

Section F: Air Vent Panels

*U.S. Customary
[SI Metric]*



PRODUCT

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Teckcell™ -A & Paracell

ALUMINUM HONEYCOMB AIR VENT PANELS

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GENERAL DESCRIPTION

Standard TECKCELL air vent panels are constructed of aluminum honeycomb installed in an extruded aluminum frame. The “waveguide” style construction of the honeycomb provides high EMI shielding effectiveness combined with the highest airflow of any vent medium. Standard honeycomb cell size is 0.125 in. [3.2mm] wide by 0.50 in. [12.7mm] deep. Tin or electroless nickel plating may be used to improve shielding and environmental effectiveness.

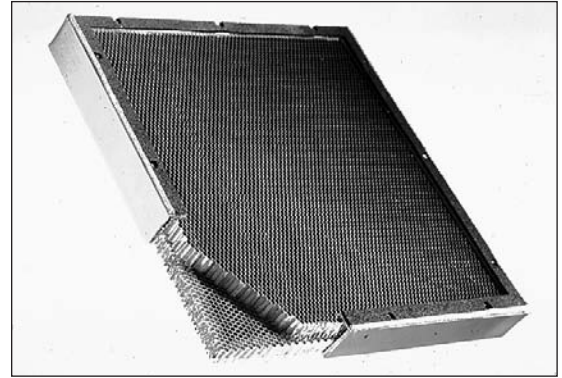
PARACELL shielding air vent panels are constructed of two parallel aluminum honeycomb medium layers installed in an extruded aluminum frame. Each layer of honeycomb is oriented 90° to each other (Fig. 1). This eliminates the polarization characteristics of straight honeycomb by greatly improving shielding effectiveness (with some compromise in air flow). Standard honeycomb cell size for each layer is .125 in. [3.2 mm] wide by .25 in. [6.4 mm] deep, yielding a total thickness of .500 in. [12.7 mm]. The panels may be plated with a chromate conversion coating for environmental protection. The PARACELL construction does not require tin or nickel plating for improved shielding effectiveness.

APPLICATION INFORMATION

TECKCELL-A and PARACELL air vent panels are furnished ready to install with standard framing and EMI shielding gaskets. For surface mounted applications use frame style 21 (Fig. 4) with a DUOGASKET. For recessed applications use frame style 23 (Fig. 5) with a TECKNIT STRIP GASKET. The DUOGASKET is made of neoprene sponge and knitted copper clad steel. The STRIP GASKET consists of knitted copper clad steel mesh. Panels with a length or width exceeding 24in. [610mm] need cross braces.

For special applications round TECKCELL-A vent panels are available (Fig. 6). The frames are made of spun aluminum. Where the construction must be drip proof, aluminum honeycomb is available slanted downward at 30°, 45° and 60° (Figs. 7, 8).

Flexible .125 in. [3.2 mm] thick polyurethane filter foam is available for TECKCELL-A and PARACELL panels to filter out dust particles (frame style 21 only). Based on specifications from the



Air Filter Institute filter foam provides an average arrestance of 50%. In designs requiring special framing, supply a sketch and/or contact your representative or the factory.

If greater structural support is required or severe environmental conditions exist, steel honeycomb or brass honeycomb is recommended.

SPECIFICATIONS

MATERIAL DESCRIPTION

- **Frame**
Aluminum alloy: 6063-T1 per QQ-A-200/9 (ASTM-B-221).
- **Honeycomb**
Aluminum alloy: 5052 Grade B, per MIL-C-7438.
- **EMI Gasket⁽¹⁾**
Wire Mesh: Sn/Cu/Fe/ (tin coated, copper-clad steel) wire per ASTM B-520.
Elastomer: Neoprene sponge per MIL-R-6130, Type II, Grade A, Condition Medium (ASTM-D-6576)
- **Threaded Inserts⁽²⁾**
Steel alloy, cadmium plated, 6-32 UNC-2B or 8-32 UNC-2B

FINISH DESCRIPTION

- **Chromate:** Trivalent Chromium Coating in compliance with the EU RoHS Directive 2002/95/EC.
- **Options**
Tin⁽³⁾: Tin plate per MIL-T-10727, Type 1 (ASTM-D-545).
Nickel: Electroless Nickel plate per MIL-C-26074A, Class 1, Grade B (SAE-AMS-C-26074).
Chromate: Chromate conversion coating per MIL-C-5541, Class 1 A or 3A.

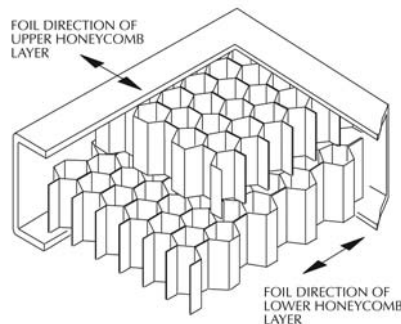
(1) Reference DUOGASKET Data or Tecknit Strips Data. (2) Threaded inserts available on request. (3) Frame requires drain holes for plating.

EMI SHIELDING PERFORMANCE

TECKNIT TECKCELL-A and PARACELL shielding effectiveness has been tested in accordance with Technit Test Method TSETS-01 and is based on modified MIL-STD-285. Typical values for a 5 in. square panel are given below.

