

# Section A: Knitted Wire Mesh

*U.S. Customary  
[SI Metric]*



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# Tecknit Strips

## WIRE MESH GASKET MATERIAL

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTION

TECKNIT STRIPS are resilient, conductive, knitted wire mesh strips used as gasket material to provide effective EMI shielding at the joints and seams of electronic enclosures. Any metal that can be produced in the form of wire can be fabricated by TECKNIT into one of the EMI shielding strips. TECKNIT STRIPS are produced in one of four basic cross sections: rectangular, round, round with fin and double core. The standard materials used are: Tin-Plated Phosphor Bronze (Sn/Ph/Bz), Tin-Coated Copper-Clad Steel (Sn/Cu/Fe), Silver-Plated Brass (Ag/Brass), Monel (a Nickel-Copper alloy) and Aluminum (Al).

### APPLICATION INFORMATION

TECKNIT STRIPS are used to provide EMI shielding for electronic enclosures. Generally the rectangular strips are used on cast or machined enclosures while the round and fin types are used on sheet metal enclosures. TECKNIT STRIPS can be attached using TECKNIT conductive adhesives. (Refer to Conductive Adhesives ) They can also be riveted or spot-welded. Mesh strip does not provide a pressure or weather seal and should not be used in salt spray environments. To shield effectively, the mesh should be deflected 15% (min.) to 30% of its height.

### EMI SHIELDING PERFORMANCE\*

TECKNIT STRIPS Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and based upon modified MIL-STD-285. Typical values are:

MATERIALS	H-FIELD	E-FIELD	PLANE WAVE	
	100 kHz	10 MHz	1 GHz	10 GHz
	dB	dB	dB	dB
Ag/Br	80+	135+	105	95
Sn/Cu/Fe	80+	130+	105	95
Sn/Ph/Bz	80+	130+	110	100
Aluminum	60	130	90	80
Monel	60+	130	90	80

\*Based on 127 mm x 127 mm Aperture



### SPECIFICATIONS

#### Wire Mesh Material Description

- **Phosphor Bronze:** .0045 in. [0.114 mm] diameter, per ASTM B-105, Alloy 30 (CDA C50700), tin-plated per ASTM B-33. (Code: 20-6XXXX).
- **Sn/Cu/Fe:** .0045 in. [0.114 mm] diameter, per ASTM B-520. (Code: 20-4XXXX).
- **Ag/Brass:** .005 in. [0.114 mm] diameter, per QQ-W-321, (ASTM-B-134) silver-plated (3% silver by weight). (Code: 20-3XXXX).
- **Monel:** .0045 in. [0.114 mm] diameter, per QQ-N-281, or AMS-4730. (Code: 20-1XXXX).
- **Aluminum Alloy:** .005 in. [0.127 mm] diameter, per SAE-AMS-4182 (except max. tensile strength is 75,000 psi). (Code: 20-2XXXX).

### ORDERING INFORMATION

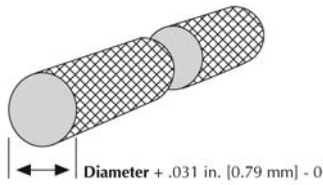
After selecting the TECKNIT standard material and the strip cross section desired, substitute the TECKNIT wire code number in place of the "X" to complete the Part Number as indicated on the following page.

Example: The part number signifying a round with fin strip made of Sn/Cu/Fe wire (.063 in. dia. x .750 in. overall width) would be 20 - 4 2114.

Wire Code ———— | ———— Dimensions Reference



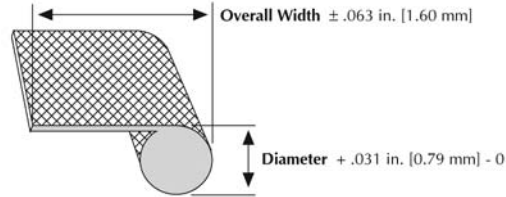
ROUND CROSS SECTION



DIAMETER in. [mm]	PART NUMBER	DIAMETER in. [mm]	PART NUMBER
.063 [1.60]	20-X1110t	.250 [6.35]	20-X1103
.094 [2.39]	20-X1111t	.313 [7.95]	20-X1113
.125 [3.18]	20-X1101	.375 [9.53]	20-X1114
.156 [3.96]	20-X1112	.438 [11.13]	20-X1115

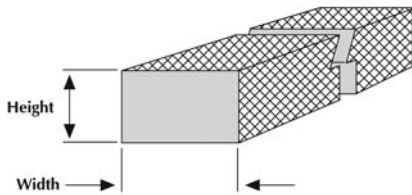
t Tolerance is +.015-0.

ROUND WITH FIN



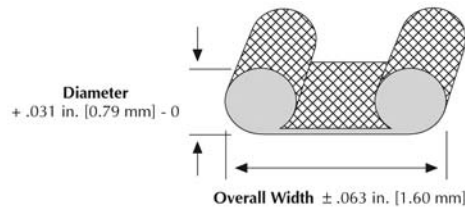
DIA. in. [mm]	O/A in. [mm]	PART NUMBER	DIA. in. [mm]	O/A in. [mm]	PART NUMBER
.063 [1.60]	.375 [9.53]	20-X2111	.188 [4.78]	.875 [22.23]	20-X2128
.063 [1.60]	.500 [12.70]	20-X2112	.250 [6.35]	.500 [12.70]	20-X2129
.063 [1.60]	.625 [15.88]	20-X2113	.250 [6.35]	.625 [15.88]	20-X2104
.063 [1.60]	.750 [19.05]	20-X2114	.250 [6.35]	.750 [19.05]	20-X2105
.094 [2.39]	.375 [9.53]	20-X2115	.250 [6.35]	.875 [22.23]	20-X2130
.094 [2.39]	.500 [12.70]	20-X2116	.250 [6.35]	1.000 [25.40]	20-X2131
.094 [2.39]	.750 [19.05]	20-X2117	.313 [7.95]	.625 [15.88]	20-X2132
.125 [3.18]	.375 [9.53]	20-X2101	.313 [7.95]	.750 [19.05]	20-X2133
.125 [3.18]	.438 [11.13]	20-X2118	.313 [7.95]	.875 [22.23]	20-X2134
.125 [3.18]	.500 [12.70]	20-X2119	.375 [9.53]	.625 [15.88]	20-X2135
.125 [3.18]	.563 [14.30]	20-X2120	.375 [9.53]	.750 [19.05]	20-X2136
.125 [3.18]	.625 [15.88]	20-X2102	.375 [9.53]	.875 [22.23]	20-X2137
.125 [3.18]	.750 [19.05]	20-X2121	.375 [9.53]	1.000 [25.40]	20-X2138
.156 [3.96]	.500 [12.70]	20-X2122	.438 [11.13]	.750 [19.05]	20-X2139
.156 [3.96]	.625 [15.88]	20-X2123	.438 [11.13]	.875 [22.23]	20-X2140
.156 [3.96]	.750 [19.05]	20-X2124	.438 [11.13]	1.000 [25.40]	20-X2141
.188 [4.78]	.438 [11.13]	20-X2125	.500 [12.70]	.750 [19.05]	20-X2142
.188 [4.78]	.500 [12.70]	20-X2126	.500 [12.70]	.875 [22.23]	20-X2143
.188 [4.78]	.625 [15.88]	20-X2103	.500 [12.70]	1.000 [25.40]	20-X2144
.188 [4.78]	.750 [19.05]	20-X2127			

RECTANGULAR CROSS SECTION



WIDTH in. [mm]	HEIGHT in. [mm]	PART NUMBER	WIDTH in. [mm]	HEIGHT in. [mm]	PART NUMBER
.063 [1.60]	.063 [1.60]	20-X0105	.250 [6.35]	.188 [4.78]	20-X0118
.094 [2.39]	.094 [2.39]	20-X0107	.250 [6.35]	.250 [6.35]	20-X0119
.125 [3.18]	.063 [1.60]	20-X0104	.313 [7.95]	.063 [1.60]	20-X0120
.125 [3.18]	.094 [2.39]	20-X0110	.313 [7.95]	.094 [2.39]	20-X0121
.125 [3.18]	.125 [3.18]	20-X0101	.313 [7.95]	.125 [3.18]	20-X0122
.125 [3.18]	.156 [3.96]	20-X0102	.313 [7.95]	.188 [4.78]	20-X0123
.188 [4.78]	.063 [1.60]	20-X0111	.313 [7.95]	.250 [6.35]	20-X0124
.188 [4.78]	.094 [2.39]	20-X0112	.313 [7.95]	.313 [7.95]	20-X0125
.188 [4.78]	.125 [3.18]	20-X0113	.375 [9.53]	.063 [1.60]	20-X0126
.188 [4.78]	.188 [4.78]	20-X0114	.375 [9.53]	.094 [2.39]	20-X0127
.250 [6.35]	.094 [2.39]	20-X0116	.375 [9.53]	.188 [4.78]	20-X0129
.250 [6.35]	.125 [3.18]	20-X0117	.375 [9.53]	.250 [6.35]	20-X0130
			.375 [9.53]	.375 [9.53]	20-X0131

