750	1.250
0326	.750	1.375
0327	.750	1.500
0328	1.00	1.00
0329	1.00	1.125
0330	1.00	1.188
0331	1.00	1.250
0332	1.00	1.375
0333	1.00	1.500

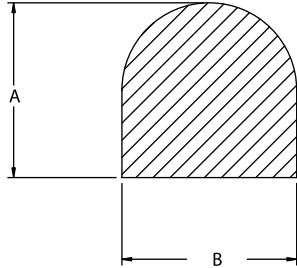
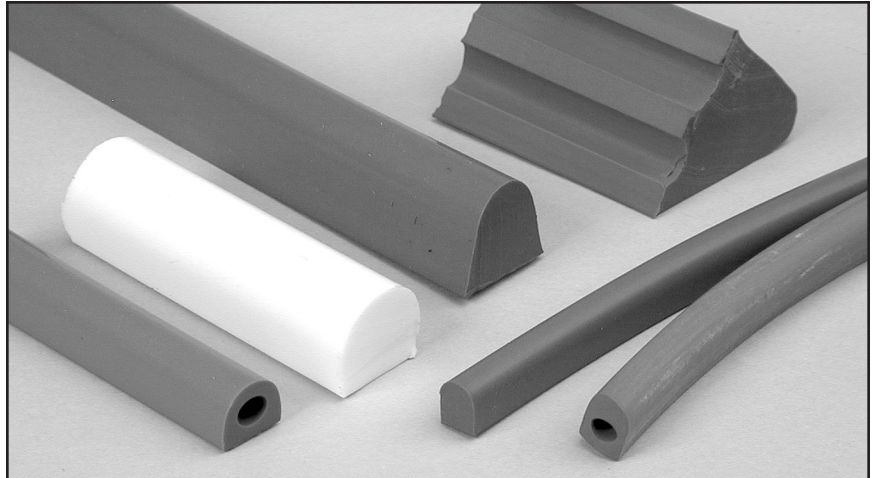


FIGURE 2.2 - "D" Profile stock cross-section



AVAILABLE SPECIFICATIONS

AMS 3301, AMS 3302, AMS 3303,
AMS 3304, AMS 3305, AMS 3307,
AMS 3308, MILR 5847, ZZ R 765,
A A 59588, ASTM D 2000, SAE 2000

We produce extrusion in silicone rubber to MIL, AMS, ASTM, as well as federal or commercial specifications. Standard dies are available for a wide range of shapes and sizes. Tooling for most round cord and rectangular sizes, are in house, eliminating the cost of tooling when ordering.

TYPICAL APPLICATIONS:

Gaskets or seals, requiring high and low temperature advantage

Dash No.	"A"	"B"
0101	.093	.093
0102	.125	.093
0103	.188	.093
0104	.250	.093
0105	.125	.125
0106	.188	.125
0107	.250	.125
0108	.312	.125
0109	.375	.125
0110	.156	.156
0111	.250	.156
0112	.312	.156
0113	.375	.156
0114	.437	.156
0115	.188	.188
0116	.250	.188
0117	.312	.188
0118	.375	.188
0119	.437	.188
0120	.500	.188
0121	.250	.250
0122	.312	.250
0123	.375	.250
0124	.437	.250
0125	.500	.250
0126	.625	.250
0127	.312	.312
0128	.375	.312
0129	.427	.312
0130	.500	.312

Dash No.	"A"	"B"
0131	.625	.312
0132	.750	.312
0133	.375	.375
0134	.437	.375
0135	.500	.375
0136	.625	.375
0137	.750	.375
0138	.875	.375
0139	.437	.437
0140	.500	.437
0141	.625	.437
0142	.750	.437
0143	.875	.437
0144	1.00	.437
0145	.500	.500
0146	.625	.500
0147	.750	.500
0148	.875	.500
0149	1.00	.500
0150	.625	.625
0151	.750	.625
0152	.875	.625
0153	1.00	.625
0154	.750	.750
0155	.875	.750
0156	1.00	.750
0157	.875	.875
0158	1.00	.875
0159	1.00	1.00

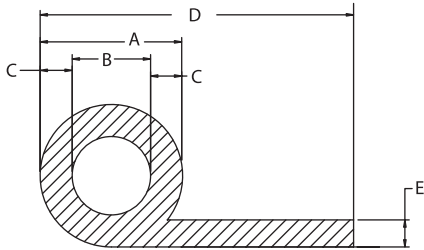
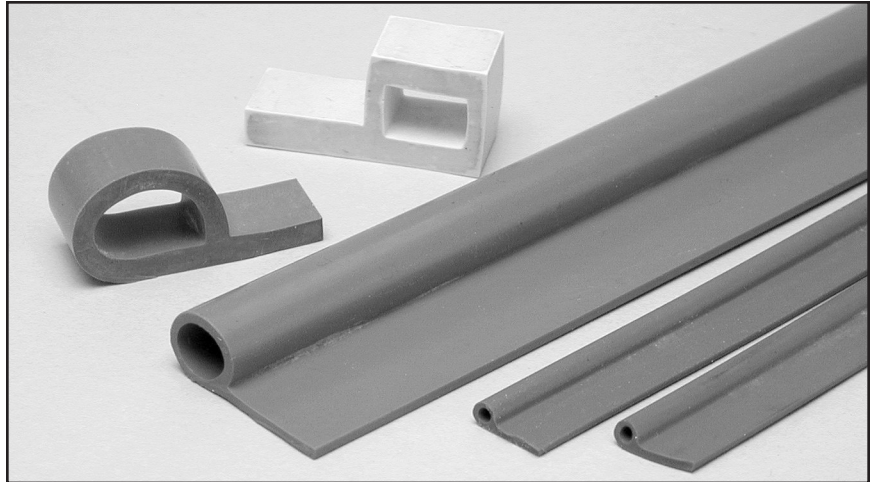


FIGURE 2.3 - "P" Profile stock cross-section



AVAILABLE SPECIFICATIONS
AMS 3301, AMS 3302, AMS 3303, AMS 3304, AMS 3305, AMS 3307, AMS 3308, MILR 5847, ZZ R 765, A A 59588, ASTM D 2000, SAE 2000

We produce extrusion in silicone rubber to MIL, AMS, ASTM, as well as federal or commercial specifications. Standard dies are available for a wide range of shapes and sizes. Tooling for most round cord and rectangular sizes, are in house, eliminating the cost of tooling when ordering.