MATERIALS	H-FIELD 100 kHz	E-FIELD 10 MHz	PLANE WAVE 1 GHz	10 GHz
	dB	dB	dB	dB
PLATING				
Chromate	40	80	60	40
Tin	70	125	105	85
Nickel	80	135	115	95
PARACELL				
PLATING	dB	dB	dB	dB
Chromate	65	110	95	85

Figure 1. 90° Oriented Paracell Panel



TECKCELL-A PANEL FRAME STYLE 21 DIMENSIONS

OPENING AREA		FRAME DIMENSION					NUMBER OF FASTENERS		TECKNIT** PART NO.		
in.2 [cm2] (Ref)	AxB (Ref) in. [mm]	WxL in. [mm]	C in. [mm]	D in. [mm]	E in. [mm]	F in. [mm]	W Side	L Side	Std. 8.32 Fasteners	Std. 204 Dia. Holes	No Holes or Fasteners
4 [25.81]	2x2 [50.8x50.8]	3x3 [76.2x76.2]	1.250 [31.75]	1.250 [31.75]	-	-	1	1	60-70929	60-02052	60-02002
9 [58.06]	3x3 [76.2x76.2]	4x4 [101.6x101.6]	1.750 [44.45]	1.750 [44.45]	-	-	1	1	60-70200	60-02053	60-02003
15 [96.77]	3x5 [76.2x127.0]	4x6 [101.6x152.4]	1.750 [44.45]	1.000 [25.40]	3.500 [88.90]	-	1	2	60-70201	60-02054	60-02004
16 [103.23]	4x4 [101.6x101.6]	5x5 [127.0x127.0]	2.250 [57.15]	.750 [19.05]	3.000 [76.20]	-	1	2	60-70204	60-02055	60-02005
21 [135.48]	3x7 [76.2x177.8]	4x8 [101.6x203.2]	1.750 [44.45]	.750 [19.05]	3.000 [76.20]	-	1	3	60-70202	60-02056	60-02006
24 [154.84]	4x6 [101.6x152.4]	5x7 [127.0x177.8]	2.250 [57.15]	1.500 [38.10]	3.500 [88.90]	-	1	2	60-70205	60-02057	60-02007
25 [161.29]	5x5 [127.0x127.0]	6x6 [152.4x152.4]	1.000 [25.40]	1.000 [25.40]	3.500 [88.90]	3.500 [88.90]	2	2	60-70207	60-02058	60-02008
33 [212.91]	3x11 [76.2x279.4]	4x12 [101.6x304.8]	1.750 [44.45]	1.250 [31.75]	3.000 [76.20]	-	1	4	60-70203	60-02059	60-02009
35 [225.81]	5x7 [127.0x177.8]	6x8 [152.4x203.2]	1.250 [31.75]	.750 [19.05]	3.000 [76.20]	3.000 [76.20]	2	3	60-70208	60-02060	60-02010
36 [232.26]	6x6 [152.4x152.4]	7x7 [177.8x177.8]	1.500 [38.10]	1.500 [38.10]	3.500 [88.90]	3.500 [88.90]	2	2	60-70211	60-02061	60-02011
36 [232.26]	4x9 [101.6x228.6]	5x10 [127.0x254.0]	2.250 [57.15]	1.250 [31.75]	3.500 [88.90]	-	1	3	60-70206	60-02062	60-02012
42 [270.97]	3x14 [76.2x355.6]	4x15 [101.6x381.0]	1.750 [44.45]	1.250 [31.75]	3.000 [76.20]	-	1	5	60-71042	60-02063	60-02013
48 [309.68]	3x16 [76.2x406.4]	4x17 [101.6x431.8]	1.750 [44.45]	1.250 [31.75]	3.500 [88.90]	-	1	5	60-71043	60-02064	60-02014
49 [316.13]	7x7 [177.8x177.8]	8x8 [203.2x203.2]	2.000 [50.80]	.750 [19.05]	3.000 [76.20]	3.500 [88.90]	2	3	60-70214	60-02065	60-02015
54 [348.39]	6x9 [152.4x228.6]	7x10 [177.8x254.0]	1.500 [38.10]	1.250 [31.75]	3.500 [88.90]	3.500 [88.90]	2	3	60-70212	60-02066	60-02016
55 [354.84]	5x11 [127.0x279.4]	6x12 [152.4x304.8]	1.000 [25.40]	1.250 [31.75]	3.000 [76.20]	3.500 [88.90]	2	4	60-70209	60-02067	60-02017
63 [406.45]	7x9 [177.8x225.6]	8x10 [203.2x254.0]	2.000 [50.80]	1.250 [31.75]	3.500 [88.90]	3.500 [88.90]	2	3	60-71044	60-02068	60-02018
70 [451.61]	5x14 [127.0x355.6]	6x15 [152.4x381.0]	1.000 [25.40]	1.250 [31.75]	3.000 [76.20]	3.500 [88.90]	2	5	60-71045	60-02069	60-02019
77 [496.77]	7x11 [177.8x279.4]	8x12 [203.2x304.8]	.750 [19.05]	1.250 [31.75]	3.000 [76.20]	3.000 [76.20]	3	4	60-70215	60-02070	60-02020
78 [503.22]	6x13 [152.4x330.0]	7x14 [177.8x355.6]	1.500 [38.10]	1.500 [38.10]	3.500 [88.90]	3.500 [88.90]	2	4	60-70213	60-02071	60-02021
81 [522.58]	9x9 [228.6x228.6]	10x10 [254.0x254.0]	1.250 [31.75]	1.250 [31.75]	3.500 [88.90]	3.500 [88.90]	3	3	60-70217	60-02072	60-02022
85 [548.39]	5x17 [127.0x431.8]	6x18 [152.4x457.2]	1.000 [25.40]	1.250 [31.75]	3.750 [95.25]	3.500 [88.90]	2	5	60-70210	60-02073	60-02023
91 [587.10]	7x13 [177.8x330.2]	8x14 [203.2x355.6]	.750 [19.05]	1.500 [38.10]	3.500 [88.90]	3.000 [76.20]	3	4	60-71046	60-02074	60-02024
105 [677.42]	7x15 [177.8x381.0]	8x16 [203.2x406.4]	.750 [19.05]	1.250 [31.75]	3.250 [82.55]	3.000 [76.20]	3	5	60-70216	60-02075	60-02025
117 [754.84]	9x13 [228.6x330.2]	10x14 [254.0x355.6]	1.250 [31.75]	1.500 [38.10]	3.500 [88.90]	3.500 [88.90]	3	4	60-70218	60-02076	60-02026
121 [780.64]	11x11 [274.4x279.4]	12x12 [304.8x304.8]	1.250 [31.75]	1.250 [31.75]	3.000 [76.20]	3.000 [76.20]	4	4	60-70220	60-02077	60-02027
153 [987.09]	9x17 [228.6x431.8]	10x18 [254.0x457.2]	1.250 [31.75]	1.250 [31.75]	3.750 [95.25]	3.500 [88.90]	3	5	60-70219	60-02078	60-02028
165 [1,064.51]	11x15 [279.4x381.0]	12x16 [304.8x406.4]	1.250 [31.75]	1.250 [31.75]	3.250 [82.55]	3.000 [76.20]	4	5	60-70221	60-02079	60-02029
196 [1,264.51]	14x14 [355.6x355.6]	15x15 [381.0x381.0]	1.250 [31.75]	1.250 [31.75]	3.000 [76.20]	3.000 [76.20]	5	5	60-71047	60-02080	60-02030
209 [1,348.38]	11x19 [279.4x482.6]	12x20 [304.8x508.0]	1.250 [31.75]	1.000 [25.40]	3.500 [88.90]	3.000 [76.20]	4	6	60-70222	60-02081	60-02031
253 [1,632.25]	11x23 [279.4x584.2]	12x24 [304.8x609.6]	1.250 [31.75]	1.250 [31.75]	3.500 [88.90]	3.000 [76.20]	4	7	60-70223	60-02082	60-02032
324 [2,090.32]	18x18 [457.2x457.2]	19x19 [482.6x482.6]	1.750 [44.45]	1.750 [44.45]	3.000 [76.20]	3.000 [76.20]	6	6	60-71048	60-02083	60-02033