DOUBLE CORE



DIA. in. [mm]	O/A in. [mm]	PART NUMBER	DIA. in. [mm]	O/A in. [mm]	PART NUMBER
.063 [1.60]	.500 [12.70]	20-X5103	.188 [4.78]	.625 [15.88]	20-X5112
.063 [1.60]	.625 [15.88]	20-X5104	.188 [4.78]	.750 [19.05]	20-X5113
.063 [1.60]	.750 [19.05]	20-X5106	.188 [4.78]	.875 [22.23]	20-X5114
.063 [1.60]	.875 [22.23]	20-X5107	.188 [4.78]	1.000 [25.40]	20-X5115
.125 [3.18]	.500 [12.70]	20-X5108	.250 [6.35]	.750 [19.05]	20-X5116
.125 [3.18]	.625 [15.88]	20-X5101	.250 [6.35]	.875 [22.23]	20-X5117
.125 [3.18]	.750 [19.05]	20-X5109	.250 [6.35]	1.000 [25.40]	20-X5118
.125 [3.18]	.875 [22.02]	20-X5115	.375 [9.53]	1.000 [25.40]	20-X519
.125 [3.18]	1.000 [25.40]	20-X5111	.375 [9.53]	1.250 [31.75]	20-X5120



# Custom Strips

## WIRE MESH OVER ELASTOMER CORE

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTION

TECKNIT Custom Strip combines the resiliency and conductivity of knitted wire mesh with excellent compression and deflection characteristics of sponge elastomer. TECKNIT Custom Strip consists of two covers of knitted wire mesh over an elastomer (core). Core materials can be either neoprene, silicone closed cell sponge or TECKNIT low-closure force elastomer tubing. The knitted wire mesh can be either Tin Plate Phosphor Bronze, Tin Coated Copper Clad Steel (Sn/Cu/Fe), or Monel.

### APPLICATION INFORMATION

TECKNIT Custom Strip is intended for use in electronic enclosures exhibiting a wide range of seam unevenness. It is especially useful as an EMI shieldseal for doors and other access openings where lowclosure force and compression set are primary considerations. TECKNIT Custom Strip is also ideal for EMI shielding applications that demand frequent assembly and disassembly and whose environmental requirements are not critical factors. For more critical environmental sealing, refer to TECKNIT DUOSTRIP™, DUOSIL®, ELASTOMET®, ELASTOFOAM™, or CONSIL® materials.

### EMI SHIELDING PERFORMANCE\*

Optimum EMI shielding is obtained with two (2) knitted covers deflected to 75% of original gasket height. The use of only one (1) knitted cover decreases shielding effectiveness 5-10 dB. More than two (2) covers do not improve shielding effectiveness significantly. See total shielding effectiveness data given below.

TECKNIT CUSTOM STRIPS Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and 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
Sn/Ph/Bz	80	130	110	95
Monel	60	125	90	80
Sn/Cu/Fe	80	130	105	95

\*Based on 127 mm x 127 mm Aperture



### SPECIFICATIONS

#### MATERIAL DESCRIPTION

##### Wire Mesh:

- **Phosphor Bronze:** .0045 in. [0.114 mm] diameter, per ASTM B-105, Alloy 30 (CDA C50700), tin-plated per ASTM B-33.
- **Sn/Cu/Fe:** .0045 in. [0.114 mm] diameter, per ASTM B-520.
- **Monel:** .0045 in. [0.114 mm] diameter per QQ-N-281 or AMS-4730.

##### Elastomer Core:

- **Neoprene sponge:** per MIL-R-6130, Type II, Grade A, Condition medium (ASTM-D-6576).
- **Silicone sponge:** per SAE-AMS-3195.
- **Silicone solid:** per ZZ-R-765, Class 2, Grade 40 (Standard), Grade 50 (Hollow Cores) (AA-59588).

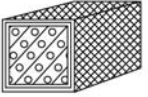
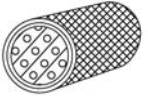
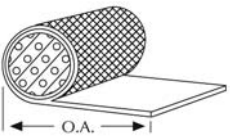
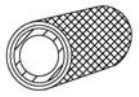
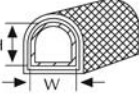
#### PERFORMANCE CHARACTERISTICS

##### Temperature Range:

- 24°F to 212°F [-30°C to 100°C] for Neoprene sponge.
- 103°F to 401°F [-75°C to 205°C] for Silicone sponge.
- 75°F to 500°F [-60°C to 260°C] for Silicone solid.



TABLE 1-STANDARD FORMS AVAILABLE

RECTANGULAR DOUBLE KNITTED COVER OVER SPONGE	ELASTOMER DIMENSIONS MIN. [MM] L X W		NEOPRENE SPONGE CORE			SILICONE SPONGE CORE		
	Sn/Ph/Bz	Sn/Cu/Fe	Monel	Sn/Ph/Bz	Sn/Cu/Fe	Monel		
	.125 X 188 [3.18 X4.78]	21-63915	21-43915	21-13915	21-63948	21-43948	21-13948	
	.125 X250 [3.18 X6.35]	21-63916	21-43916	21-13916	21-63949	21-43949	21-13949	
	.125 X.375 [3.18 X 9.53]	21-63917	21-43917	21-13917	21-63950	21-43950	21-13950	
	.188 X .188 [4.78 X 4.78]	21-63918	21-43918	21-13918	21-63951	21-43951	21-13951	
	.188 X .375 [4.78 X 9.53]	21-63920	21-43920	21-13920	21-63953	21-43953	21-13953	
ROUND DOUBLE KNITTED COVER OVER SPONGE	ELASTOMER DIMENSIONS		NEOPRENE SPONGE CORE			SILICONE SPONGE CORE		
	Sn/Ph/Bz	Sn/Cu/Fe	Monel	Sn/Ph/Bz	Sn/Cu/Fe	Monel		
	.063 [1.60]	-	-	-	-	21-00076	-	
	.125 [3.18]	21-63900	21-43900	21-13900	21-63933	21-43933	21-13933	
	.188 [4.78]	21-63901	21-43901	21-13901	21-63934	21-43934	21-13934	
	.250 [6.35]	21-63902	21-43902	21-13902	21-63935	21-43935	21-13935	
SINGLE FIN DOUBLE KNITTED COVER OVER SPONGE	ELASTOMER		NEOPRENE SPONGE CORE			SILICONE SPONGE CORE		
	DIA.	O.A.	Sn/Ph/Bz	Sn/Cu/Fe	Monel	Sn/Ph/Bz	Sn/Cu/Fe	Monel
	.125 [3.18]	.500 [12.70]	21-63907	21-43907	21-13907	21-63940	21-43940	21-13940
	.125 [3.18]	.625 [15.88]	21-63908	21-43908	21-13908	21-63941	21-43941	21-13941
	.125 [3.18]	.750 [19.05]	21-63909	21-43909	21-13909	21-63942	21-43942	21-13942
	.188 [4.78]	.500 [12.70]	21-63910	21-43910	21-13910	21-63943	21-43943	21-13943
	.188 [4.78]	.625 [15.88]	21-63911	21-43911	21-13911	21-63944	21-43944	21-13944
	.188 [4.78]	.750 [19.05]	21-63912	21-43912	21-13912	21-63945	21-43945	21-13945
	.250 [6.35]	.750 [19.05]	21-63913	21-43913	21-13913	21-63946	21-43946	21-13946
	.250 [6.35]	1.000 [25.40]	21-63914	21-43914	21-13914	21-63947	21-43947	21-13947
ROUND DOUBLE KNITTED COVER OVER HOLLOW CORE	ELASTOMER DIAMETER		SILICONE HOLLOW CORE					
	DIA.	O.A.	Sn/Ph/Bz	Sn/Cu/Fe	Monel			
.062 [1.58] CORE WALL THICKNESS 	.500 [12.70]	.375 [9.53]	-	21-00070	21-00072			
	.375 [9.53]	.250 [6.35]	-	21-00071	21-00073			
"D" DOUBLE KNITTED COVER OVER HOLLOW CORE	ELASTOMER DIAMETER		SILICONE SOLID HOLLOW CORE					
	W	H	Sn/Ph/Bz	Sn/Cu/Fe	Monel			
.093 [2.36] CORE WALL THICKNESS 	.500 [12.70]	.500 [12.70]	-	21-00074	21-00075			

**ELASTOMER TOLERANCES:** ±.031 in. [0.79 mm]

For TECKNIT OVERALL DIMENSIONS, add .031 in. [0.79 mm] to Elastomer Dimension. Resulting dimensions are applicable to parts under a 4 oz. [113 g.] load using .75 in. [19.05 mm] anvils.

**ORDERING INFORMATION**

To order available TECKNIT Custom Strip, specify TECKNIT Part Number and quantity required. For other types of custom strips or for those utilizing fiberglass, high-temperature ceramic fibers, elastomer tubing, or other specialized materials, contact your nearest TECKNIT area representative or factory.



# EMI Shielding Tape

## THIN STRIP OF WIRE MESH

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTION

EMC SHIELDING TAPE is a double layered strip of knitted wire mesh providing effective EMI shielding for electrical and electronic cable assemblies. The knitted construction of EMI SHIELDING TAPE maximizes conformability and flexibility while minimizing bulk and weight. Standard EMC SHIELDING TAPE uses Sn/Cu/Fe knitted wire to provide greater physical strength and shielding effectiveness than may be achieved with other tape materials.

