



METALASTIC® AND PORCUPINE METALASTIC® EMI Gasketing with Pressure Seal

FEATURES

METALASTIC® Gasketing

- **Thinnest Composite Gasketing** – Minimum nominal thickness of 0.016in. (0.40mm) available.
- **Easily Cut** – Can be cut easily into gaskets of conventional or intricate shape.
- **Lowest Cost** – Good shielding and sealing combined with lowest dollar outlay.

PORCUPINE METALASTIC® Gasketing

- **Uniform Thickness** – Allows for uniform compression.
- **Excellent Compressibility** – No damage to material from high compression forces.
- **Positive Pressure Seal** – Silicone elastomer filler used where pressure seal required.

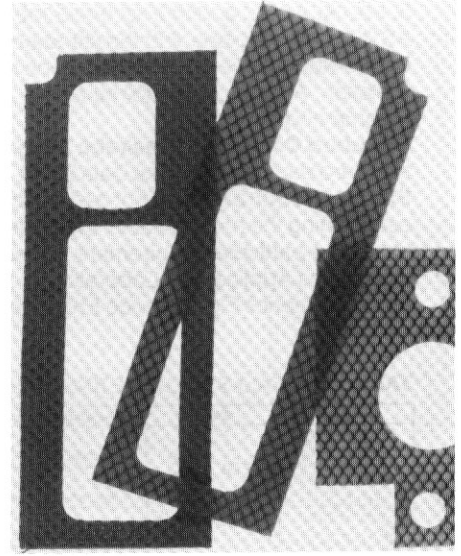
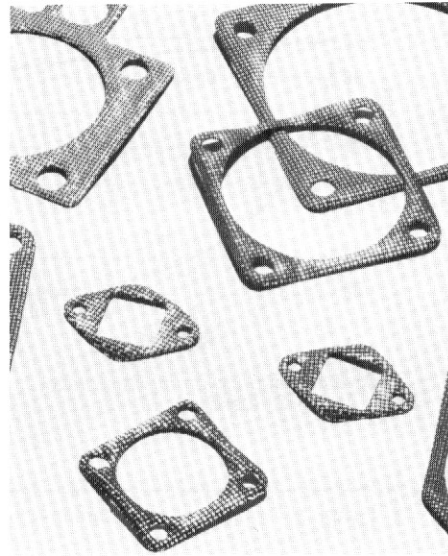
DESCRIPTION

METALASTIC® gasketing is a composite EMI and pressure seal in thin sheet form. Shielding is provided by woven aluminum mesh, and pressure sealing is achieved by neoprene or silicone elastomer impregnated in the mesh. **Note:** The METALASTIC gasketing is intended for use *only* in applications in which joint unevenness is less than 0.002in. (0.05mm), and/or where space is severely limited. The material can be cut easily into gaskets of intricate shape, and is available with a minimum nominal thickness of 0.016in. (0.40mm).

PORCUPINE METALASTIC® gasketing is available in two forms: for EMI shielding with pressure seal, and for EMI shielding only. Shielding is provided by severely expanded Monel. For composite shielding and pressure sealing, the Monel is filled with a silicone elastomer.*

PORCUPINE METALASTIC gasketing gains its excellent compressibility from very uniform thickness. It is normally supplied in bulk form. The expanded Monel provides dozens of contact points per square inch of surface area, assuring moderate shielding effectiveness, while the silicone elastomer provides excellent pressure sealing.

PORCUPINE METALASTIC gasketing is intended for applications in which joint



unevenness is less than 0.003in. (0.8mm), and where the gasket must be less than 4in. x 6in. (102mm x 152mm).

MATERIALS AND CONSTRUCTION

METALASTIC gasketing is normally supplied in random-length sheets at least 3 ft. (91.44cm) long, and 8in. (20.32cm) wide. Two thicknesses are available: 0.016in. (0.40mm), and 0.020in. (0.51mm). The neoprene pressure seal is rated for use over the temperature range of – 40 to 225°F (– 40 to 107°C). Silicone can be used over the wider temperature range of – 65 to 500°F (– 57 to 260°C).