**To order standard TECKCELL-A Panels with Filter Foam, change third digit to a 3 (60-3XXXX)

DIMENSIONAL TOLERANCES FOR TECKCELL-A AND PARACELL PANELS

Ref. Figures 1 and 2

FRAME		
FEATURE	DIMENSION	TOLERANCE
LW	0-8 in. [0-200mm]	±.015 in. [±0.38mm]
	8-24 in. [201-610mm]	±.031 in. [±0.76mm]
	>24 in. [Over 610mm]	±.062 in. [±1.57mm]
Hole/Fastener Locations	C,D,E,F	±.015 in. [± 0.38 mm]
Hole Diameter	All	±.005 in. [± 0.13 mm]
Frame Cross Section	All	±.010 in. [± 0.25 mm]
EMI GASKET*		
Mesh:		
Height & Width	up to 187 in. [4.75 mm]	+ .016, - 0 in. [+ 0.41, - 0 mm]
Elastomer:		
Height	up to .100 in. [2.54 mm]	±.016 in. [0.41 mm]
Width	up to .500 in. [12.7 mm]	± .031 in. [0.79mm]

Figure 2. Vent Panel Frame Dimensions (Ref. Table 1.)

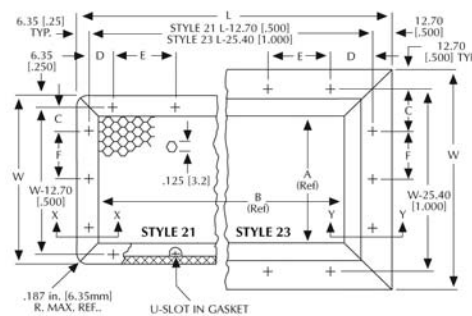


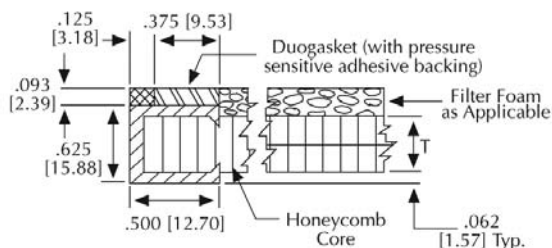
Table I. (Ref. Figure 2)

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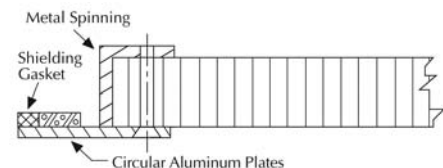
FRAME STYLE 21

Figure 4.



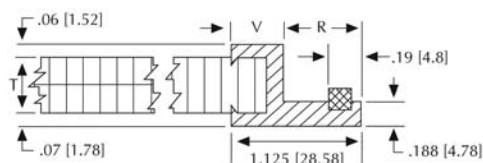
CIRCULAR PANELS

Figure 6.

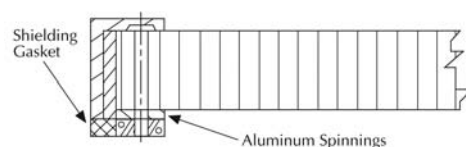


FRAME STYLE 23

Figure 5.

