

Elastomet®

ORIENTED WIRES IN SOLID SILICONE RUBBER

U.S. Customary
[SI Metric]

GENERAL DESCRIPTION

TECKNIT ELASTOMET is a patented composite gasket material consisting of scores of individual fine wires embedded and bonded in a solid silicone or fluorosilicone elastomer.

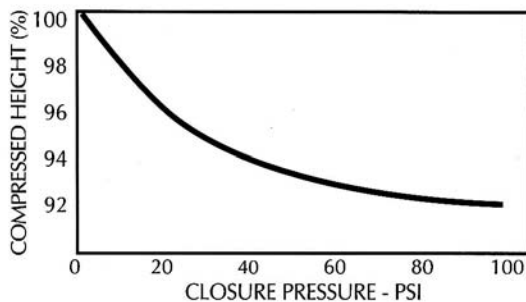
FEATURES

- Effective broadband shielding and environmental sealing at moderate closure forces.
- Low contact resistance.
- Electrochemically compatible with most metals and alloys.
- Wide operating temperature range.
- Available in sheets, strips, and stamped gaskets.
- All wires oriented perpendicular to mating surfaces.
- Convuluted wires acting like individual springs permit superior gasket rebound.
- Superior moisture resistance: absence of connections between wires prevents moisture channeling or "wicking."
- In accordance with DESC drawing No. 90046.
- Meets salt spray test per ASTM B117-03.

APPLICATION INFORMATION

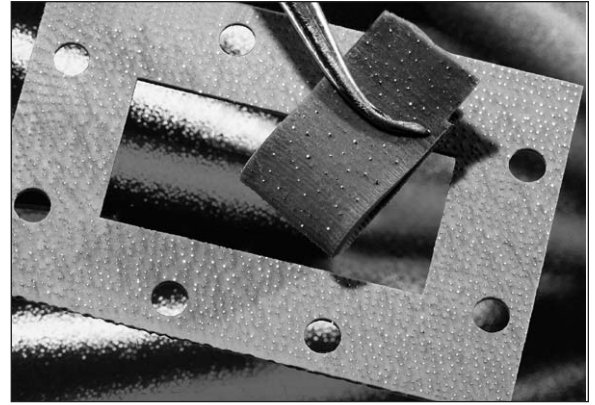
ELASTOMET is recommended for use in military, industrial, and commercial applications requiring EMI suppression, grounding, or static discharge in conjunction with the following design criteria; environmental sealing, medium to high closure forces, and absence of loose wire fragments which could cause electrical or mechanical damage to equipment. For applications with severe joint unevenness, low closure forces, and where greater compressibility is required, use ELASTO-FOAM® shielding material. Refer to ELASTOFOAM page for information.

COMPRESSION/DEFLECTION CURVE



EMI SHIELDING PERFORMANCE*

TECKNIT ELASTOMET Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01, based upon modified MIL-STD- 285. Typical values are given below.



MATERIALS	H-FIELD	E-FIELD	PLANE WAVE	
	100 kHz	10 MHz	1 GHz	10 GHz
	dB	dB	dB	dB
Monel	75	130+	110	100
Phosphor Bronze	80	130+	115	100

SPECIFICATIONS

MATERIAL DESCRIPTION

Wire

- **Standard:** Monel, .0045 in. [0.114 mm] dia., per QQ-N-281.
- **Special:** Aluminum Alloy 5056, .005 in. [0.127 mm] dia., per SAE-AMS-4182 (except max. tensile strength is 75,000 psi). Phosphor Bronze, .0045 in. [0.114 mm] dia. per ASTM B 105, Alloy 30 (CDA C50700).

Elastomer

- **Standard:** Solid Silicone Rubber per ZZ-R-765, Class 3A, Grade 30. (30 + 5, - 10 Shore A Durometer) (AA-59588).
- **Color:** Gray.
- **Special:** Fluorosilicone* per MIL-R-25988B Class 1 Grade 40, Type II (SAE-AMS-R-25988).
- **Color:** Light Blue.

Wire Population: 960/in.² [150 cm²] ±15%.**

PERFORMANCE CHARACTERISTICS

Temperature Range:

-65°F to 392°F [-55°C to 200°C].

Recommended Closure Force: 50 psi to 100 psi.

Recommended Compression: 5% min.

*Fluorosilicone available only with phosphor bronze wire.

** Minimum of 4 wires required in cross-section for effective shielding.



STANDARD SHEETS (Table 1.)

Standard ELASTOMET sheets are Monel wire in solid silicone, 3 in. [76 mm], 6 in. [152 mm], and 9 in. [229 mm] wide by 3 ft. [0.9 m] long. Custom widths will be formed by bonding together sheets.