TYPICAL APPLICATIONS:

Gaskets or seals, requiring high and low temperature advantage

Dash No.	"A"	"B"	"D"	"E"
0101	.125	.062	.625	.031
0102	.188	.093	.750	.062
0103	.188	.125	1.00	.062
0104	.250	.125	.375	.062
0105	.250	.125	.500	.062
0106	.250	.125	.625	.125
0107	.250	.125	1.00	.062
0108	.250	.125	.625	.062
0109	.250	.125	1.250	.062
0110	.250	.125	2.00	.062
0111	.250	.093	.750	.062
0112	.250	.125	1.00	.062
0113	.250	.125	1.00	.062
0114	.250	.156	1.00	.062
0115	.312	.125	.625	.062
0116	.312	.188	1.00	.093
0117	.375	.250	.687	.062
0118	.375	.250	.750	.062
0119	.375	.188	.750	
0120	.375	.312	.875	
0121	.375	.250	.875	
0122	.375	.281	1.00	
0123	.375	.250	1.500	
0124	.437	.281	1.00	
0125	.500	.375	1.00	
0126	.500	.312	1.00	
0127	.500	.375	1.062	
0128	.500	.250	2.00	
0129	.750	.562	1.125	
0130	.750	.500	1.188	
0131	.875	.375	2.250	
0132	1.00	.750	1.562	
0133	1.00	.625	2.00	
0134	1.00	.500	2.25	
0135	1.00	.625	2.50	
0136	1.00	.500	2.75	

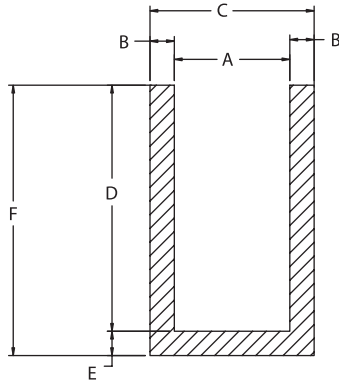
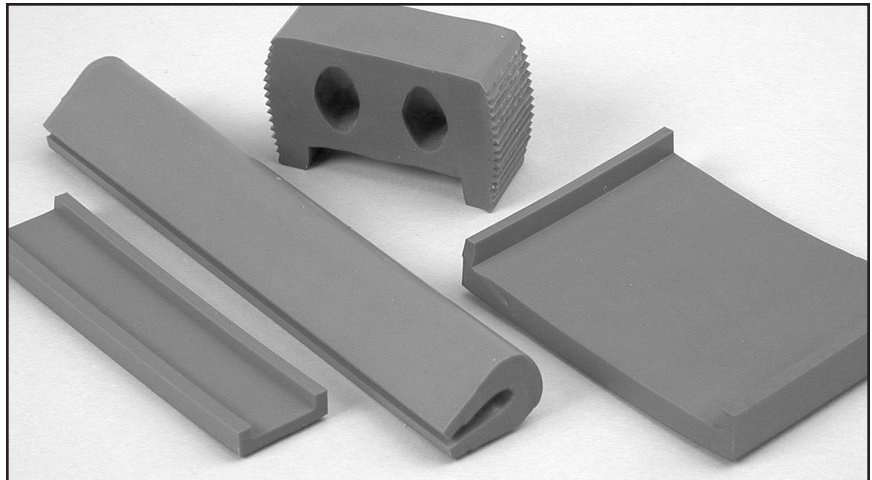


FIGURE 2.3 - "U" Profile stock cross-section



AVAILABLE SPECIFICATIONS

AMS 3301, AMS 3302, AMS 3303,
AMS 3304, AMS 3305, AMS 3307,
AMS 3308, MILR 5847, ZZ R 765,
A A 59588, ASTM D 2000, SAE 2000

We produce extrusion in silicone rubber to MIL, AMS, ASTM, as well as federal or commercial specifications. Standard dies are available for a wide range of shapes and sizes. Tooling for most round cord and rectangular sizes, are in house, eliminating the cost of tooling when ordering.

TYPICAL APPLICATIONS:

Gaskets or seals, requiring high and low temperature advantage

Dash No.	"A"	"B"	"C"	"D"
0101	.188	.437	.062	.062
0102	.218	.250	.062	.093
0103	.218	.218	.062	.093
0104	.250	.156	.062	.125
0105	.250	.188	.062	.125
0106	.250	.218	.062	.125
0107	.250	.312	.062	.125
0108	.312	.281	.062	.187
0109	.375	.500	.125	.125
0110	.250	.312	.062	.125
0111	.312	.375	.062	.187
0112	.375	.500	.125	.062
0113	.375	.500	.125	.125
0114	.437	.250	.125	.125
0115	.500	1.750	.125	.125
0116	.500	2.250	.125	.125
0117	.625	.750	.125	.125
0118	1.00	1.25	.187	.125
0119	1.00	1.50	.187	.187
0120	1.00	1.75	.187	.187
0121	1.00	2.00	.187	.187

AVAILABLE SPECIFICATIONS

AMS 3193, AMS 3194, AMS 3195,
AMS 3196, MIL R 46089,
ASTM D 1056, 2D2, 2D3, SAE 3195,
MIL C 3133, TE 7, TE 12

Ja-Bar produces extrusions of closed cell silicone sponge for use as gaskets and seals under low closure loads in accordance with AMS and application Mil specification. We produce extruded cords in diameters from 1/32" to 6"; square sections from 1/16" x 1/16" to 4" x 4"; rectangular sections from 1/32" x 4" to 1" x 10" and sponge tubing for thermal insulation applications. We also produce custom shapes and we'll develop special compounds to meet specific requirements. A large stock of sponge in most popular sizes is maintained, ready for immediate shipment.