Chomerics, Inc. will fabricate ready-to-use METALASTIC gaskets to customer specifications at extremely low cost. Also, for many standard connectors (such as the AN and RF series), METALASTIC gaskets may be ordered by standard stock numbers. For a complete listing of these standard gaskets, see Data Sheet 191.

Standard sheet dimensions for PORCUPINE METALASTIC gasketing are shown in Table 2. Standard sheet length is continuous. Two thicknesses are available: 0.020in. (0.051mm), and 0.030in. (0.76mm). PORCUPINE METALASTIC gasketing sheets are easily cut to form gaskets of irregular or intricate shape, using inexpensive rule dies. Custom gaskets

and gaskets for standard connectors are also available.

Recommended mounting is with screws passing through holes in the gasket. An ID shoulder on the flange may be used for positioning.

PERFORMANCE CHARACTERISTICS

EMI Shielding

The shielding effectiveness of METALASTIC gaskets is shown in Figure 1 and for PORCUPINE METALASTIC gaskets in Figure 2.

Note: EMI ratings are based on “worst-case” testing methods. Therefore, in actual application, much higher total shielding effectiveness than shown will be achieved. These ratings are useful for making meaningful qualitative comparisons with other Chomerics products, since all tests were conducted under similar conditions. They *cannot* be used for comparison with other EMI gasket data *unless* such data were obtained by the same methods.

Closure Pressure

Compression characteristics for METALASTIC gasketing are shown in Figure 3 and for PORCUPINE METALASTIC gasketing in Figure 4. Closure pressure for METALASTIC gasketing should be at least 50 to 100 psi (3.5 to 7.0kg/cm²) to assure maximum shielding and sealing effectiveness.

*U.S. Pat. 3,752,899

Closure pressure for PORCUPINE METALASTIC gasketing should be 20 to 100 psi (1.4 to 7.0kg/cm²) for EMI shield only, and from 50 to 100 psi (3.5 to 7.0kg/cm²) for EMI-plus-pressure sealing.

HOW TO ORDER

Sheet Gasketing: Order by part number from Tables 1 or 2, as applicable, specifying total length required. All sheets of METALASTIC gasketing are 8 in. (20.32cm) wide. PORCUPINE METALASTIC gasketing sheets are 12in. (30.4cm) wide. Both are supplied in continuous lengths.

Custom Die-Cut Gaskets: Specify the gasketing materials required by part number from Table 1 or Table 2. Submit sketch per the drawing standards shown in Figure 5. METALASTIC and PORCUPINE METALASTIC gaskets exceeding the standard widths would have to be spliced upon installation. A mitre or dovetail joint is recommended.

Standard Connector Gaskets: Order by standard part number. (See Data Sheet 191.)

Special Requirements: For assistance in establishing the most suitable specifications for a particular requirement, consult Chomerics Applications Laboratory or your local Chomerics Field Service Engineer.

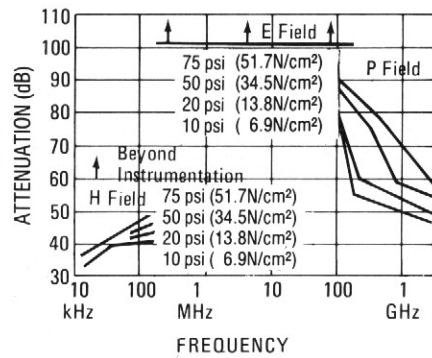


Figure 1. Shielding Effectiveness of METALASTIC Gaskets.

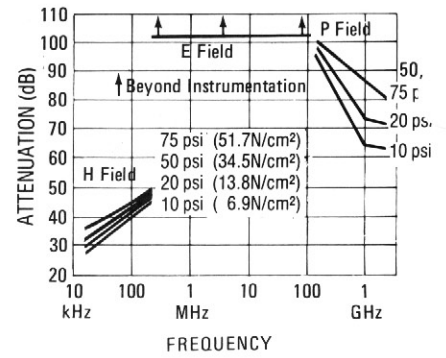


Figure 2. Shielding Effectiveness of PORCUPINE METALASTIC Gaskets.