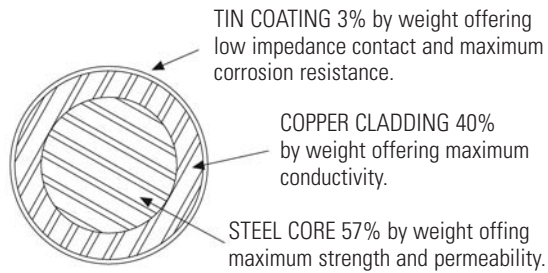
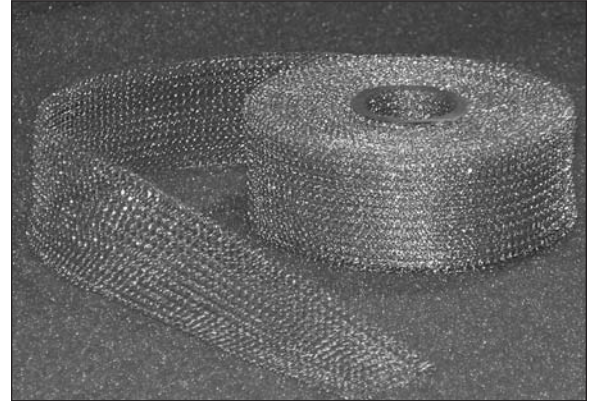


Figure 1. Cross section of Sn/Cu/Fe wire.

### APPLICATION INFORMATION

TECKNIT EMC SHIELDING TAPE is recommended for EMI shielding, grounding, and static discharge applications. It is particularly effective as a primary or supplementary shield for electronic cables and cable assemblies. The flexibility of EMC SHIELDING TAPE permits it to conform to irregular surfaces. EMC SHIELDING TAPE is useful in a broad range of temperatures and environments.

### EMI SHIELDING PERFORMANCE

TECKNIT EMC SHIELDING TAPE Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and 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
Sn/Cu/Fe	45	60	40	30

### SPECIFICATIONS

#### MATERIAL DESCRIPTION

**Wire Mesh\*:** Sn/Cu/Fe, (tin coated copper clad steel see Figure 1) .0045 ± .0005 in. [0.114 ± 0.012mm] diameter in accordance with ASTM B-520.

**Width:** 1.00 in. [25.4 mm] nominal.

**Thickness:** .02in. [0.45 mm] nominal.

**Weight:** 8.0 oz. per 100 feet [745 grams per 100 meters].

#### PERFORMANCE CHARACTERISTICS

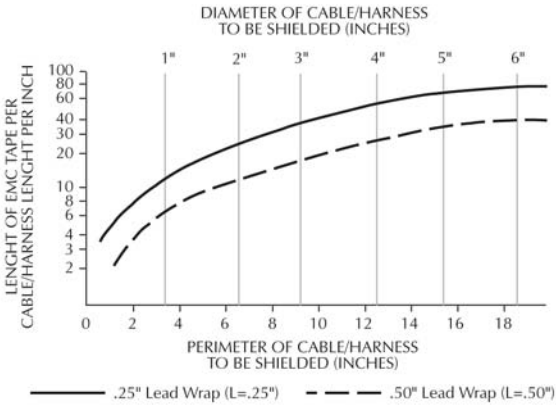
**Corrosion Resistance:** Excellent.

**Solderability:** Excellent.

\*Special orders available in different widths and in such materials as Monel, Aluminum, Silver Plated Brass, Tin-Plated Phosphor Bronze.



**TAPE LENGTH VS. CABLE SIZE**



Note: For each termination and/or branch connection add 30 in. [76 cm] of EMC tape to anticipated usage.

Figure 2

**SHIELDING TAPE TERMINATION**

TECKNIT Two Part, Silver-filled, Conductive Epoxy (Part No. 72-08116), is recommended for cable shielding tape termination. The epoxy is rigid with a volume resistivity of 0.001 ohm-cm. EMC SHIELDING TAPE may also be terminated by means of soldering or clamping.

**METHODS OF APPLYING EMC SHIELDING TAPE  
TECKNIT EMC SHIELDING TAPE**

should be wrapped around the cable assembly. Wrap the main cable and terminate the tape before beginning to wrap the cable branch. Start and end all helical wrapping with a minimum of two overlapping circumferential wraps. At branch connections, start at least 4 in. [100 mm] before and after branch to assure adequate EMC SHIELDING TAPE coverage at the “V” section. Branch connections should not be designed to occur within 4 in. [100 mm] or each other.

Recommended lead for most applications is 0.50 in. [13 mm], although some additional shielding will be achieved when utilizing a 0.25 in. [6 mm] lead. The length of EMC SHIELDING TAPE required for each cable using these two types of lead wraps can be obtained by referring to Figure 2.

TECKNIT PART NUMBERS	LENGTH OF EMC TAPE
23-50225	25 ft. [7.6 m] per roll
23-50200	100 ft. [30.5 m] per roll
23-50233	1000 ft. [305 m] per spool
23-50231	1500 ft. [457 m] per spool
23-50228	2000 ft. [610 m] per spool
23-50229	2500 ft. [762 m] per spool

**WIRE TYPE / WIRE DIAMETER**

TECKNIT mesh stockings are available in any of our standard wires:

WIRE TYPE	WIRE DIAMETER
Sn/Cu/Fe	.0045"
Monel	.0045"
Aluminum	.005"
Sn/Phosphor Bronze	.0045"
Ag/Brass	.005"

Stockings are available in widths from .250" to 10.0"

Contact TECKNIT for price and availability.

**ORDERING INFORMATION**

For 25 and 100 ft. [7.6 and 30.5 m] lengths, EMC SHIELDING TAPE is supplied in individual packages. Longer continuous lengths are supplied on spools. To order standard parts, specify the TECKNIT Part Number and the quantity or rolls or feet. For non-standard items contact your nearest TECKNIT area representative or factory location.



# Teckmesh Tape

## SHIELD & SEAL WIRE MESH

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTION

TECKMESH is a flexible EMC tape for shielding and sealing cables and harnesses. Constructed of knitted wire mesh for shielding and silicone elastomer for sealing, it is self-sealing and inseparable after 24 hours at room temperature.

The shield is a double layer of knitted wire mesh. Standard wire material is tin coated copper clad steel (Sn/Cu/Fe) for optimum magnetic and electric field shielding. Minimum shielding in the 100 kHz to 1 GHz spectrum is 40 dB. Other materials are available such as tin plated phosphor bronze for increased shielding in the 10 MHz to 10 GHz region.

The seal is a silicone elastomer that fuses on contact with itself. No adhesives, clamps or special tools are required for cable or harness wrapping or curing.

The combination of shielding and sealing materials provides uniform tension on the shielding mesh to ensure tight EMI control even under adverse conditions of cable twisting and bending. The tape seals against moisture, corrosive electrolytes, and noxious gases permitting extended life. It readily conforms to cable or harness surface permitting branching, extensions, repairs and the mounting of grounding tabs. It is extremely easy to use.

### APPLICATION INFORMATION

TECKMESH is recommended for shielding, grounding, and static discharge applications. It is effective for most commercial applications for supplemental shielding of electrical and electronic cables and harnesses against radiating emissions under FCC or VDE regulations. As a primary shield, it provides more than an adequate shield when properly assembled for personal computers, communication devices and equipment controllers.



### SPECIFICATIONS

#### MATERIAL DESCRIPTION

##### Shield:

- **Phosphor Bronze:** .0045 in. [0.114 mm] diameter, per ASTM B-105, Alloy 30 (CDA C50700), tin-plated per ASTM B-33.
- **Knitted wire mesh:** 1.0 in. [25.4 mm] wide.
- **Standard (P/N 23-50300):** Sn/Cu/Fe (tin coated copper clad steel), .0045 in. [0.114 mm] dia. per ASTM B-520.
- **Option (P/N 23-50303):** Tin plated phosphor bronze, .0045 in. [0.114 mm] per ASTM B-105, alloy 30 (CDA C50700), plated per ASTM B-33.

##### Seal: Silicone, 1.0 in. [25.4 mm] wide.

- **Width (overall):** 1.50 in. [38.1 mm] nominal.
- **Length (of roll):** 36 ft. [10.97 meters] nominal.
- **Thickness:** Tape, .04 in. [1.0 mm] nominal. 50% overlap, .09 in. [2.2 mm] nominal.
- **Weight:** 24.6 oz. per 100 ft. [2.3 kg per 100 meters].

### PERFORMANCE CHARACTERISTICS

##### Shield:

- **Pull Strength:** 50 lbs. [222 N].
- **Elongation (max.):** 100%.
- **Solderability:** Excellent.

##### Seal:

- **Hardness, Shore A Durometer:** 50 (ASTM D-2240).
- **Room Temp. Cure:** 24 hours.
- **Tensile Strength (min.) (ASTM D-412):** 700 psi [4.8 MPa].
- **Tear Strength (min.) (ASTM D-624):** 85 lbf/in. [148 N/m].
- **Bond Strength (min.) 24 hours at room temp.:** 2 lbs. [8.5 N].
- **Dielectric Strength (min.):** 400V/mil [15.7 kv/mm].
- **Volume Resistivity (min.):** 10<sup>14</sup> ohms/cm.
- **Temperature Range:** -67°F to 390°F [-55°C to 200°C]



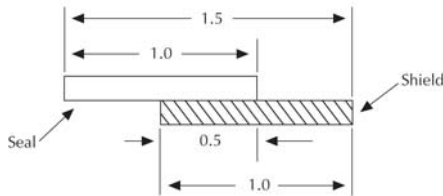
**EMI SHIELDING PERFORMANCE**

TECKMESH Shielding Tape has been tested for shielding effectiveness (SE) in accordance with TECKNIT Test Method TSET-01 based on a modified MIL-STD-285 test. The tests were performed using a 50% overlap which produces a 4 layer shield. Typical values are given below.