FEATURES FOR SILICONE SPONGE:

- High temperature capability, standard for silicone
- Easy compressibility for applications requiring a lower closure sealing force
- Silicone sponge is closed cell, minimizing water absorption.
- Smooth skin all sides

Sponge Silicone Rubber Cord Stock

series 1221

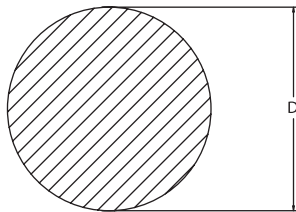


FIGURE 2.4 - Cord stock cross-section



Dash No.	Diameter
0101	.062
0102	.093
0103	.125
0104	.156
0105	.188
0106	.218
0107	.250
0108	.312
0109	.375

Dash No.	Diameter
0110	.437
0111	.500
0112	.562
0113	.625
0114	.750
0115	1.00
0116	1.25
0117	1.50
0118	2.00

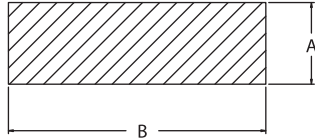
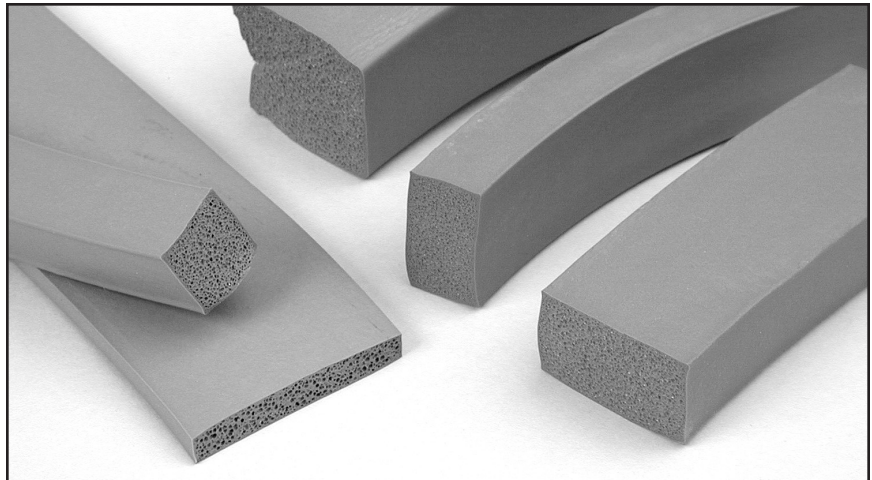


FIGURE 2.5 - Rectangle stock cross-section



AVAILABLE SPECIFICATIONS
AMS 3193, AMS 3194, AMS 3195, AMS 3196, MIL R 46089, ASTM D 1056, 2D2, 2D3, SAE 3195 MIL C 3133, TE 7, TE 12

Closed cell sheet is manufactured to AMS and MIL specification. Density can be selected to meet specific requirements for low closure load seals. 36" x 36" and 24" x 24" sheets in 1/16" though 5/8" thickness standard in red, and other colors are available upon request. Most sizes and specifications in stock for immediate delivery. Several sizes are available in roll form as well.

FEATURES FOR SILICONE SPONGE:

- High temperature capability, standard for silicone
- Easy compressibility for applications requiring a lower closure sealing force
- Silicone sponge is closed cell, minimizing water absorption.

Dash No.	"A"	"B"
0101	.062	.250
0102	.062	.500
0103	.062	.750
0104	.125	.125
0105	.125	.250
0106	.125	.500
0107	.125	.750
0108	.125	1.00
0109	.187	.187
0110	.187	.250
0111	.187	.375
0112	.187	.500
0113	.187	.750
0114	.187	1.00
0115	.250	.250
0116	.250	.375
0117	.250	.500
0118	.250	.750
0119	.250	1.00
0120	.375	.375
0121	.375	.500
0122	.375	.625
0123	.375	.750
0124	.375	1.00
0125	.500	.500
0126	.500	.625
0127	.500	.750
0128	.500	1.00
0129	.625	.625
0130	.625	.750
0131	.625	1.00
0132	.750	.750
0133	.750	1.00
0134	1.00	1.00
0135	1.00	1.25
0136	1.00	1.50
0137	1.00	2.00
0138	1.50	1.50
0139	2.00	2.00

AVAILABLE SPECIFICATIONS

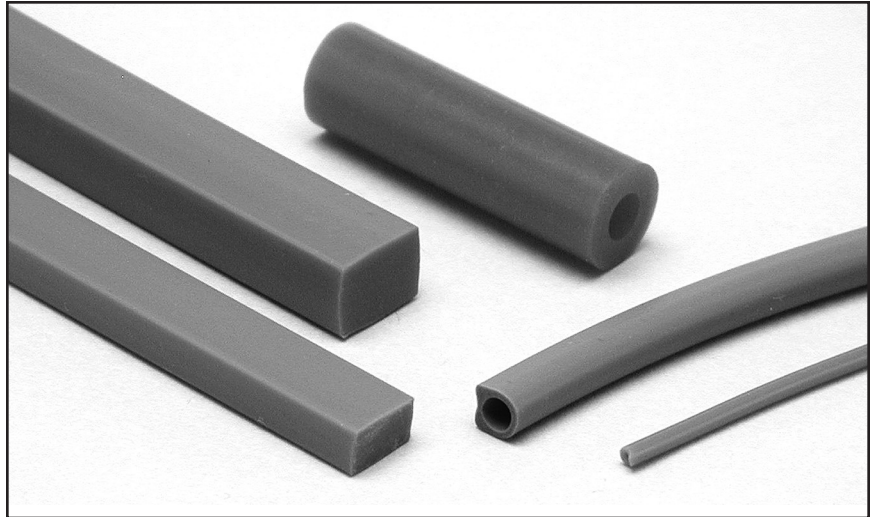
AMS 3325, AMS 3326, MIL R 25988
SAE 25988, ASTM D 2000 FE

Fluorosilicone strip, tubing, cord, "P" seals, "U" channel and special molded and extruded shapes are available to MIL-R-25988 and other specifications. This material has a superior fuel and oil resistance combined with silicone's typical high temperature capabilities. Applications included, gaskets or seals demanding service incontact with jet fuel, solvents, gasoline, or crude oil. This elastomer is serviceable over a temperature range of -60°C to 177°C (-76 to 350°F). In dry heat, the serviceable temperature range is extended up to 232°C (450°F). Physical properties are comparable to those of general - purpose compounds. Dimensional designators will be the same as "solid" silicone extrusions.