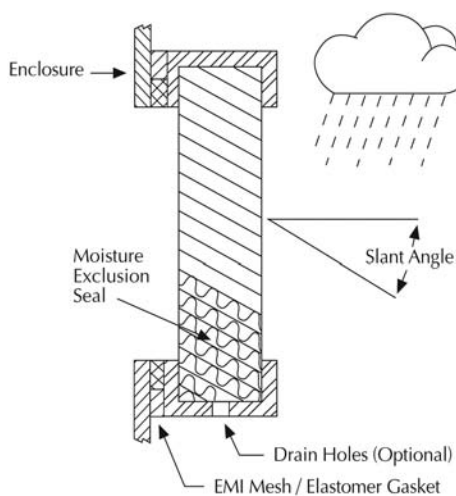


FRAME STYLE 23: For T=.500in., V=10.03 [.395], R=18.54 [.73]
For T=.750in. and 1.00in., V=9.53 [.375], R=19.05 [.75]



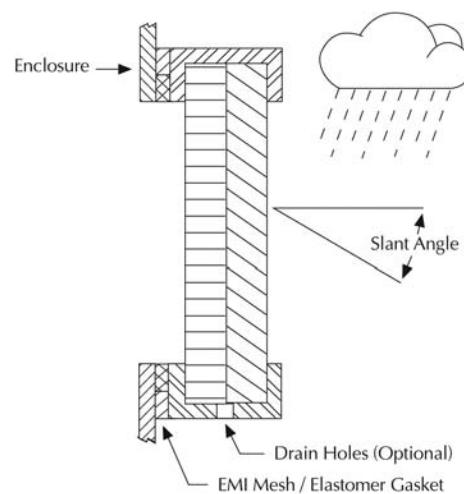
TECKCELL-A RAINSHIELD

Figure 7.



PARACELL RAINSHIELD

Figure 8.



HONEYCOMB CORE SELECTOR

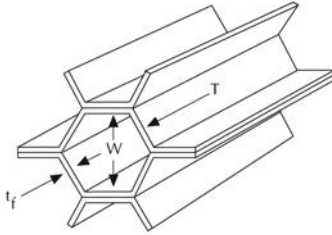


Table 2.

Code Cell No.	Width Cell (W) in. [mm]	Depth (T) in. [mm]	Foil Thickness (tf)
CS 1	.125 [3.18]	.500 [12.70]	.0015 [0.04]
CS 2	.125 [3.18]	.750 [19.05]	.0015 [0.04]
CS 3	.125 [3.18]	1.000 [25.40]	.0015 [0.04]
CS 8	.250 [6.35]	1.000 [25.40]	.003 [0.08]
CS 9	.125 [3.18]	*.500 [12.70] 30° slant	.0015 [0.04]
CS 10	.125 [3.18]	*.500 [12.70] 45° slant	.0015 [0.04]
CS 11	.125 [3.18]	*.500 [12.70] 60° slant	.0015 [0.04]

*Cell depth is variable depending on angle. Honeycomb thickness is .500 in. [12.7 mm]

For filter foam use suffix "F" at the end of the honeycomb core selector code number (see Table 2). Standard foam color is charcoal gray. (Example call-out: CS1F)

FINISH SELECTOR

Table 3.

Code No.	Finish
FS1	No Finish
FS2	Chromate Conversion Coating
FS5	Tin Plate
FS6	Electroless Nickel Plate

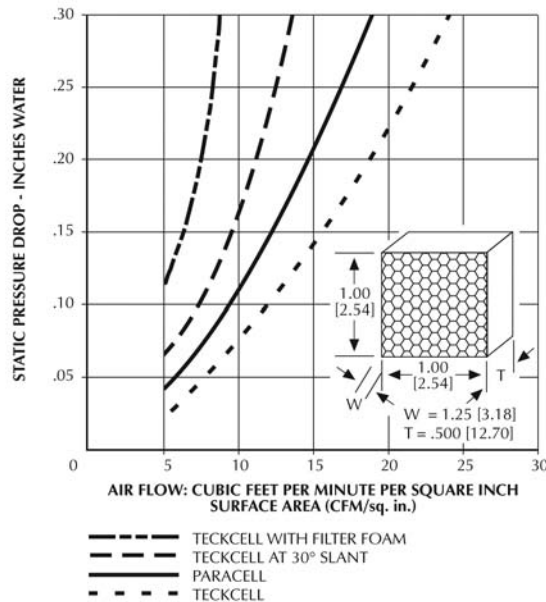
PANEL HOLE OR FASTENER SELECTOR

Table 4.

Code No.	Hole and Fastener Information
HF1	No holes or fasteners in frame
HF2	Panel with .204 in. [5.18 mm] dia. through holes.
HF3	Panel with 8-32 blind fasteners
HF4	Panel with 6-32 blind fasteners

TECKCELL-A AND PARACELL
AIR FLOW CHARACTERISTICS

Figure 9.



NOTE: To determine AIR FLOW, divide total air flow (CMF) delivered by the number of square inches (AxB) of the vent panel to find CFM/ sq. in. From this value, determine the static pressure drop across the vent panel. The reverse operation can be used to limit the static pressure drop to a given value by selecting the proper size vent panel (dimensions A & B) and limiting the CFM/sq. in.

ORDERING INFORMATION

To order Tecknit aluminum honeycomb air vent panels, the following information should be provided: Teckcell-A or Paracell type panels, overall dimensions, frame style, honeycomb core, finish and mounting provisions (see Tables 2, 3, 4).