Table 1. Standard Sheets

Height in. [mm]	Width in. [mm]	Part No. Monel	Height in. [mm]	Width in. [mm]	Part No. Monel
				3 [76]	82-55312
**	3 [76]	82-55303	.125[3.18]	6 [152]	82-55612
.030[0.76]	6 [152]	82-55603		9 [229]	82-55912
	3 [76]	82-55304		3 [76]	82-55315
.045[1.14]	6 [152]	82-55604	.156 [3.96]	6 [152]	82-55615
**	9 [229]	82-55904		9 [229]	82-55915
	3 [76]	82-55306		3 [76]	82-55318
.062[1.57]	6 [152]	82-55606	.187 [4.75]	6 [152]	82-55618
	9 [229]	82-55906		9 [229]	82-55918
	3 [76]	82-55309		3 [76]	82-55325
.093[2.36]	6 [152]	82-55609	.250 [6.35]	6 [152]	82-55625
	9 [229]	82-55909		9 [229]	82-55925

Change third digit of part number from -5 to -4 to specify "custom ALUMINUM ELASTOMET".
 Change the third digit of part number -5 to -B to specify "custom PHOSPHOR BRONZE ELASTOMET".
 Change third digit of part number -5 to -F to specify "custom PHOSPHOR BRONZE FLUOROSILICONE ELASTOMET".
 Change fourth digit from -5 to -6 to specify "PRESSURE SENSITIVE ADHESIVE BACKING".
 ** Not available with Phosphor Bronze Wire or Fluorosilicone Elastomer.

STANDARD ELASTOMET STRIPS (Table 2.)

Standard strips are nominally 11 ft. [3.4 m] in length. Bonded continuous lengths are available on special orders. Custom strips are available with aluminum and with Phosphor Bronze wires. Pressure sensitive adhesive backing is available for Monel, aluminum, and phosphor bronze strips. Contact TECKNIT for thicknesses greater than .500 in. [12.70 mm].

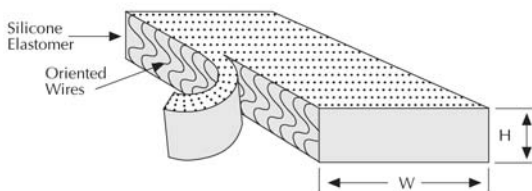


Figure 1.

Table 2 - Standard Elastomer Strips

Width in. [mm]	Height in. [mm]	Part No. Monel	Width in. [mm]	Height in. [mm]	Part No. Monel
.093 [2.36]	** .030 [0.76]	82-12651	.500 [12.70]	** .030 [0.76]	82-12665
.093 [2.36]	.062 [1.57]	82-12628	.500 [12.70]	.062 [1.57]	82-12281
.093 [2.36]	.093 [2.36]	82-12021	.500 [12.70]	.093 [2.36]	82-12286
.093 [2.36]	.125 [3.18]	82-12026	.500 [12.70]	.125 [3.18]	82-12291
.093 [2.36]	.156 [3.96]	82-12629	.500 [12.70]	.156 [3.96]	82-12296
-	-	-	.500 [12.70]	.187 [4.75]	82-12301
.125 [3.18]	** .030 [0.76]	82-12655	.500 [12.70]	.250 [6.35]	82-12306
.125 [3.18]	.062 [1.57]	82-12041	-	-	-
.125 [3.18]	.093 [2.36]	82-12046	-	-	-
.125 [3.18]	.125 [3.18]	82-12051	-	-	-
.125 [3.18]	.156 [3.96]	82-12056	.625 [15.88]	** .030 [0.76]	82-12667
.125 [3.18]	.187 [4.75]	82-12061	.625 [15.88]	.062 [1.57]	82-12336
-	-	-	.625 [15.88]	.093 [2.36]	82-12341
.187 [4.75]	** .030 [0.76]	82-12657	.625 [15.88]	.125 [3.18]	82-12346
.187 [4.75]	.062 [1.57]	82-12086	.625 [15.88]	.156 [3.96]	82-12351
.187 [4.75]	.093 [2.36]	82-12091	.625 [15.88]	.187 [4.75]	82-12356
.187 [4.75]	.125 [3.18]	82-12096	.625 [15.88]	.250 [6.35]	82-12361
.187 [4.75]	.156 [3.96]	82-12101	.625 [15.88]	.375 [9.53]	82-12371
.187 [4.75]	.187 [4.75]	82-12106	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
.250 [6.35]	** .030 [0.76]	82-12659	.750 [19.05]	** .030 [0.76]	82-12669
.250 [6.35]	.062 [1.57]	82-12126	.750 [19.05]	.062 [1.57]	82-12391
.250 [6.35]	.093 [2.36]	82-12131	.750 [19.05]	.093 [2.36]	82-12396
.250 [6.35]	.125 [3.18]	82-12136	.750 [19.05]	.125 [3.18]	82-12401
.250 [6.35]	.156 [3.96]	82-12141	.750 [19.05]	.156 [3.96]	82-12406
.250 [6.35]	.187 [4.75]	82-12146	.750 [19.05]	.187 [4.75]	82-12411
.250 [6.35]	.250 [6.35]	82-12151	.750 [19.05]	.250 [6.35]	82-12416
-	-	-	.750 [19.05]	.375 [9.53]	82-12426
-	-	-	.750 [19.05]	.500 [12.70]	82-12431
-	-	-	-	-	-
.375 [9.53]	** .030 [0.76]	82-12663	1.000 [25.40]	** .030[0.76]	82-12671
.375 [9.53]	.062 [1.57]	82-12226	1.000 [25.40]	.062 [1.57]	82-12446
.375 [9.53]	.093 [2.36]	82-12231	1.000 [25.40]	.093 [2.36]	82-12451
.375 [9.53]	.125 [3.18]	82-12236	1.000 [25.40]	.125 [3.18]	82-12456
.375 [9.53]	.156 [3.96]	82-12241	1.000 [25.40]	.156 [3.96]	82-12461
.375 [9.53]	.187 [4.75]	82-12246	1.000 [25.40]	.187 [4.75]	82-12466
.375 [9.53]	.250 [6.35]	82-12251	1.000 [25.40]	.250 [6.35]	82-12471
.375 [9.53]	.375 [9.53]	82-12261	1.000 [25.40]	.375 [9.53]	82-12481
-	-	-	1.000 [25.40]	.500 [12.70]	82-12486