See table X for resistance properties

**TYPICAL INDUSTRIES UTILIZING
FLUROSILICONE RUBBER**

- AIRCRAFT, MILITARY AND COMMERCIAL AVAITION
- PETROCHEMICAL AND OIL REFINING INDUSTRIES
- ELECTRONICS



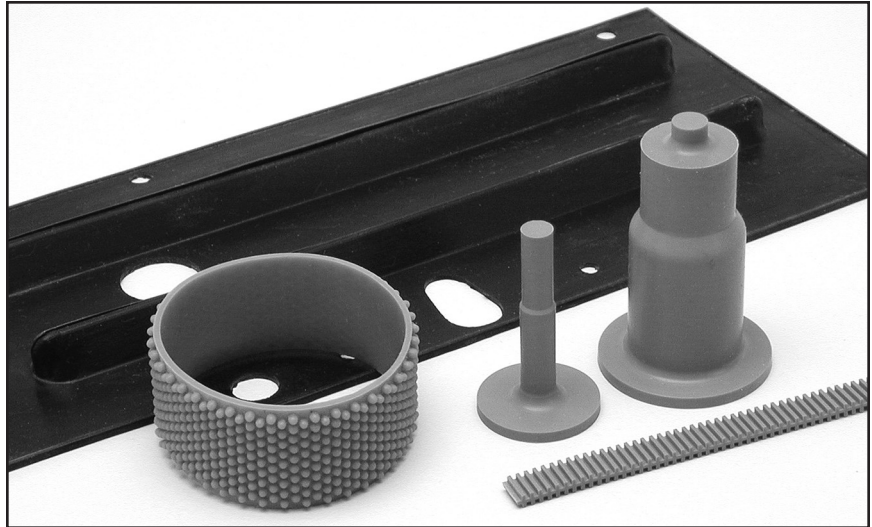
**TABLE X
RESISTANCE OF SILICONE RUBBER AND FLUROSILICONE RUBBER TO EFFECTS OF CHEMICALS,
SOLVENTS, FUELS, & OILS***

Reagent	Silicone Rubber Volume Change Percent.	Fluorosilicone Rubber Volume Change Percent
Acid Solutions (tested 7 days at room temperature)		
10% hydraulic acid	0 to 2	nil
Concentrated hydrochloric acid	0 to 15	+10
10% nitric acid	1 to 10	nil
Concentrated nitric acid	- 10 to -5	+5
10% sulfuric acid	1 to 5	nil
Concentrated sulfuric acid	decomposed	decomposed
Concentrated acetic acid	5 to 18	+25
Alkali solutions (tested 7 days at room temperature)		
10% ammonium hydroxide	nil	nil
Concentrated ammonium hydroxide	0 to 7	+5
10% sodium hydroxide	0 to 3	nil
50% sodium hydroxide	0 to 9	nil
Solvents and fuels (tested 7 days at room temperature)		
Acetone	15 to 25	+180
Carbon tetrachloride	over 150	+20
Ethyl alcohol	0 to 20	+5
Iso- octane	over 150	+20
Xylene	over 150	+20
Reference Fuel B	over 150	+20
Jet fuel JP-4	over 150	+10
Oils (tested 70 hours at 150°C, 302°F)		
ASTM No. 1 oil	5 to 10	nil
ASTM No. 3 oil	35 to 60	+5
Mil-0- 7808 oil (PQ 8365)	10 to 30	+8
Hydraulic fluid Mil-0-5606 (PQ 4226)	over 100	+6
Oronite 8200 (silicate ester)	over 150	+5
Dow Corning 200 fluid, 100 centistokes (silicone fluid)	28 to 35	nil
Skydrol 500 (phosphate ester), 70 hours at 100°C (212°F)	10 to 20	+25

**Solid Silicone Rubber
 Molded Parts
 Series 1310**

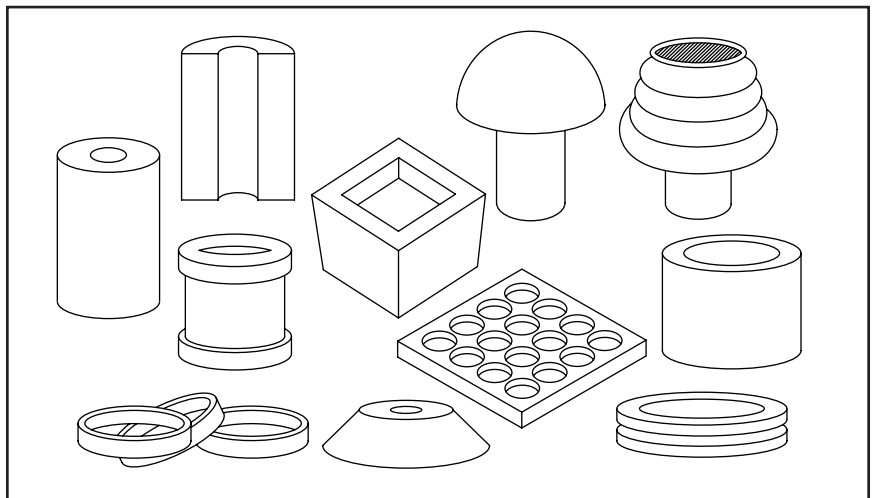
**Sponge Silicone Rubber
 Molded Parts
 Series 1320**

**Fluorosilicone
 Molded Parts
 Series 1330**



Ja-Bar molds custom parts to customer specifications in silicone solid or sponge, as well as fluorosilicone rubber and Viton. Where necessary, we can help design parts and/or molds, often eliminating production problems and reducing manufacturing costs. Because we design and manufacture the molds on our own premises, we maintain complete control of the job throughout, and because we stock large quantities of raw materials, we can put jobs into work quickly, thus insuring on-time delivery, strict adherence to quality control and competitive pricing. Our press capacity includes compression molding press up to 850 tons, 42" x 42", gum and liquid silicone rubber injection, and specialized molding of lengths up to 18 feet. We can quote your needs, from prototype tools and parts to large volume multicavity tooling.