TECKNIT

Teckcell™ -S/B

STEEL AND BRASS HONEYCOMB AIR VENT PANELS HIGH PERFORMANCE VENT PANELS

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GENERAL DESCRIPTION

TECKCELL-S/B high-performance vent panels are made of a framed honeycomb medium to ensure optimum shielding and ventilation. The panels are framed and gasketed to provide ready-to-install honeycomb panel assemblies. TECKCELL-S/B panels are available in two honeycomb media, steel or brass, and two standard framing styles. Standard honeycomb cell size is 0.125 in. [3.2 mm] wide by 0.500 in. [12.7 mm] deep. The panels can be plated with tin, cadmium or nickel for environmental protection. Optional framing styles and media sizes are available on special order.

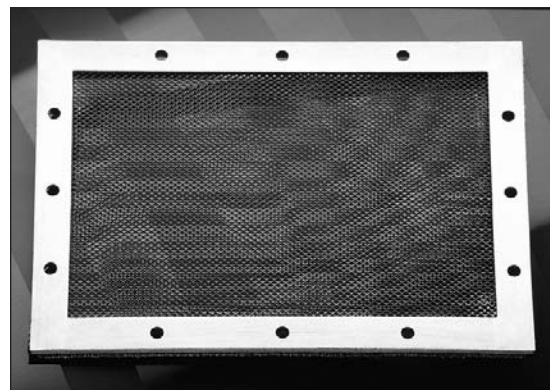
APPLICATION INFORMATION

TECKCELL-S/B steel and brass panels are used on electronic equipment enclosures that require highest EMI shielding effectiveness for the most demanding requirements. These panels are used in military shelters and equipment where EMP shielding or TEMPEST requirements are specified. For extreme environmental conditions such as harsh fumes and salt spray, use brass honeycomb air vent panels.

EMI SHIELDING PERFORMANCE

TECKNIT TECKCELL-S/B PANELS Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and based upon modified MIL-STD-285. Typical values for a 5" square panel are given below.

TECKCELL S/B	H-FIELD 100 kHz	E-FIELD 10 MHz	PLANE WAVE 1 GHz	10 GHz
PLATING	dB	dB	dB	dB
Tin	85	135+	115	110



SPECIFICATIONS

MATERIAL DESCRIPTION

- **Frame**
Teckcell-Steel: SAE 1010
Teckcell-Brass: Alloy 260
- **Honeycomb**
Teckcell-Steel: Per QQ-S-698, Alloy C-1010
Teckcell-Brass: Per QQ-B-613 (ASTM-B-36), Alloy 260
- **EMI Gasket⁽¹⁾**
Wire Mesh: Sn/Cu/Fe (tin coated, copper-clad steel) wire per ASTM B-520.
Elastomer: Neoprene sponge per MIL-R-6130, Type II, Grade A, Cond. Med.

FINISH DESCRIPTION

- **Tin⁽²⁾:** Tin plate per MIL-T-10727, Type 1. (ASTM-B-545)
- **Nickel:** Electroless Nickel plate per MIL-C-26074A, Class 1, Grade B. (SAE-AMS-C-26074)

PERFORMANCE

- **Temperature Range:**
Teckcell-Steel: -80°F to 400°F [-63°C to 204°C]
Teckcell-Brass: -80°F to 400°F [-63°C to 204°C]

(1) Reference Duogasket Data Sheet. Optional mesh material available.

(2) Requires drain holes for plating.



STANDARD FRAMES-STEEL (Style 41, 43) STANDARD FRAMES-BRASS (Style 51, 53)

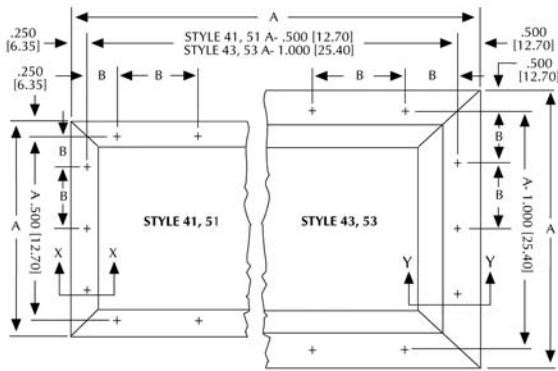


Figure 1. Frame Dimensions.
Note (1): Duogaskets have U slots at fastener or hole locations.
Note (2): Drain holes are standard on plated panels.

DIMENSIONAL TOLERANCES FOR TECKCELL-S/B PANELS

FRAME		
FEATURE	DIMENSION	TOLERANCE
A	0-8 in.[0-203 mm]	±.015 in.[0.38 mm]
	8-24 in.[203-610 mm]	±.032 in.[0.76 mm]
	>24 in.[over 610 mm]	±.062 in.[1.57 mm]
Hole/Fastener Locations	B	±.015 in.[0.38 mm]
Hole Diameter	All	±.005 in.[0.13 mm]
Frame Cross Section	All	±.010 in.[0.25 mm]

EMI GASKET*		
FEATURE	DIMENSION	TOLERANCE
Mesh Height & Width	up to .188 in. [4.78 mm]	+.016, -0 in. [+0.41, -0 mm]

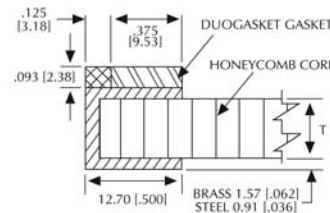
CUSTOM OPTIONS

Framing - For panels requiring alternate frame designs supply a drawing for part number assignment.