Change third digit of part number from -1 to -2 to specify "custom ALUMINUM ELASTOMET".
 Change the third digit of part number -1 to -B to specify "custom PHOSPHOR BRONZE ELASTOMET".
 Change third digit of part number -1 to -F to specify "custom PHOSPHOR BRONZE FLUOROSILICONE ELASTOMET".
 Change fourth digit from -2 to -3 to specify "PRESSURE SENSITIVE ADHESIVE BACKING".
 Use of the pressure-sensitive adhesive is restricted to strips and gaskets having a minimum cross-section width of .250 in. [6.35 mm].
 ** Not available with Phosphor Bronze Wire or Fluorosilicone Elastomer.

Elastomet, Cont.

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TWIN ELASTOMET STRIPS (Table 3.)

TWIN ELASTOMET is a variation of the standard ELASTOMET strip in that the oriented wires occupy only a portion of the total strip width. See Figure below.

TWIN ELASTOMET STRIPS are available standard with Monel or custom with phosphor bronze or aluminum wires. Minimum custom width (W) is .375 in. [9.5 mm]. Width and height tolerances are the same as those specified for ELASTOMET strips. Contact TECKNIT offices for minimum order requirements for TWIN ELASTOMET.

Figure 2.

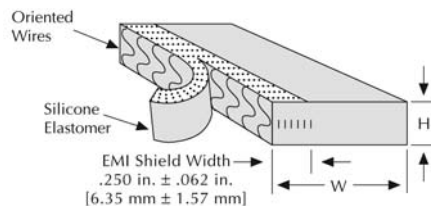


Table 3.

STANDARD TWIN ELASTOMET STRIPS		
W in. [mm]	H in. [mm]	Part Number *
.625 [15.88]	.062 [1.57]	82-12972
.625 [15.88]	.125 [3.18]	82-12911
.625 [15.88]	.187 [4.75]	82-12936
.625 [15.88]	.250 [6.35]	82-12956
.750 [19.05]	.062 [1.57]	82-12973
.750 [19.05]	.125 [3.18]	82-12916
.750 [19.05]	.187 [4.75]	82-12941
.750 [19.05]	.250 [6.35]	82-12961
1.000 [25.40]	.062 [1.57]	82-12974
1.000 [25.40]	.125 [3.18]	82-12921
1.000 [25.40]	.187 [4.75]	82-12946
1.000 [25.40]	.250 [6.35]	82-12966

* Change fourth digit from 2 to 3 to specify pressure sensitive adhesive backing.

PRESSURE-SENSITIVE ADHESIVE

ELASTOMET can be furnished with an acrylic pressure-sensitive adhesive applied to the mounting surface. Use of the pressure-sensitive adhesive is restricted to strips and gaskets having a minimum cross-section width of .250 in. [6.35 mm]. Shelf life is one year from date of receipt when stored at or below room temperature (23°C).