Ja-Bar specializes in larger cross-section solid silicone rubber parts.



Examples of Molded Parts

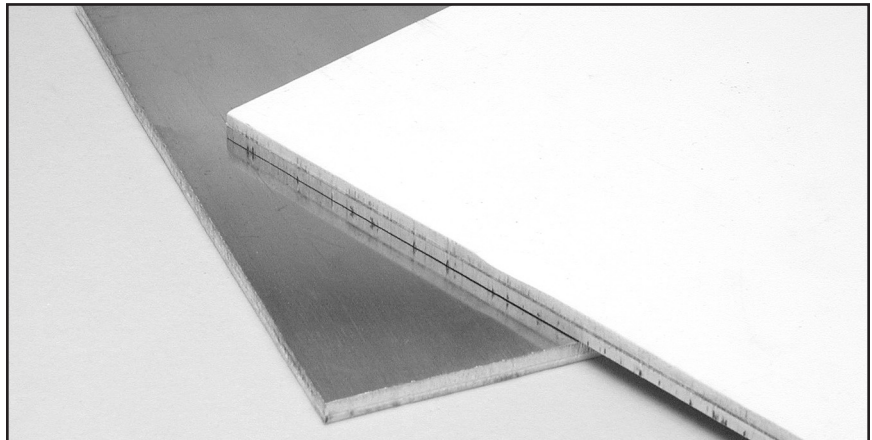
Washer and Bushings Series 1400

Ja-Bar precision cuts tubing to length for gaskets, heater element bushings, capacitor bushings, damping pads, seals and other products. Standard size range from .032" to 1" I.D. to 6" long. Parts are produced in any standard material color to meet ZZ-R-765 or applicable MIL, AMS ASTM specifications. Or, we'll manufacture to commercial grades or to your own specifications. Because we control all facets of production (we produce the base tubing material and do our own cutting), delivery times are minimized and quality of the finished part is maximized



Heat Transfer Pads Series 1500

Heat transfer pads, in sizes to 24" x 24" are fabricated of silicone rubber bonded to aluminum or steel. They are used in hot roll leaf stamping for heat sealing application at temperature to 500°F. Type I pads use silicone rubber from 1/32" through 1/2" thick bonded to metal from 1/32" through 1/2". Type II pads (US Patent No. 3507739), which add a mechanical bond achieved through use of a perforated metal backing, provide superior life in most applications. Floral, wood grain and other designs can be produced from customer-supplied metal masters.



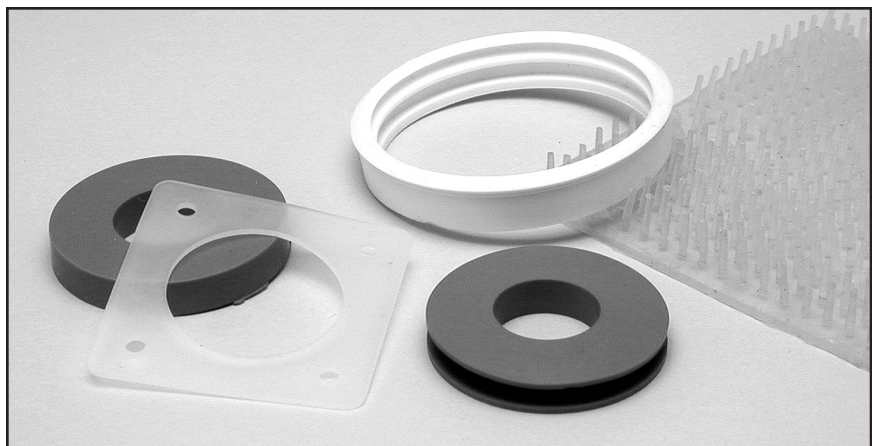
Injection Molding Liquid and Gum Series 1600

Compared with even organic elastomers, this new process using liquid silicones offers many advantages:

- Competitive costs
- High temperature resistance
- Low temperature resistance
- Dielectric properties
- Low toxicity
- Aging resistance

The system is virtually flash-free, initial mold costs are substantially lower due to the faster cycle times.

Liquid injected silicone rubber parts are virtually odorless and inert



ADVANTAGES:

- 1) Platinum curing of liquid silicone insures maximum crosslinking of polymer during cure.
- 2) Inert, odorless parts, which comply with FDA as well as USP designations.
- 3) Parts can be produced in extreme low durometer hardness, down to 5 shore "A", creating Goods ideal for gaskets used in cushioning or shock absorption.

Silicone rubber tape, available in both solid and sponge, and with or without pressure sensitive adhesive, is manufactured in thickness from 1/32 thru 1/2 in. and is slit to the requested width. Sizes shown below are the most popular. Custom widths to your application are easily provided.

PRESSURE SENSITIVE ADHESIVE BACKING (Silicone based or acrylic)

Silicone sheet material (both rubber and sponge) and strip materials, as well as fabricated gaskets and extrusions, can be supplied with a pressure sensitive adhesive backing protected by release paper. Material is also available with adhesive on both sides.

At Ja-Bar, we manufacture silicone rubber tapes. These are provided either in a resilient, elastic, solid silicone rubber, offered in a range of durometer hardness, or, in a easily compressible silicone rubber sponge. Both products offer extreme temperature capability, high elongation, low moisture absorption, chemical resistance and excellent ozone, radiation, and weathering characteristics.