MATERIALS	H-FIELD	E-FIELD	PLANE WAVE	
	100 kHz	10 MHz	1 GHz	10 GHz
	dB	dB	dB	dB
Sn/Cu/Fe	45	60	40	30
Sn/Ph/Bz	--	70	50	35

**METHOD OF APPLICATION**

The overall width of the shielding tape is 1.5 inches; one inch for the shield and one inch for the elastomer. The two sections of the tape are overlapped by .5 inch and bonded together:



**Figure 1.** Cross Section

Wrap tape around the cable starting at one end. Wrap the main cable before wrapping the branches. Secure the beginning wrap by using the sealing tape. Remove about 4 inches of the shielding mesh by clipping the tie points holding the mesh to the elastomer seal. The 4 inch long tab of mesh can be used as a grounding point or removed if the opposite end is to be grounded. The mesh shield can be soldered to a convenient ground or a spade lug attached to the mesh for grounding to a mounting screw. The free end of the sealing tape should be used to seal off the end of the shield to exclude moisture.

**ORDERING INFORMATION**

To order, specify the TECKNIT part number and the quantity or rolls or feet. For assistance contact your nearest TECKNIT area representative or factory location.

TECKNIT PART NUMBERS	LENGTH
23-50300	36 ft. roll
23-50303	36 ft. roll



# Seamless Knitted Wire

## DIE-COMPRESSED MESH GASKETS

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTION

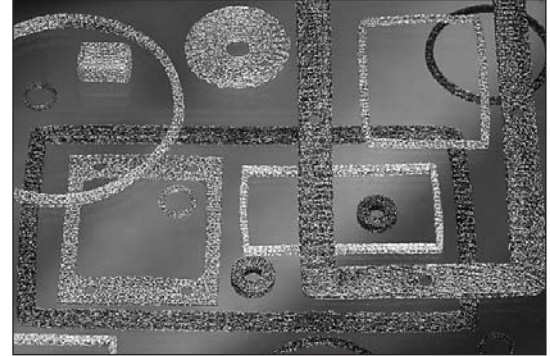
SEAMLESS KNITTED WIRE gaskets are utilized for high volume, custom engineered applications. Although most applications involve rings, gaskets can be produced in rectangular and special shapes, with holes or mounting recesses, corner radii and other special features. TECKNIT gaskets are formed by die-compressing a controlled amount of knitted wire mesh that contains no joints or splices. SEAMLESS KNITTED WIRE MESH gaskets offer excellent EMI shielding characteristics, controlled density, good resiliency, low cost, and easy installation. They can be manufactured as small as 0.125 in. [3.18 mm] I.D. and 0.250 in. [6.35 mm] O.D. Wall thickness and height are generally limited to 0.063 in. [1.59 mm] minimum and 0.250 in. [6.35 mm] maximum.

### APPLICATION INFORMATION

Unique SEAMLESS KNITTED WIRE MESH gaskets are used in EMI shielding applications that include cable TV, microwave ovens, waveguide flanges, connector and filter mountings. They have also been used for shaft seals, heat sinks, shock absorbers, and filters, and can be manufactured by hand-forming and joining for prototype requirements. (For applications requiring both EMI shielding and moisture sealing, see TECKNIT DUOGASKET.)

### MATERIAL RECOMMENDATIONS

The four standard wire materials used to manufacture SEAMLESS KNITTED WIRE gaskets are listed under TECKNIT specifications. For availability of SEAMLESS KNITTED WIRE MESH gaskets in other wire materials, contact TECKNIT.



### SPECIFICATIONS

#### MATERIAL DESCRIPTION

##### Wire Mesh\*:

- **Phosphor Bronze:** .0045 in. [0.114 mm] diameter, per ASTM B-105, Alloy 30 (CDA C50700), tin-plated per ASTM B-33.
- **Sn/Cu/Fe:** .0045 in. [0.114 mm] diameter, per ASTM B-520.
- **Ag/Brass:** .005 in. [0.127 mm] diameter, per QQW-321 (ASTM B-520), silver-plated (3% silver by weight).
- **Monel:** .0045 in. [0.114 mm] diameter, per QQN-281 or AMS-4730.

\* NOTE: Recommended volume density of wire is 14 to 20 percent.

### EMI SHIELDING PERFORMANCE

TECKNIT SEAMLESS KNITTED WIRE Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and 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
Ag/Br	80	135	105	95
Sn/Cu/Fe	80	130	105	95
Sn/Ph/Bz	80	130	110	100
Monel	60	130	90	80



SEAMLESS KNITTED WIRE MESH gaskets may also be made from wire of nonstandard materials and diameters. Maximum gasket size is limited to approximately 4 in. [102 mm] diameter. Contact your nearest TECKNIT representative or factory for design assistance.

STANDARD TOLERANCES		
DIMENSIONS	TOLERANCES	
in. [mm]	in. [mm]	
<b>I.D.</b>	0.125-3.875 [3.175-98.4]	+0, -0.020 in. [+0, -0.50 mm]
<b>O.D.</b>	0.250-4.0 [6.35-101.6]	+0.020, -0 in. [+0.50, -0 mm]
<b>HEIGHT*</b>	.063-.250 [1.6-6.35]	+0.020, -0 in. [+0.50, -0 mm]

\*Dimensions applicable to parts under a 4 oz. [113g] load using .75 in [19.1 mm] anvils.

**ORDERING INFORMATION**

When ordering round SEAMLESS KNITTED WIRE MESH gaskets, specify the I.D., O.D. and height. For gaskets of other shapes, provide a drawing specifying all critical dimensions (i.e., corner radii, hole dimensions, location of holes and density/weight requirement.) Before finalizing design, contact TECKNIT to determine whether existing tooling is available for your application.



# Custom Knitted Wire

## CUSTOM MESH GASKETS

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTION

TECKNIT CUSTOM KNITTED WIRE MESH gaskets and assemblies are produced from many standard forms of knitted wire materials. These include TECKNIT STRIPS (rectangular, round, double core and round with fin) and TECKNIT CUSTOM STRIPS (double knit over sponge and hollow cross section elastomer core constructions). For standard materials and cross sections used in the manufacture of TECKNIT CUSTOM KNITTED WIRE gasket and assemblies, refer to pages listing TECKNIT STRIPS and TECKNIT CUSTOM STRIPS.

### APPLICATION INFORMATION

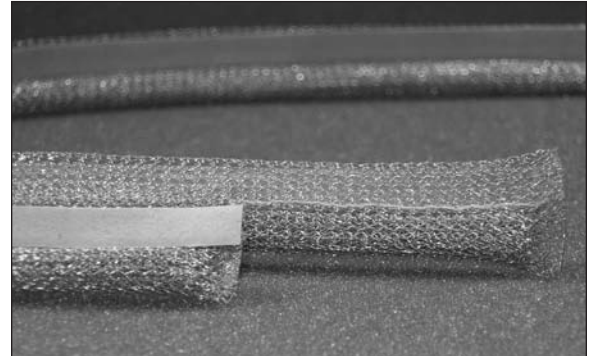
TECKNIT CUSTOM KNITTED WIRE MESH gaskets and assemblies are effective in a variety of EMI shielding applications. They install easily and offer the design engineer many methods of attachment, such as rivets, clips, retaining strips, spot welds, side wall friction, and adhesives (see TECKNIT CONDUCTIVE systems).

### EMI SHIELDING PERFORMANCE\*

TECKNIT CUSTOM KNITTED WIRE Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and 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
Ag/Br	80+	135+	105	95
Sn/Cu/Fe	80+	130+	105	95
Sn/Ph/Bz	80+	130+	110	100
Aluminum	60	130	90	80
Monel	60+	130	90	80

\*Based on 127 mm x 127 mm Aperture



### SPECIFICATIONS

#### MATERIAL DESCRIPTION

##### Wire Mesh\*:

- **Phosphor Bronze:** .0045 in. [0.114 mm] diameter, per ASTM B-105, Alloy 30 (CDA C50700), tin plated per ASTM B-33.
- **Sn/Cu/Fe:** .0045 in. [0.114 mm] diameter, per ASTM B-520.
- **Ag/Brass:** .005 in. [0.127 mm] diameter, per QQW-321 (ASTM-B-134), silver plated (3% silver by weight).
- **Monel:** .0045 in. [0.114 mm] diameter, per QQN-281, or AMS-4730.
- **Aluminum Alloy 5056:** .005 in. [0.127 mm] diameter, per SAE AMS-4182 (except max. tensile strength is 75,000 psi).

##### Elastomer

- **Neoprene sponge (closed cell):** MIL-R-6130, Type II, Grade A, Condition medium.
- **Neoprene solid:** MIL-R-6855, Class 2, Grade 40.
- **Silicone sponge (closed cell):** AMS-3195.
- **Silicone solid:** ZZ-R-765, Class 2, Grade 40 (Standard), Grade 50 (For Hollow Cores).