Table 4.

SHEET & STRIP CROSS-SECTION TOLERANCES		
Dimension in. [mm]	Height in. [mm]	Width in. [mm]
.030 to .092 [.76 to 2.36]	+ .010 - .005 [+ .25 - .13]	N/A
.093 to .250 [2.36 to 6.36]	± .010 [± .25]	± .016 [± .40]
.251 to .750 [6.37 to 19.05]	± .010 [± .25]	± .031 [± .79]
over .750 [over 19.05]	± .015 [± .38]	± .047 [± 1.19]
3 [76]	N/A	± .13 [± 3.2]
6 [152]	N/A	± .25 [± 6.4]
9 [229]	N/A	± .38 [± 9.7]
36 [91.4]	N/A	± 1.00 [± 2.54]

SPECIFYING DIE-CUT GASKETS

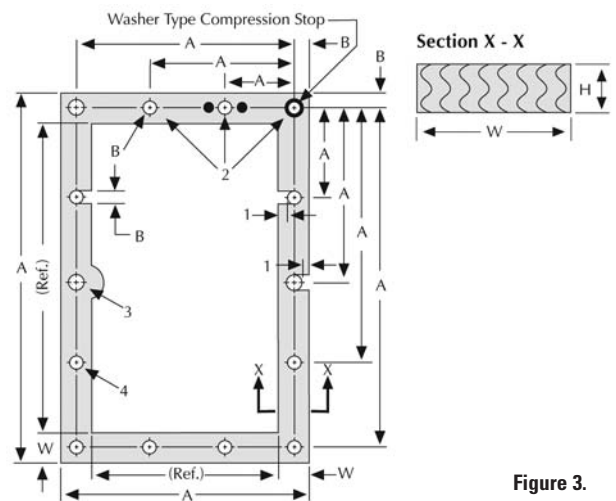


Figure 3.

FABRICATED GASKETS TOLERANCES

The following tolerances and notes refer to the dimensions illustrated in Figure 3.

CUSTOM FABRICATED GASKET TOLERANCES

Symbol	Dimension in. [mm]	Tolerances in. [mm]
A	up to 6 [152]	± .016 [± .40]
	Each Additional 1 in. [25.4]	± .003 [± .08]
B	1 in. [up to 25.4]	± .016 [± .40]
	1 in. [over 25.4]	± .031 [± .79]
W, H		See Tolerance For Strips

ORDERING INFORMATION

For standard sheets and strips, specify TECKNIT Part Number and quantity required. For nonstandard items contact your TECKNIT area representative or factory location.

NOTES:

1. Bolt holes closer to the gasket edge than the gasket thickness must be u-shaped slots, or see note 3.
2. Distance from compression stop to edge of sealing gasket must not be less than gasket thickness.
3. Bolt holes closer to gasket edge than gasket thickness can be with edge protrusion.
4. Hole diameter must not be less than gasket thickness, nor less than .093 inches diameter.

Elasto-Bond® Adhesive

GENERAL DESCRIPTION

ELASTO-BOND is a ready to use one component non-conductive silicone rubber based adhesive sealant. The adhesive system is an RTV that cures by reacting with moisture in the air. The compound is ready to use and does not require additional preparation or mixing.

APPLICATION INFORMATION

ELASTO-BOND adhesive sealant is recommended wherever a flexible bond is required between a metal surface and an ELASTOMET® or ELASTO-FOAM® gasket. To ensure optimum performance the bond thickness should not exceed .005 to .010 in. Depending on the degree of adhesion required, gaskets can be spot bonded or continuously bonded.

SURFACE PREPARATION

Metal surfaces should be lightly abraded with Scotch Brite or an equivalent, degreased with 1,1,1 trichloroethane and then wiped with acetone or MEK before applying primer. Gaskets should be cleaned with isopropanol before applying adhesive.

SPECIFICATIONS

MATERIAL DESCRIPTION

Part Number: 72-00177

Resin: Silicone RTV

Uncured Consistency: Nonslumping Paste

Cured Condition: Flexible

PERFORMANCE CHARACTERISTICS

Temperature Range: -76°F to 399°F
[-60°C to 204°C]

Peel Strength (min.): ASTM D-1002 60 psi
[.414 MPa]

Color: Grey

Shelf Life (unopened container): 6 mos. min.
(when stored at 21°C)

Recommended Cure: 72 hours at room temperature and 50% RH

Full Cure: 7 Days

Clean Up Solvent: Denatured Alcohol

Packaging:** Tube 1.5 oz. [43 g]

**Primer supplied in separate vial.