Their pronounced flexibility makes these tapes ideal when conforming to irregular surfaces. Wrapping around a cylindrical surface or right angle bends are accomplished without cutting, splicing, or cementing corners.

Ja-Bar produces both silicone rubber solid and silicone rubber sponge products with either a coating of silicone based pressure sensitive adhesive backing, for maximum temperature advantage or, an acrylic based pressure sensitive adhesive to provide the greatest tack capability. Properties for adhesives are listed as follows:

Dash No.	"A"	"B"
0101	.031	.25
0102	.031	.50
0103	.031	.75
0104	.031	1.00
0105	.031	1.50
0106	.031	2.00
0107	.062	.250
0108	.062	.500
0109	.062	.750
0110	.062	1.00
0111	.062	1.50
0112	.125	.250
0113	.125	.500
0114	.125	.750
0115	.125	1.00
0116	.125	1.50
0117	.125	2.00
0118	.188	.500
0119	.188	.750
0120	.188	1.00
0121	.188	1.50
0122	.188	2.00
0123	.250	.500
0124	.250	.750
0125	.250	1.00
0126	.250	1.50
0127	.250	2.00
0128	.375	.500
0129	.375	.750
0130	.375	1.00
0131	.375	1.50
0132	.375	2.00
0133	.500	.500
0134	.500	.750
0135	.500	1.00
0136	.500	1.50



PHYSICAL PROPERTIES ACRYLIC PSA BACKING

	JB 0202 PEEL & PLACE SPONGE	JB 2515 PEEL & PLACE SOLID
Useful Temperature	-80 / + 400°F	-80 / + 400°F
Shore Hardness	40-60 (OO)	50 (A)
Compression Set % (after 22 hrs.)	50	25
Elongation %	200	300
Water Absorption % (max)	5	5
Quick Tack Lbs/Sq.In.(kpa)	5 (34)	5 (34)
Peel Adhesion Lbs/In. (n/m)	6 (1050)	6 (1050)
Shelf-Life (recommended)	6 Months	6 Months

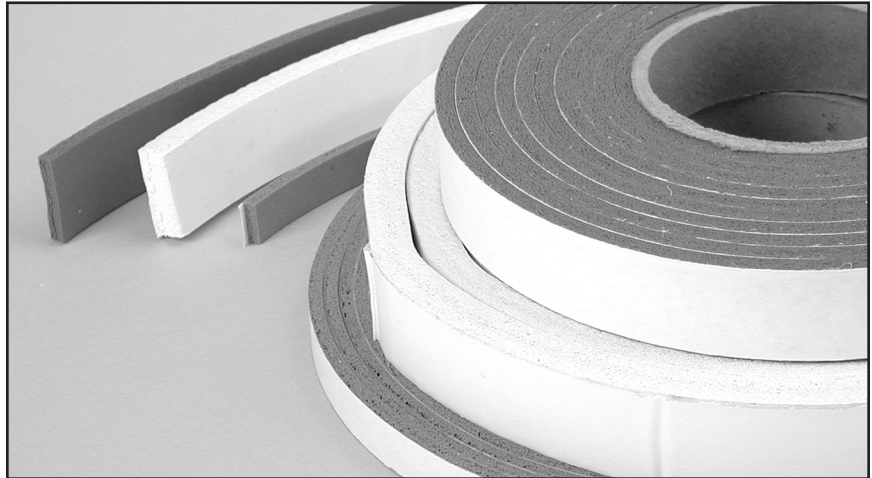
PHYSICAL PROPERTIES SILICONE PSA BACKING

	JB 0202 PEEL & PLACE SPONGE	JB 2515 PEEL & PLACE SOLID
Closed Cell	Yes	N/A
Useful Temperature	-100 / + 400°F	-100 / + 400°F
Shore Hardness	40-60 (OO)	50 (A)
Compression Set % (after 22 hrs.)	50	25
Elongation %	200	300
Water Absorption % (max)	5	5
Adhesive Strength (onces/inch) @ Test Temperature -94°F @ Test Temperature +392°F @ Test Temperature +482°F	100+ 48 48	100+ 48 48
Shelf-Life (recommended)	6 Months	6 Months

Solid Silicone Rubber Strip/Tape

Series 1700

In addition to our JB 0202 closed cell, silicone rubber sponge tape, we offer a silicone foam. Our JB 9000 foam tape, provides a low density, light weight, silicone foam. Having low compression set characteristics, high heat capability, low outgassing ability, and FDA suitability, this product is ideal for many specialized applications.



JB 9000 SILICONE FOAM TAPE PHYSICAL PROPERTIES ACRYLIC PSA BACKING

	Ja-Bar 0202 Peel & Place Sponge
Useful Temperature	-60 / + 400°F
Shore Hardness	5-10 (OO)
Compression Set % (after 22 hrs.)	9
Elongation %	110
Tensile Strength	10
Smoke Generation AITM 2.0007 B Non Flamming Mode ASTM E 662 Non Flamming Mode	DS @ 4 Minutes 45 Average DS @ 4 Minutes 45 Average
Flamability (foam) UL 94 V O Duration Of Flamming	40 Seconds
Quick Tack Lbs/Sq. In. (kpa)	5 (34)
Peel Adhesion Lbs/In. (n/m)	6 (1050)
Shelf-Life (recommended)	6 Months