#### PERFORMANCE CHARACTERISTICS

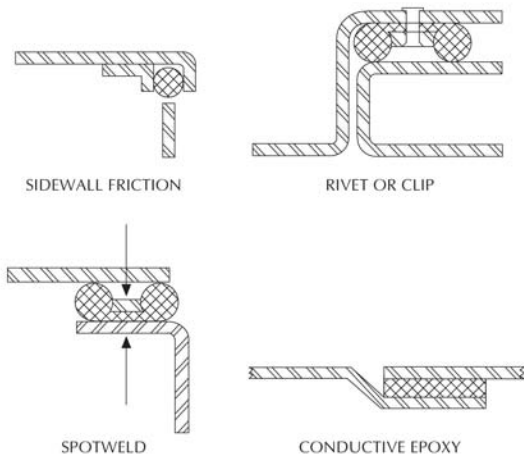
##### Temperature Range

- **Neoprene sponge:** -24°F to 212°F [-30°C to 100°C]
- **Neoprene solid:** -65°F to 212°F [-54°C to 100°C]
- **Silicone sponge:** -103°F to 401°F [-75°C to 205°C]
- **Silicone solid:** -75°F to 500°F [-60°C to 260°C]



**INSPECTION METHODS**

TECKNIT CUSTOM KNITTED WIRE MESH gaskets and assemblies conform to flange or groove mountings. Dimensional tolerances for gaskets and assemblies are usually greater than the tolerances of flanges and grooves. The inherent resiliency and conformability of the gaskets allow them to easily adapt to enclosure dimensions. Recommended inspection methods for knitted wire mesh gaskets employ the use of templates or samples of the flange or groove into which the gasket will be installed.



**ORDERING INFORMATION**

It is recommended that TECKNIT CUSTOM KNITTED WIRE MESH gaskets and assemblies be designed using standard TECKNIT STRIP and CUSTOM STRIP cross sections listed on their respective pages in this catalog. Specify TECKNIT Part Number for cross section and material. Supply the remaining specifications for finished parts: overall dimensions, hole locations, mounting methods, and any other mechanical requirements. Holes and ends of knitted wire mesh may be finished to minimize fraying. This can be accomplished by utilizing finishing methods such as sewing, spot welding, grommeting, or similar methods. For assistance with your custom application, contact your nearest TECKNIT area representative or factory location.



**TOLERANCES**

**CROSS SECTION DIMENSIONS**

**Width and Height\***

.06 to .38 in. [1.6 to 9.5mm] ..... ±.031 in. [0.79mm]  
 .38 in. [9.5mm] to .500 in. [12.7] ±.063 in. [1.60 mm]

**OVERALL DIMENSIONS**

**Length and Width**

Up to 12 in. [305mm].....±.063 in. [1.60mm]  
 For additional  
 6 in. [152.4 mm] .....±.031 in. [0.79mm]  
 Holes and Slots .....±.031 in. [0.79mm]

\*NOTE: Dimensions are measured with parts under 4 oz. [113g] load using .75 in. [19.1 mm] anvils.

# Duostrips™ and Duogaskets™

## WIRE MESH WITH ELASTOMER SEAL

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTIONS

TECKNIT DUOSTRIPS and DUOGASKETS consist of knitted wire mesh strips combined with an elastomer. This combination provides electromagnetic shielding plus an environmental seal. The EMI shielding knitted wire mesh should be selected to provide optimum shielding effectiveness while assuring compatibility with the metals of the surface being gasketed. Most commonly employed metals are Tin-Plated Phosphor Bronze, Tin-Coated Copper-Clad Steel (Sn/ Cu/Fe) and Monel. Environmental sealing is achieved by using elastomers with solid or closed cell sponge neoprene or silicone. Optional elastomers include fluorosilicone, buna and butyl rubber.

### APPLICATION INFORMATION

TECKNIT DUOSTRIPS and DUOGASKETS are used in applications requiring EMI shielding and environmental sealing. Optional pressure sensitive adhesive backing provides a convenient and effective means of mounting the gasket. DUOSTRIPS and DUOGASKETS are used to seal enclosure doors and lids, removable cover plates, and as interface gaskets for mounting shielding windows and air vent panels.

### EMI SHIELDING PERFORMANCE\*

TECKNIT TWIN DUOSTRIP Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and 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	65	135	100	90

\*Based on 127 mm x 127 mm Aperture

### CLOSURE PRESSURES RECOMMENDED

The many parameters in shielding/sealing gasket design, such as width, thickness and durometer, make it difficult to specify exact closing pressure criteria. A general rule, for both solid and sponge elastomers, closing pressures should be 69 kPa [10 psi] min.



### SPECIFICATIONS

#### MATERIAL DESCRIPTION

##### Wire Mesh:

- **Phosphor Bronze:** .0045 in. [0.114 mm] diameter, per ASTM B-105, Alloy 30 (CDA C50700), tin-plated per ASTM B-33.
- **Sn/Cu/Fe:** .0045 in. [0.114 mm] diameter, per ASTM B-520.
- **Ag/Brass:** .005 in. [0.127 mm] diameter, per QQ-W-321, (ASTM-B-134) silver-plated (3% silver by weight).
- **Monel:** .0045 in. [0.114 mm] diameter, per QQ-N-281, or AMS-4730.
- **Aluminum Alloy 5056:** .005 in. [0.127 mm] diameter, per SAE AMS-4182 (except max. tensile strength is 75,000 psi).

##### Elastomer:

- **Neoprene sponge:** (closed cell), MIL-R-6130, Type II, Grade A, Condition medium. (ASTM-D-6576)
- **Neoprene solid:** MIL-R-6855, Class 2, Grade 40.
- **Silicone sponge** (closed cell): SAE AMS-3195.
- **Silicone solid:** ZZ-R-765, Class 2, Grade 40 (Standard), Grade 50 (Hollow Cores). (AA-59588)

### PERFORMANCE CHARACTERISTICS

#### Temperature Range:

- **Neoprene sponge:** -24°F to 212°F [-31°C to 100°C]
- **Neoprene solid:** -65°F to 212°F [-54°C to 100°C]
- **Silicone sponge:** -103°F to 401°F [-75°C to 205°C]
- **Silicone solid:** -75°F to 500°F [-60°C to 260°C]



DUOSTRIPS

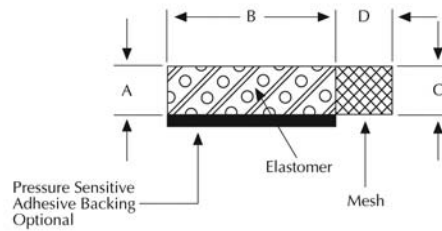


Figure 1.

CROSS SECTION				NEOPRENE SPONGE				SILICONE SPONGE			
DIMENSIONS in. [mm]				PLAIN		TECKSTIK ADH.		PLAIN		TECKSTIK-SIL. ADH.	
A	B	C	D	MONEL	SN/CU/FE	MONEL	SN/CU/FE	MONEL	SN/CU/FE	MONEL	SN/CU/FE
.062 [1.57]	.250 [6.35]	.062 [1.57]	.125 [3.18]	43-13511	43-00213	43-16792	43-00252	43-13802	43-00120	43-00144	43-00165
.062 [1.57]	.375 [9.53]	.062 [1.57]	.125 [3.18]	43-13446	43-00214	43-00003	43-00253	43-00063	43-00121	43-16796	43-00166
.062 [1.57]	.500 [12.70]	.062 [1.57]	.125 [3.18]	43-00030	43-00215	43-16795	43-00000	43-13546	43-00122	43-00145	43-00167
.062 [1.57]	.625 [15.88]	.062 [1.57]	.125 [3.18]	43-00200	43-00216	43-00237	43-00254	43-13841	43-00123	43-00041	43-46711
.093 [2.36]	.250 [6.35]	.093 [2.36]	.125 [3.18]	43-13634	43-00217	43-16764	43-00255	43-00100	43-00124	43-00146	43-00168
.093 [2.36]	.375 [9.53]	.093 [2.36]	.125 [3.18]	43-00201	43-00218	43-00238	43-46456	43-00101	43-00125	43-00147	43-00169
.093 [2.36]	.500 [12.70]	.093 [2.36]	.125 [3.18]	43-13613	43-00219	43-16797	43-46458	43-00102	43-00126	43-16799	43-00170
.093 [2.36]	.750 [19.05]	.093 [2.36]	.125 [3.18]	43-13245	43-00220	43-00239	43-00256	43-00103	43-00127	43-00148	43-00171
.125 [3.18]	.187 [4.75]	.125 [3.18]	.187 [4.75]	43-13268	43-00221	43-00240	43-00258	43-00104	43-00128	43-00150	43-00173
.125 [3.18]	.250 [6.35]	.125 [3.18]	.125 [3.18]	43-13334	43-00222	43-00241	43-46136	43-00105	43-00129	43-00021	43-00174
.125 [3.18]	.250 [6.35]	.125 [3.18]	.250 [6.35]	43-13261	43-00223	43-16136	43-00259	43-13635	43-00130	43-00151	43-00175
.125 [3.18]	.375 [9.53]	.125 [3.18]	.125 [3.18]	43-13971	43-43971	43-16106	43-46102	43-13980	43-43980	43-16404	43-46406
.125 [3.18]	.500 [12.70]	.125 [3.18]	.125 [3.18]	43-13746	43-00224	43-16108	43-46100	43-13842	43-00131	43-16408	43-46408
.125 [3.18]	.500 [12.70]	.125 [3.18]	.250 [6.35]	43-13262	43-00225	43-00242	43-00260	43-13794	43-00132	43-16431	43-46710
.125 [3.18]	.625 [15.88]	.125 [3.18]	.125 [3.18]	43-13972	43-43972	43-16110	43-46101	43-13981	43-43981	43-16410	43-46410
.125 [3.18]	.750 [19.05]	.125 [3.18]	.125 [3.18]	43-00202	43-43175	43-16112	43-00262	43-00107	43-43178	43-00040	43-00177
.125 [3.18]	.750 [19.05]	.125 [3.18]	.250 [6.35]	43-00203	43-43162	43-00244	43-00263	43-00108	43-00134	43-00153	43-00178
.187 [4.75]	.250 [6.35]	.187 [4.75]	.125 [3.18]	43-00204	43-00227	43-00246	43-00265	43-00109	43-43161	43-00155	43-00180
.187 [4.75]	.375 [9.53]	.187 [4.75]	.125 [3.18]	43-13974	43-43974	43-16206	43-46206	43-13983	43-43983	43-16506	43-46506
.187 [4.75]	.500 [12.70]	.187 [4.75]	.125 [3.18]	43-13115	43-00228	43-16208	43-46208	43-00110	43-00135	43-16508	43-46508
.187 [4.75]	.625 [15.88]	.187 [4.75]	.125 [3.18]	43-13975	43-43975	43-16210	43-46210	43-13984	43-43984	43-16510	43-46510
.187 [4.75]	.625 [15.88]	.187 [4.75]	.250 [6.35]	43-00205	43-00229	43-00247	43-00266	43-00111	43-00136	43-00156	43-00181
.187 [4.75]	.750 [19.05]	.187 [4.75]	.250 [6.35]	43-00206	43-00230	43-00248	43-00267	43-00112	43-00137	43-00157	43-00182
.250 [6.35]	.250 [6.35]	.250 [6.35]	.125 [3.18]	43-00207	43-00231	43-16304	43-00020	43-00113	43-43142	43-00159	43-00184
.250 [6.35]	.375 [9.53]	.250 [6.35]	.125 [3.18]	43-13977	43-43977	43-16306	43-46306	43-13986	43-43986	43-16606	43-46606
.250 [6.35]	.500 [12.70]	.250 [6.35]	.125 [3.18]	43-00208	43-00232	43-16308	43-46308	43-00114	43-00138	43-16608	43-46608
.250 [6.35]	.625 [15.88]	.250 [6.35]	.125 [3.18]	43-13978	43-43978	43-16310	43-46310	43-13987	43-43987	43-16610	43-46610