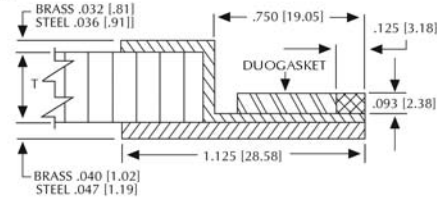
Honeycomb Media - Standard cell size is 0.125" x 0.500" [3.17 mm wide by 12.7 mm deep]. Cell sizes other than standard, such as 0.250 in. [6.34 mm] wide by 1.00 in. [25.4 mm] deep, are also available to provide improved shielding and/or air flow.

Mounting holes - Panels can be provided with hole patterns to customer specifications.

Section X-X
Style 41 (Steel)
Style 51 (Brass)

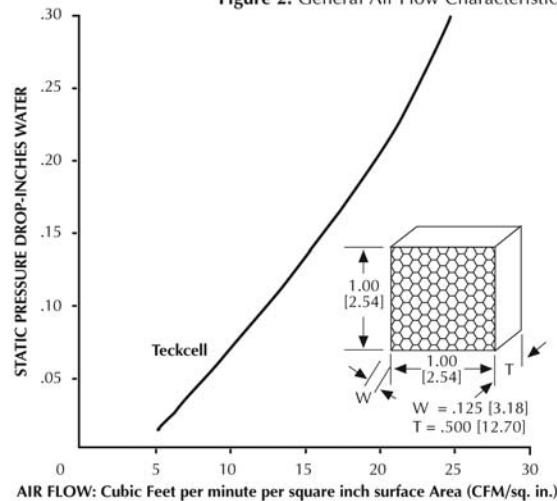


Section Y-Y
Style 43 (Steel)
Style 53 (Brass)



TECKCELL-S/B AIR FLOW CHARACTERISTICS

Figure 2: General Air Flow Characteristics



Note: To determine AIR FLOW divide total air flow (CFM) delivered by the number of square inches (AxB) of the vent panel to find CFM/ sq. in. From this value, determine the static pressure drop across the vent panel. The reverse operation can be used to limit the static pressure drop to a given value by selecting the proper size vent panel (dimensions A & B) and limiting the CFM/sq. in.

ORDERING INFORMATION

TECKCELL-S/B air vent panels specifications should include: frame style and dimensions, core material, frame and core finish, and mounting provisions. Customer panels using materials and finishes, other than those called out on this data sheet, should include appropriate material specifications and detailed dimensional data. For assistance contact your nearest TECKNIT representative or factory location.

TECKNIT

Teckcell™ -A (LP)

LOW PROFILE, ALUMINUM, SHIELDING AIR VENT PANELS

U.S. Customary
[SI Metric]

GENERAL DESCRIPTION

TECKCELL-A (LP) panels have been developed by Tecknit to satisfy the need for a thin, low cost, EMI shielding vent panel that does not compromise shielding performance.

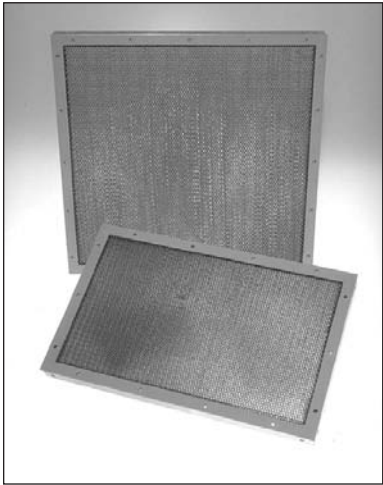
These new vents utilize .250" [6.35 mm] thick honeycomb (.125" [3.2 mm] cell width) and dispel the belief that honeycomb shielding panels are an expensive solution, limited to military grade shielding problems. They provide excellent air flow and EMI shielding performance for commercial and low profile applications. These cost effective panels are available with the following gasket materials.

- Beryllium copper fingers for EMI protection.
- Oriented wires in silicone for EMI protection and environmental sealing.

EMI SHIELDING PERFORMANCE

Shielding effectiveness has been tested in accordance with TECKNIT test method TSETS-01, based upon modified MIL-STD-285. Typical values are given below.

TECKCELL A	E-FIELD	PLANE WAVE	
	10 MHz	1 GHz	10 GHz
	dB	dB	dB
Be/Cu Gasket	70	50	30
Elastomet	60	40	25