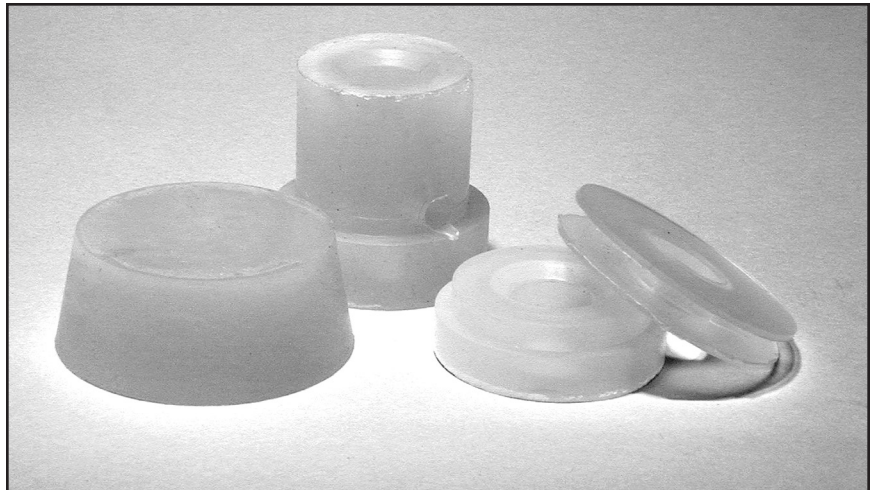
STANDARD AVAILABLE WIDTHS

Both JB 0202 sponge and JB 2515 solid, may be slit to your desired width and length requirements. Below are our standard thickness, width, and length rolls. Most thickness shown, are inventory items and require but a few days for fabrication to ship for your requirement.

Thickness	Widths (standard)	Lengths (standard)
.031	.0125, .250, .375, .500, .625, .750, 1.00, 1.500, 2.00, 2.500, 3.00, 6.00	30 LINEAL FEET
.062	.0125, .250, .375, .500, .625, .750, 1.00, 1.500, 2.00, 2.500, 3.00, 6.00	30 LINEAL FEET
.125	.250, .375, .500, .625, .750, 1.00, 1.500, 2.00, 2.500, 3.00, 6.00	30 LINEAL FEET
.188	.250, .375, .500, .625, .750, 1.00, 1.500, 2.00, 2.500, 3.00, 6.00	25 LINEAL FEET
.250	.375, .500, .625, .750, 1.00, 1.500, 2.00, 2.500, 3.00, 6.00	25 LINEAL FEET
.375	.500, .625, .750, 1.00, 1.500, 2.00, 2.500, 3.00, 6.00	15 LINEAL FEET

Custom widths not shown available upon request.

FDA grade (21 CFR 121.2562), translucent silicone rubber, is available in a wide range of sizes in tubing, cord, strip, sheeting and shapes. The material is nontoxic, can be autoclaved repeatedly, is odorless and meets FDA requirements for extractable. Its non-wetting characteristics simplify cleaning procedures. Specifications include: durometer of 50 (shore A tensile strength of 1100 psi; elongation of 400% with tear strength in the 120lb range).



TYPICAL PROPERTIES:

Ja-bar produces this formula in the following finished forms

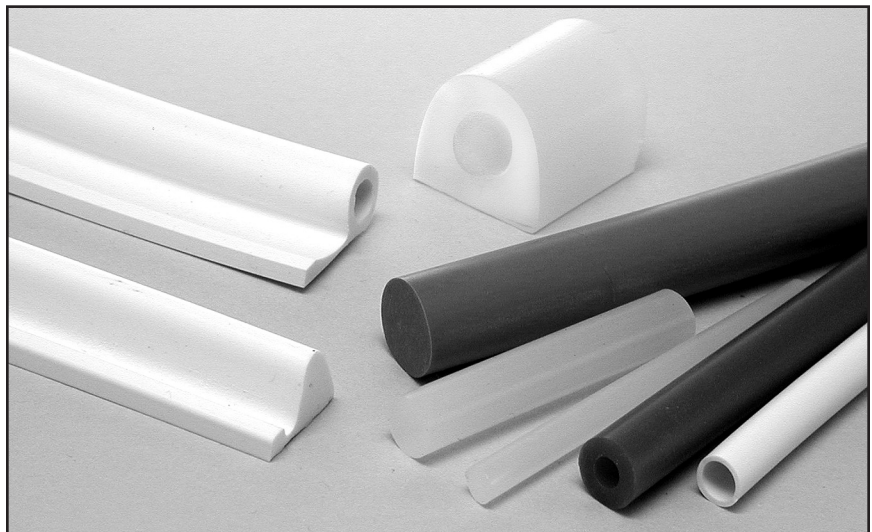
Durometer	50 +/-5
Tensile Strength	1100 PSI
Elongation	450%
Tear	120 PPI

Although, the natural color is translucent, with the addition of FDA permitted pigments, a range of other colors are available including, red, gray and white.

- Extruded tubing to your size requirement
- Extruded special shape profiles "U" channel, "P" seals, Tadpole shapes, and custom to your profile
- Extruded flat strip from .031 to .500 thk and widths up to 12"
- Sheeting, thickness range from .010 up to .500, in widths up to 48"
- Hardness available from 10 to 80 durometer shore "A"

**National Sanitation
Foundation (NSF)
Silicone Rubber**

Ja-Bar NSF formulation silicone rubber, is available extruded as tubing, cord, rectangle and custom shapes. The material is nontoxic, can be autoclaved repeatedly, is odorless and meets FDA requirements for extractable. Its non-wetting characteristics simplify cleaning procedures.



Specifications

Our product is listed by the National Sanitation Foundation as approved for use under Standard 51

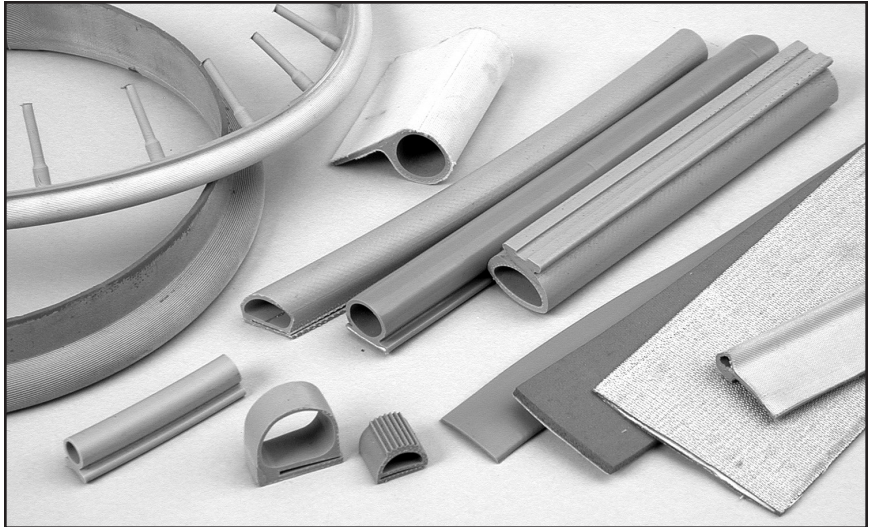
Durometer	50
Tensile Strength	1100 PSI
Elongation	450%
Tear Strength	150 lb range

Ja-Bar Silicone Corporation is also a source for extensive specialty custom designed aerospace parts, focusing on a wide variety of seals, ducting and flexible connectors reinforced, and un-reinforced.