TWIN MESH DUOSTRIP

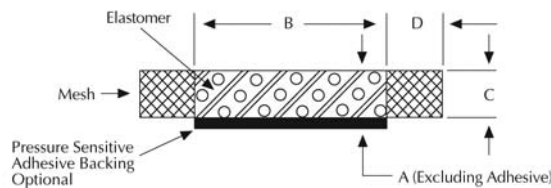


Figure 2.

DIMENSIONS in. [mm]				PLAIN		TECKSTIK ADH.		PLAIN		TECKSTIK-SIL. ADH.	
A	B	C	D	MONEL	SN/CU/FE	MONEL	SN/CU/FE	MONEL	SN/CU/FE	MONEL	SN/CU/FE
.125 [3.18]	.250 [6.35]	.125 [3.18]	.125 [3.18]	43-13335	43-43123	43-16718	43-46131	43-00324	43-00331	43-00042	43-00344
.125 [3.18]	.375 [9.53]	.125 [3.18]	.125 [3.18]	43-13141	43-00306	43-16726	43-46137	43-00325	43-00332	43-00339	43-46138
.125 [3.18]	.500 [12.70]	.125 [3.18]	.250 [6.35]	43-00302	43-00309	43-00315	43-00320	43-00328	43-00335	43-00341	43-00347
.187 [4.75]	.250 [6.35]	.187 [4.75]	.125 [3.18]	43-00303	43-00310	43-00316	43-00321	43-13707	43-00336	43-00342	43-00348



# Duostrips, Duogaskets Cont.

U.S. Customary  
[SI Metric]

## OPTIONAL CONSTRUCTIONS

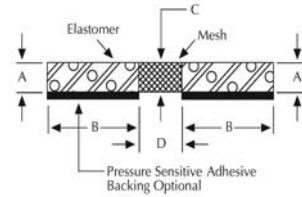


Figure 3. Twin Elastomer Duostrip

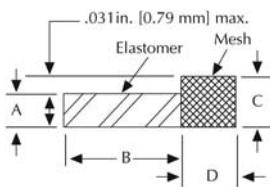


Figure 4. Solid Elastomer Duostrip

## DUOGASKET DRAWING STANDARDS

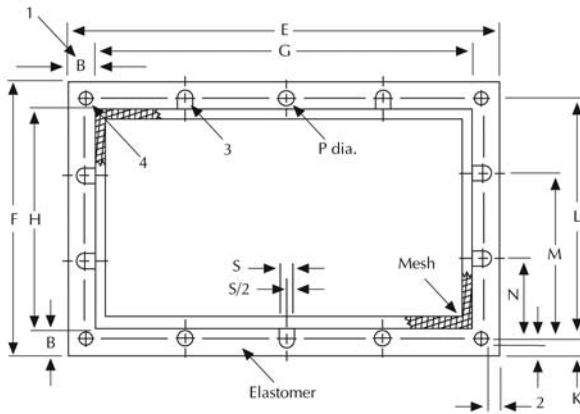


Figure 5.

### NOTES:

1. Minimum sealing gasket with (B) is .125 in. [3.18 mm] but not less than gasket thickness (A).
2. Minimum distance from bolt hole or compression stop to edge of sealing gasket is not less than thickness of gasket material nor less than .062 in. [1.57 mm].
3. If bolt holes must be closer than shown in Note 2, use U-shaped slots (S).
4. Minimum hole diameter not less than gasket thickness nor less than .094 in. [2.39 mm]

## DUOSTRIP AND DUOGASKET TOLERANCES

ELASTOMER CROSS SECTION TOLERANCES			
	Dimensions	Sponge Rubber	Solid Rubber
A	under .100 in. [2.54 mm]	± .016 in. [.40 mm]	± .016 in. [.40 mm]
	100 in. to .200 in. [2.54 to 5.08 mm]	± .031 in. [.79 mm]	± .016 in. [.40 mm]
	.200 to .500 in. [5.08 to 12.7 mm]	± .047 in. [1.19 mm]	± .031 in. [.79 mm]
	1.00 to 2.00 in. [25.4 to 50.8 mm]	± .063 in. [1.59 mm]	± .063 in. [1.59 mm]

WIRE MESH CROSS SECTION TOLERANCES		
Dimensions	Gasket Height & Width	Tolerance
C,D	.062 to .187 in. [1.57 to 4.75 mm]	+ .016, - 0 in. [+ 0.41, - 0 mm]
	.188 to .500 in. [4.78 to 9.53 mm]	+ .031, - 0 in. [+ 0.79, - 0 mm]

DUOGASKET TOLERANCES			
	Dimensions	Sponge Rubber	Solid Rubber
E,F,G,H	under 6 in. [152.4 mm]	± .031 in. [.79 mm]	± .016 in. [.40 mm]
	each additional 1 in. [25.4 mm]	± .005 in. [.13 mm]	± .003 in. [.08 mm]
K,L,M,N	under 6 in. [152.4 mm]	± .016 in. [.40 mm]	± .016 in. [.40 mm]
	each additional 1 in. [25.4 mm]	± .003 in. [.08 mm]	± .003 in. [.08 mm]
P,S	-	± .016 in. [.40 mm]	± .016 in. [.40 mm]

NOTE: All tolerances are based on gasket thicknesses of .125" or less. For gaskets thicker than .125", contact factory for applicable tolerances. All parts available with tin-plated phosphor bronze mesh.

## DESIGN AND THICKNESS CONSIDERATIONS

Most DUOSTRIP and DUOGASKET applications use sponge materials, however; any of the standard cross sections shown in Figures 1-3 are available using solid elastomers. For DUOSTRIPS and DUOGASKETS designed with solid elastomers, the thickness of the knitted wire mesh EMI gasket is always 0.031 in. [0.79 mm] thicker than the elastomer for optimum shielding and sealing (see Figure 5). With a sponge-elastomer,





the knitted wire mesh EMI gasket thickness is generally the same as that of the elastomer (see Figure 1).

The most common thickness specified for the elastomer portion of DUOSTRIPS and DUOGASKETS is 0.125 in. [3.18 mm] and should be specified whenever possible. Also available are 0.062 in. [1.57 mm], 0.093 in. [2.36 mm], 0.187 in. [4.75 mm] and 0.250 in. [6.35 mm] thick elastomer.

**COMPRESSION STOPS**

TECKNIT can provide disc or washer-type compression stops on sponge or solid elastomer DUOSTRIP and DUOGASKETS to minimize over-compressing and bowing of flanges between bolt locations. TECKNIT stops are fabricated from standard tubing materials in either aluminum or stainless steel.