SPECIFICATIONS

MATERIAL DESCRIPTION

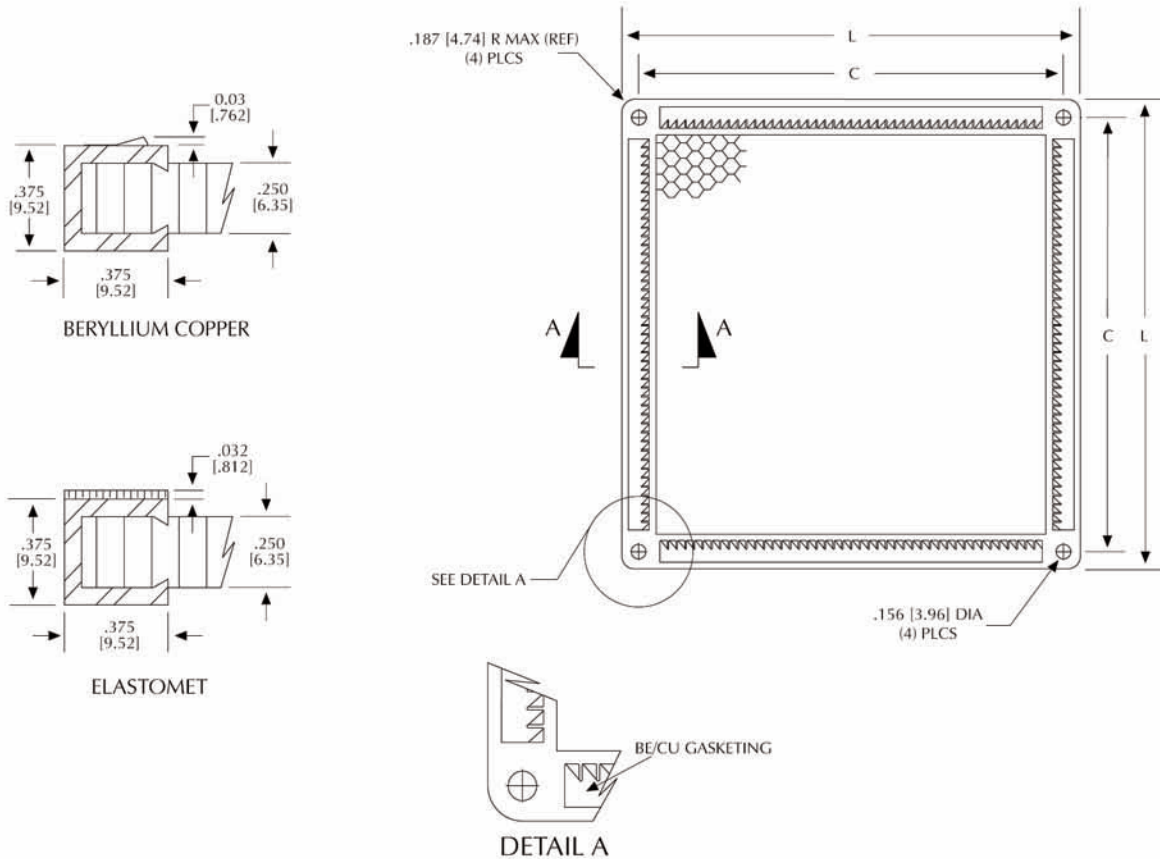
- **Frame:** Aluminum alloy 6063-T1 per QQ-A-200/9 (ASTM-B-221).
- **Honeycomb:** Aluminum alloy 5052 Grade B, Class 2 per MIL-C-7438.
- **EMI Gaskets**
Beryllium Copper Fingerstock: 55-45000
Elastomet: Monel wires in solid silicone rubber.

FINISH DESCRIPTION

- **Standard:** Trivalent Chromium Coating in compliance with the EU RoHS Directive 2002/95/EC.
- **Optional:** Tin plate per MIL-T-10727 Type 1 (ASTM)-B-545). Electroless nickel-plate per MIL-C-26074A, Class 1, Grade B (SAE-AMS-C-26074). Chromate conversion coating per MIL-C-5541, Class 1A or 3A.



DIMENSIONS FOR LOW PROFILE TECKCELL-A VENT PANELS



PART NUMBERS

DIMENSIONS		GASKETING	
L	C	Be/Cu	Elastomet
± .015" [0.38 mm]	± .010" [0.25 mm]		
2.36 [59.94]	1.97 [50.03]	60-40001	60-40011
3.14 [79.75]	2.81 [71.37]	60-40002	60-40012
3.62 [91.94]	3.25 [82.55]	60-40003	60-40013
4.69 [119.12]	4.13 [104.90]	60-40004	60-40014

ORDERING INFORMATION

To order TECKCELL-A (LP) air vent panels, simply specify the standard items by the part numbers listed on this page. For custom sizes or any special air vent requirements, please contact the factory.

TECKNIT

Teckscreen™

DUST ARRESTING EMI SHIELDING AIR VENT PANELS

U.S. Customary
[SI Metric]

GENERAL DESCRIPTION

TECKSCREEN Panels consist of three layers of aluminum wire screen sandwiched between rigid expanded metal and installed within a frame. Standard TECKSCREEN panels are available with an EMI gasket on the panel frame to provide a superior shielding interface. TECKSCREEN Panels are an alternative to panels with honeycomb constructions.

APPLICATION INFORMATION

TECKSCREEN Panels are used in applications requiring both EMI shielding and an air filter medium for ventilation or inlet cooling. Typical applications include electronic equipment enclosures, mobile military control stations, and shielding rooms. Most standard air fans or blower packages can be mounted behind TECKSCREEN Panels. TECKSCREEN Panels have been evaluated for their air flow characteristics. Results of these tests for a filter face area of 1.0 ft.² [0.09 m²] are shown below in Figure 1.



SPECIFICATIONS

MATERIAL DESCRIPTION

- **Frame:** Aluminum alloy 6063-T1 per QQ-A-200/9 (ASTM-B-221).
- **Expanded Metal Screen:** Aluminum alloy 3003-H14 per ASTM B-209
- **Wire Screen:** Aluminum 5154 alloy wire fabric.
- **EMI Gasket⁽¹⁾**
Wire Mesh: Sn/Cu/Fe (tin coated, copper clad steel) wire per ASTM B-520.
Elastomer: Neoprene sponge per MIL-R-6130, Type II, Grade A, Condition Medium. (ASTM-D-6576)
- **Blind Fastener⁽²⁾:** Steel alloy, cadmium plated 6-32 UNC-2B or 8-32 UNC-2B