Applications:

Conductive seals, mechanical, window, inflatable, aerodynamic, firewall, door and hatch, radar absorbing seals as well as spliced seals.

- Seals can be manufactured from silicone rubber and/or fluorosilicone elastomers.
- Seals are designed for use on doors, canopies, access panels, windows, etc., even where large variations of sealing surfaces are a consideration.
- These products can be reinforced with fabric, fiberglass, wire, metal, and may also be lined with teflon for low friction surfaces.



**Rubber Manufacturers
Tolerance Guide**

CLASS 1

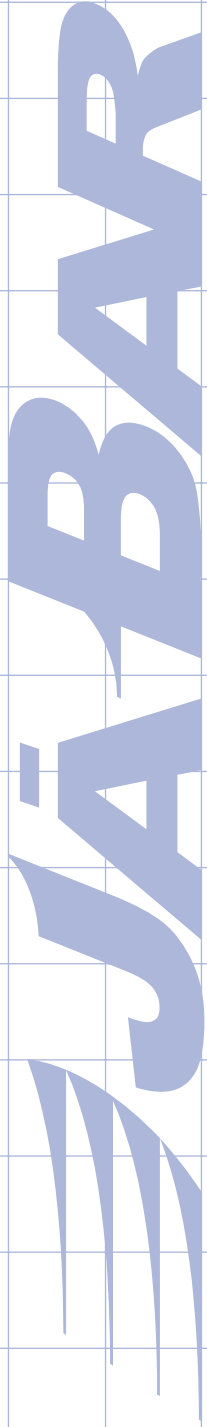
1.00 & Over- its is recommended that this tolerance be set after consultation with your fabricator.

Dimensions (Inches) Above Incl.	Tolerance +/-	Dimension (Inches)	Dimension (mm) Above Incl.	Tolerance +/-
0.0 - .10	.006	0 - 3/32	0.0	0.16
0.10 - 0.16	.01	3/32 - 5/32	2.5 - 4.0	0.25
0.10 - 0.25	.016	5/32 - 1/4	4.0 - 6.3	0.40
0.25 - 0.40	.025	1/4 - 13/32	6.4 - 10.0	0.63
0.40 - 0.63	.04	13/32 - 5/8	10.0 - 16.0	1.00
0.63 - 1.00	.06	5/8 - 1	16.0 - 25.0	1.60

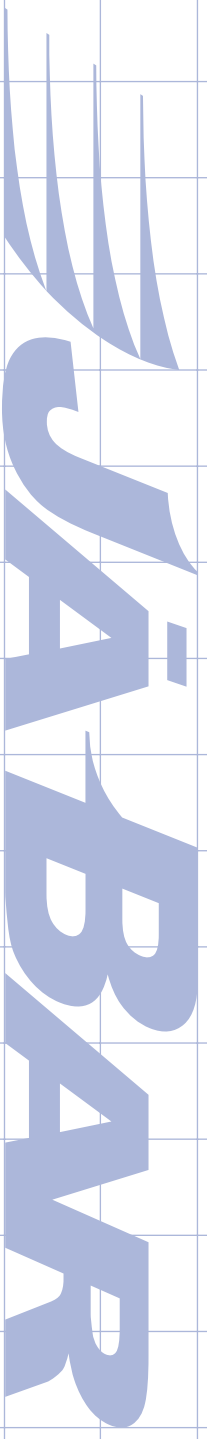
CLASS 2

1.00 & Over- Its is recommended that this tolerance be set after consultation with your fabricator. Tolerance other than those listed may be reviewed to accommodate a particular application.

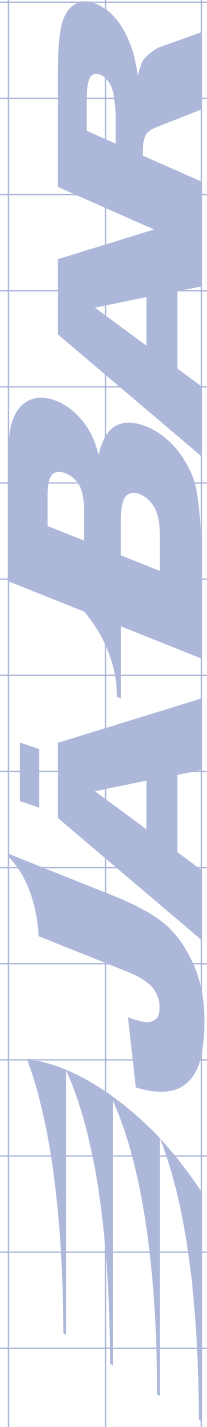
Dimensions (Inches) Above Incl.	Tolerance +/-	Dimension (Inches)	Dimension (mm) Above Incl.	Tolerance +/-
0.0 - .10	.008	0 - 3/32	0 - 2.5	0.20
0.10 - 0.16	.013	3/32 - 5/32	2.5 - 4.0	0.32
0.10 - 0.25	.020	5/32 - 1/4	4.0 - 6.3	0.50
0.25 - 0.40	.032	1/4 - 13/32	6.4 - 10.0	0.80
0.40 - 0.63	.050	13/32 - 5/8	10.0 - 16.0	1.25
0.63 - 1.00	.080	5/8 - 1	16.0 - 25.0	2.00



“Complete Proven Source”



“Complete Proven Source”



“Complete Proven Source”