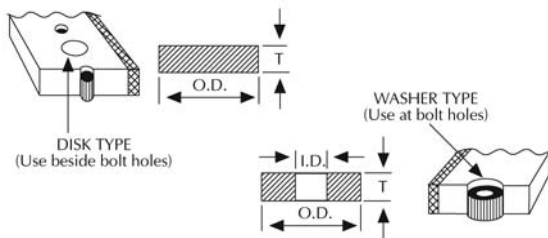


Figure 6. Compression Stop Design

STANDARD ±.005 in. [± 0.13 mm]						
<b>O.D.</b>	.062	.093	.125	.188	.250	.375
	[1.57]	[2.36]	[3.18]	[4.78]	[6.35]	[9.53]
<b>I.D.</b>	-	-	-	.93	.125	.250
	-	-	-	[2.36]	[3.18]	[6.35]
<b>MATERIAL</b>	<b>T DIMENSION in.[mm]</b>		<b>TOLERANCES in.[mm]</b>			
Aluminum	.040 - .090		±.006			
	[1.02 - 2.29]		[0.15]			
	.090 - .130		±.008			
	[2.29 - 3.30]		[0.20]			
Stainless Steel	.130 - .190		±.010			
	[3.30 - 4.83]		[0.25]			

Selected from std. gauge sheets, rod and tubing materials only.

**ADHESIVE BACK GASKETS AND STRIPS**

DUOSTRIPS and DUOGASKETS are available with TECKSTIK, a pressure-sensitive adhesive backing on the elastomer portion of the gaskets, which holds them in place temporarily for installation. TECKSTIK shelf life is one year when stored at or below 73°F [23°C].

**DUOSTRIPS - SPECIAL LENGTHS AND FINISHED ENDS**

Standard DUOSTRIPS are supplied in 25 ft. ± 1 in. [7.60 ± 0.03 m] rolls. DUOSTRIPS can also be cut to specific lengths with square or miter-cut ends, or strips with finished EMI gasket ends.

**DUOGASKETS-SIZES AVAILABLE**

The sealing portion of the DUOGASKETS is diecut from sheet elastomer. One-piece, jointless sealing gaskets are available up to 36 in. x 36 in. [914 mm x 914 mm]. Larger gaskets are normally spliced using one of the splicing methods shown in Figure 7. These techniques should be considered if a jointless design results in a large waste of elastomer. In preparing drawings, indicate whether or not elastomer splices are permitted. Molded sealing gaskets are also available to suit special flange configurations. The elastomer portion of the gasket may be molded for high volume, custom applications.

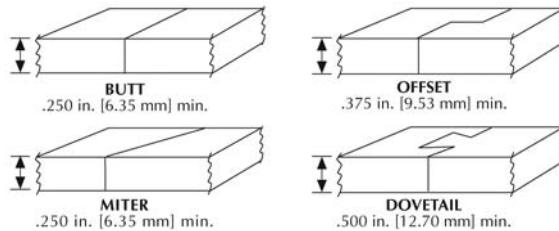


Figure 7. Four basic splicing techniques.

**ORDERING INFORMATION**

To order a standard 25 ft. ± 1 in. [7.60 m ± 0.03 m] roll of DUOSTRIP, specify dimensions and part number. For any DUOSTRIP variation, supply a sketch and indicate special elastomer requirements and EMI gasketing. For design assistance, contact your nearest TECKNIT area representative or factory location.

# Teckstrip®

## WIRE MESH WITH ALUMINUM STRIP

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTION

TECKSTRIP is a combination of resilient EMI shielding mesh crimped in a solid aluminum mounting strip. A jaw-type construction of the aluminum extrusion ensures secure fastening of EMI shielding mesh. In addition, the aluminum extrusion provides a positive compression stop, minimizing compression set of the EMI shielding mesh. TECKSTRIP can be supplied as ready-to-mount frames or in custom or bulk lengths.

### APPLICATION INFORMATION

TECKSTRIP greatly simplifies shielding gasket installation. TECKSTRIP can be attached directly to the enclosure to be shielded by spot welding, bolting, riveting, or similar fastening techniques. The aluminum frame permits accurate positioning, is easy and economical to install, and when attached to sheet metal enclosures, provides rigidity and enhances structural strength.

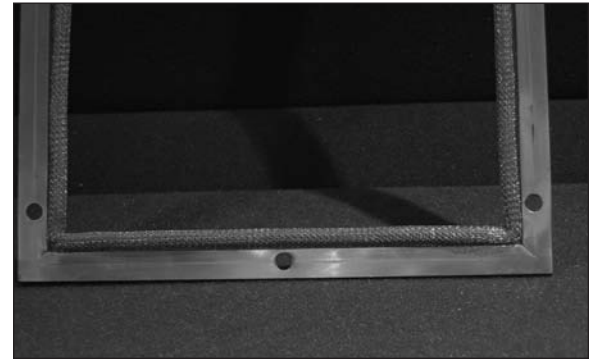
### EMI SHIELDING PERFORMANCE\*

MATERIALS	H-FIELD	E-FIELD	PLANE WAVE	
	100 kHz	10 MHz	1 GHz	10 GHz
	dB	dB	dB	dB
Sn/Ph/Bz	80	130	100	100
Monel	60	130	90	80
Sn/Cu/Fe	80	130	105	95

\*Based on 127 mm x 127 mm aperture.

### FABRICATED STRIPS AND FRAMES

TECKSTRIP may be supplied as a finished frame assembly manufactured to custom specifications. Individual prefabricated strips may also be utilized to construct a custom, TECKSTRIP frame. These prefabricated sections may be supplied with holes, slots, and countersinks. Custom frame constructions are also available to meet customer requirements. See Figures 1 and 2 for frame and strip dimensioning and the table following Figure 2 for standard tolerances.



### SPECIFICATIONS

#### MATERIAL DESCRIPTION

**TECKSTRIP Extrusion:** Aluminum alloy 6063-T6 per QQ-A-200/9 (ASTM-B-221) (Chromate conversion coating per MIL-C-5541 Class 1A optional).

#### Wire Mesh:

- **Phosphor Bronze:** .0045 in. [0.114 mm] diameter per ASTM B-105, Alloy 30 (CDA C50700), tin-plated per ASTM B-33.
- **Sn/Cu/Fe (Tin Coated, Copper Clad Steel):** .0045 in. [0.114 mm], diameter per ASTM B-520.
- **Monel:** .0045 in. [0.114 mm] diameter per QQN-281 or AMS-4730.

**Elastomer Core (when specified):** Neoprene sponge per MIL-R-6130, Type II, Grade A, Condition Medium (ASTM-D-6576).

Silicone sponge per SAE-AMS-3195.

### PERFORMANCE CHARACTERISTICS

#### Temperature Range:

-24°F to 212°F [-30°C to 100°C] for Neoprene sponge.

-103°F to 401°F [-75°C to 205°C] for Silicone sponge.



**EXTRUSION STYLE**

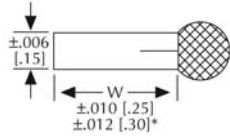
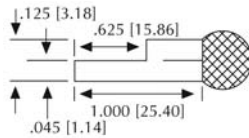


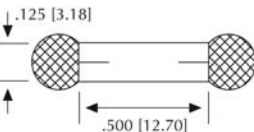
Table 1.

EXTRUSION SELECTION in. [mm]			
W	T	Extrusion Style	Bulk Strip Code (A)
.375 in. [9.53 mm]	.093 in. [2.36 mm]	165	0
.375 in. [9.53 mm]	.125 in. [3.18 mm]	153	1
.437 in. [11.10 mm]	.093 in. [2.36 mm]	169	2
.437 in. [11.10 mm]	.125 in. [3.18 mm]	178	3
.500 in. [12.70 mm]	.125 in. [3.18 mm]	160	4
.625 in. [15.88 mm]	.125 in. [3.18 mm]	174	5
.750 in. [19.05 mm]	.125 in. [3.18 mm]	150	6
1.000 in. [25.40 mm]*	.125 in. [3.18 mm]	155	7
		251	8
		384	9

**EXTRUSION STYLE 251**



**EXTRUSION STYLE 384**



**EMI GASKETING MATERIAL Table 2.**

EMI GASKET DIM. in. [mm]	EMI GASKET DESCRIPTION	MESH STRIP MATERIAL	MESH STRIP NUMBER	GASKET SHAPE CODE B	WIRE TYPE CODE C
$\frac{.188+.031-0}{[4.78+.0.79-0]}$ 	Solid	Monel	12150		0
	TECKNIT Strip	Sn/Cu/Fe	42250	1	1
		Sn/Ph/Bz	62250		2
Rubber Dimensions* $\frac{.188+.031}{[4.78+.0.79]}$ 	Strip with Neoprene	Monel	12152		0
		Sn/Cu/Fe	42252	2	1
		Sponge Core	Sn/Ph/Bz	62252	
Rubber Dimensions* $\frac{.188+.031}{[4.78+.0.79]}$ 	Custom Strip with Silicone	Monel	13452		0
		Sn/Cu/Fe	43252	3	1
		Sponge Core	Sn/Ph/Bz	63252	

\*Overall dimensions: Add .031 in. [0.79 mm] to rubber dimension. Resulting dimensions are applicable to parts under a 4 oz. [113g] load using .750 in. [19.05 mm] anvils.

Table 3.