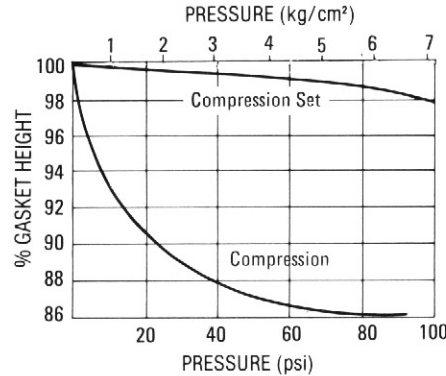


Figure 3. Compression vs. Pressure for METALASTIC Gasketing.

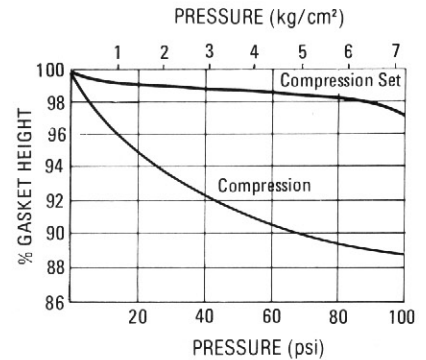


Figure 4. Compression vs. Pressure for PORCUPINE METALASTIC Gasketing.

TABLE 1. METALASTIC GASKETING SHEETS*

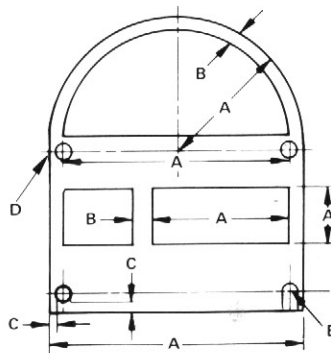
Thickness	Width	Elastomer	Part No.
0.016 ± 0.004 (0.40 ± 0.10)	8.00 + 0.25 -0.00	Silicone	04-0502
0.020 ± 0.004 (0.51 ± 0.10)		Neoprene	04-0202
0.020 ± 0.004 (0.51 ± 0.10)	(203.20 ± 6.35) -0.00	Silicone	04-0102

TABLE 2. PORCUPINE METALASTIC GASKETING SHEETS*

Thickness	Silicone Filled	Sheet Width	Part No.
0.020 ± 0.004 (0.51 ± 0.10)	No	12 ± 0.25 (304.8 ± 6.35)	08-0601
0.020 ± 0.004 (0.51 ± 0.10)	Yes	12 ± 0.25 (304.8 ± 6.35)	08-0201
0.030 ± 0.004 (0.76 ± 0.10)	No	12 ± 0.25 (304.8 ± 6.35)	08-0501
0.030 ± 0.004 (0.76 ± 0.10)	Yes	12 ± 0.25 (304.8 ± 6.35)	08-0101

*Dimensions are in inches and (mm).

Figure 5. Dimensions and Tolerances for METALASTIC® and PORCUPINE METALASTIC® Die-Cut Gaskets.



Dimensions*	PORCUPINE METALASTIC	METALASTIC
A 0-4.00 (0-101.60) over 4.00 (over 101.60)	± 0.015 ± (0.38) ± 0.03 ± (0.76)	± 0.015 ± (0.38) ± 0.03 ± (0.76)
B Min. width	0.140 (3.56)	0.125 (3.18)
C Min. wall thickness	0.090 (2.28)	0.080 (2.03)
D Min. diameter	0.060 (1.52)	0.080 (2.03)
E Notch	If min. wall thickness, as shown in C, cannot be accommodated, holes should be changed to slots. **	

*Dimensions are in inches and (mm).

U.S. Patent 3,206,536. Subject to exclusive licenses granted by Metex Corporation.

**Some Silicone METALASTIC parts may have slots even though 'C' dimension is not exceeded.

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