BULK STRIP LENGTH	FINISH	LENGTH CODE (D)
5 Feet	No Finish	0
	Chromate	1
7.5 Feet	No Finish	2
	Chromate	3
15 Feet	No Finish	4
	Chromate	5

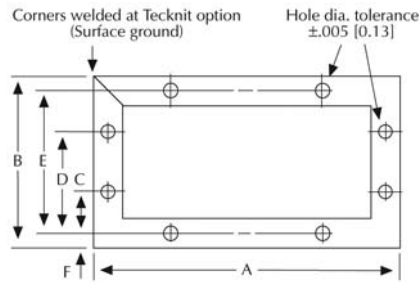


Figure 1. Frame dimensions (Mesh not shown)

**BULK AND FINISHED LENGTHS**

TECKSTRIP can be supplied in standard bulk lengths of 5 ft. [1.5 m], 7.5 ft. [2.25 m], or 15 ft. [4.5 m]. Ends are rough cut to a tolerance of ±1.0 in. [2.5 cm] in bulk lengths. Finished mesh ends can be supplied to any desired length up to 15 ft. [4.5 m] at nominal additional cost.

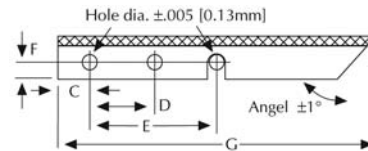


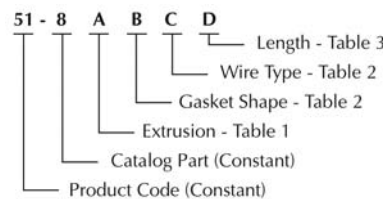
Figure 2. Finished strip dimensions

FINISHED STRIP AND FRAME TOLERANCES in. [mm]				
	0-12	12-24	24-36	36-48
<b>DIM</b>	[0-305]	[305-610]	[610-915]	[915-1220]
<b>A,B,G</b>	±.015[±0.38]	±.031[±0.79]	±.047[±1.19]	±.060[±1.52]
<b>C,D,E,F</b>	±.015[±0.38]	±.020[±0.51]	±.031[±0.79]	
<b>G</b>	Over 48 in. [1220 mm], check with TECKNIT Engineers.			

**ORDERING INFORMATION**

Select TECKSTRIP by extrusion style and EMI gasketing material by mesh strip number. Provide a sketch of all fabrication details. Part numbers will be assigned by TECKNIT when the part description is complete. For bulk material, order by part number. Part numbers are constructed as follows.

**BULK STRIP DESIGNATION**



For assistance and for other selected extrusion crosssections and EMI gasket materials contact your nearest TECKNIT area representative or factory location.



# Duosil®

## COMPOSITE WIRE MESH AND SILICONE OR FLUOROSILICONE RUBBER STRIP

U.S. Customary  
[SI Metric]

### GENERAL DESCRIPTION

DUOSIL is a composite material which provides an effective EMI shield and an optimum environmental seal. It is produced by employing a patented process and state-of-the-art elastomer extrusion technology. This process accomplishes the fusion of specially shaped silicone or fluorosilicone rubber to a knitted wire mesh shielding strip. During manufacture, a controlled amount of elastomer is permitted to penetrate the porous boundary face of the shielding strip. Following curing, the result is an inseparable composite combining the high reliability of both materials into a single rugged structure.

### APPLICATION INFORMATION

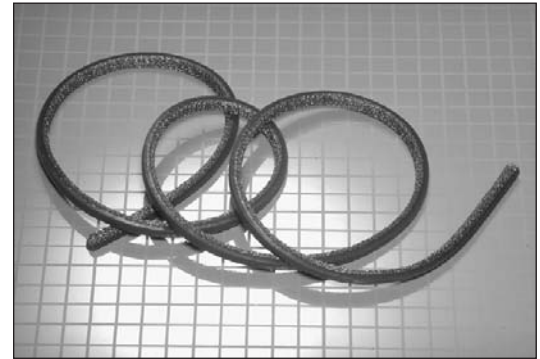
DUOSIL was initially developed as a radiation and environmental seal for outdoor, all-weather commercial electronic VHF and UHF equipment. Proven to be an ideal shield and seal in these severe commercial environments, DUOSIL has also been used with great effectiveness in demanding military applications. DUOSIL EMI shielding gasket material is ideally suited for installation into the narrow grooves in cast enclosures. Its small cross section composite saves space and weight without sacrificing shielding or sealing effectiveness.

### EMI SHIELDING PERFORMANCE\*

TECKNIT DUOSIL 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	60	130	90	80
Sn/Ph/Bz	90	135	105	95

\*Based on 127 mm x 127 mm aperture.



### SPECIFICATIONS

#### MATERIAL DESCRIPTION

##### Shielding Wire Mesh

- **Monel:** per QQ-N-281, .0045 in. [0.114 mm] diameter or AMS 4730
- **Phosphor Bronze:** .0045 in. [0.114 mm] diameter, per ASTM B-105, Alloy 30 (CDA C50700), tin-plated per ASTM B-33.

##### Sealing Elastomer

- **Silicone rubber:** per ZZ - R - 765 Class 2, Grade 50 (AA-59588).
- **Fluorosilicone rubber:** ref MIL-R-25988B, Class I, Grade 40, Type II (SAE-AMS-R-25988).

### PERFORMANCE CHARACTERISTICS

	Silicone	Fluorosilicone
<b>Hardness, Shore A Durometer</b> ASTM D-2240	50 ± 7	40 ± 5
<b>Temperature Range</b>	-80°F to 500°F [-62°C to 260°C]	-67°F to 257°F [-55°C to 125°C]
<b>Brittle Point</b> ASTM D-746	-100°F [-73°C]	-81°F [-63°C]
<b>Composite Peel Strength (min.)</b>	3 lbf/in. [525 N/m]	3 lbf/in. [525 N/m]
<b>Color</b>	Gray	Blue



**DUOSIL DESIGN CONSIDERATIONS**

Standard cross-sections are listed below. In addition, DUOSIL can be manufactured for custom designed cross-sections. Custom designed cross-sections become cost effective as the result of the elimination of costly conventional mesh to elastomer bonding techniques.

Contact TECKNIT factory personnel for custom design assistance and/or application information concerning DUOSIL.

**STANDARD DUOSIL - CROSS SECTIONS AND GROOVE DESIGN DATA**

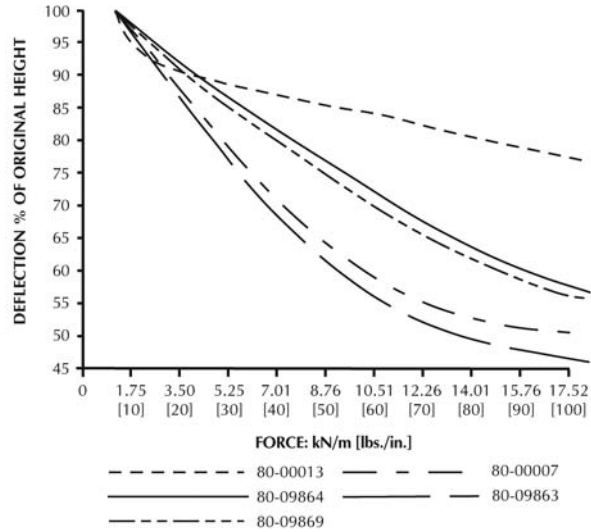
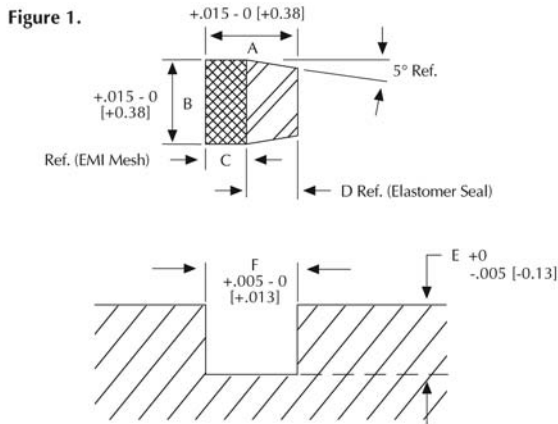


Figure 2. Compression Deflection data.

**ORDERING INFORMATION**

When ordering DUOSIL, specify required length and TECKNIT Part Number. For assistance, contact your nearest TECKNIT area representative or factory location.

**STANDARD SILICONE ELASTOMER DUOSIL DIMENSIONS**

Part Number	Gasket Dimensions inches [mm]			Groove Dimensions inches [mm]		
	A	B	C	D	E	F
<b>80-10008</b>	.070 [1.77]	.098 [2.48]	.035 [0.88]	.035 [0.88]	.088 [2.23]	.088 [2.23]
<b>80-09863</b>	.093 [2.36]	.125 [3.18]	.046 [1.17]	.046 [1.17]	.113 [2.87]	.110 [2.79]
<b>80-00013</b>	.125 [3.18]	.062 [1.57]	.062 [1.57]	.062 [1.57]	.056 [1.42]*	.163 [4.14]
<b>80-00007</b>	.125 [3.18]	.175 [4.45]	.062 [1.57]	.062 [1.57]	.158 [4.01]	.135 [3.43]
<b>80-09864</b>	.156 [3.96]	.156 [3.96]	.062 [1.57]	.093 [2.36]	.141 [3.58]	.174 [4.42]
<b>80-00250</b>	.180 [4.57]	.165 [4.19]	.090 [2.28]	.090 [2.28]	.150 [3.80]	.185 [4.69]
<b>80-09869</b>	.188 [4.78]	.188 [4.78]	.093 [2.36]	.093 [2.36]	.169 [4.29]	.192 [4.88]

\*Groove (E) tolerance + 0 - .002 [0.05]