FINISH DESCRIPTION

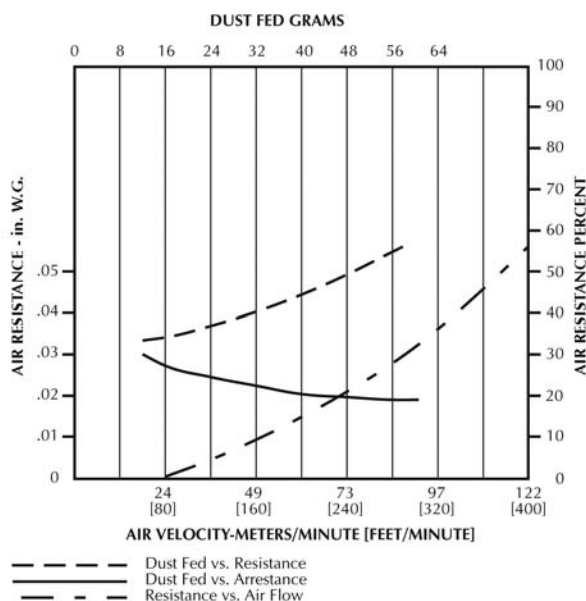
- **Chromate⁽³⁾:** Trivalent Chromium conversion coating in compliance with EU RoHS Directive 2002/95/EC.

(1) Reference Duogasket or Tecknit Strip Data Sheet

(2) Threaded inserts are available on request

(3) For other finishes contact Tecknit.

Figure 1. Air Filtration



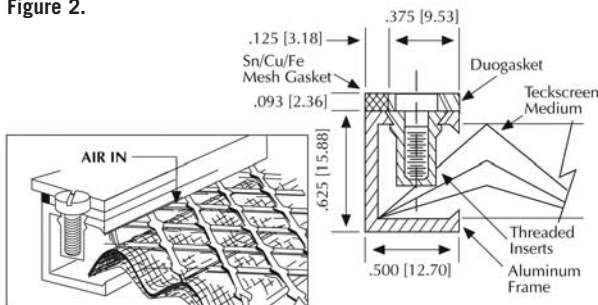
Note: Rated Capacity, 320 ft.³/min. [9m³/min.]. Dust holding capacity 12.1 grams. Average Arrestance 20.2%.

STANDARD FRAMING AND MOUNTING DESIGNS

Specially designed aluminum extrusions can be manufactured into frames to provide convenient mounting assemblies. TECKSCREEN panels may be mounted over or through openings in equipment enclosures. Panels with standard extrusions are supplied with a TECKNIT EMI gasket already installed. Requirements for holes, studs or threaded inserts should be included when specifying panels.

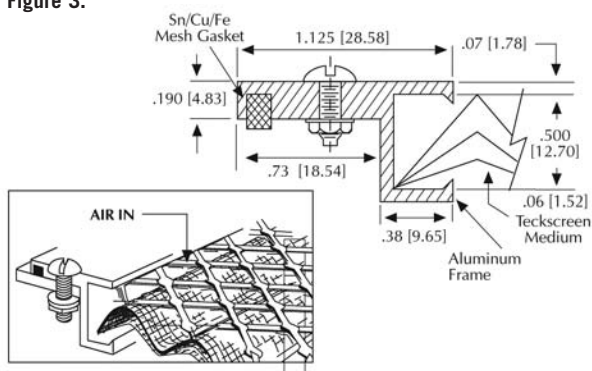
FRAME STYLE 93

Figure 2.



FRAME STYLE 104

Figure 3.



EMI SHIELDING PERFORMANCE

TECKNIT TECKSCREEN Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and based upon modified MILSTD-285. Typical values for a 5" square panel are given below.

TECKSCREEN	H-FIELD 100 kHz	E-FIELD 10 MHz	PLANE WAVE 1 GHz	10 GHz
PLATING	dB	dB	dB	dB
Chromate	70	120	80	60

TECKSCREEN PANELS DIMENSIONAL TOLERANCE

FRAME		
FEATURE	DIMENSION	TOLERANCE
Length & Width	up to 8 in. [203 mm]	±.015 in. [0.4 mm]
	8-24 in. [203-610 mm]	±.031 in. [0.8 mm]
	Over 24 in. [611 mm]	±.060 in. [1.6 mm]
Hole Locations	ALL	±.015 in. [0.4 mm]
Hole Diameters	ALL	±.005 in. [0.13 mm]
Frame Cross Sections	ALL	±.010 in. [0.25 mm]

EMI GASKETS		
FEATURE	DIMENSION	TOLERANCE
Mesh:		
Height & Width	Up to .125 in. [3.18 mm]	+ .016, - 0 in. [0.41, 0 mm]
Elastomer:		
Height	Up to .100 in. [2.54 mm]	±.016 in. [0.41 mm]
Width	Up to .500 in. [12.7 mm]	±.031 in. [0.79 mm]

ORDERING INFORMATION

When ordering TECKSCREEN Air Vent Panels, specifications should include: frame style number, overall frame and opening dimensions, air flow direction, hole locations and fastener requirements. For specifications assistance, contact your nearest TECKNIT area representative or factory location.

TECKNIT

Teckaire®

LOW PROFILE DUST AND EMI FILTERING AIR VENT PANELS

U.S. Customary
[SI Metric]

GENERAL DESCRIPTION

TECKAIRE panels are made of a viscous impingement filter medium framed within an aluminum extrusion. They are extremely low profile vents and require only .2 in. [5 mm] of inside enclosure depth. TECKAIRE panels combine excellent dust arrestance and shielding properties with minimal restriction of air flow. They are available with an EMI gasket on the panel frame to provide a superior shielding interface. Maximum overall size of TECKAIRE panels is 12x25 in. [305x610 mm] requiring cross braces to reinforce the frame.

APPLICATION INFORMATION

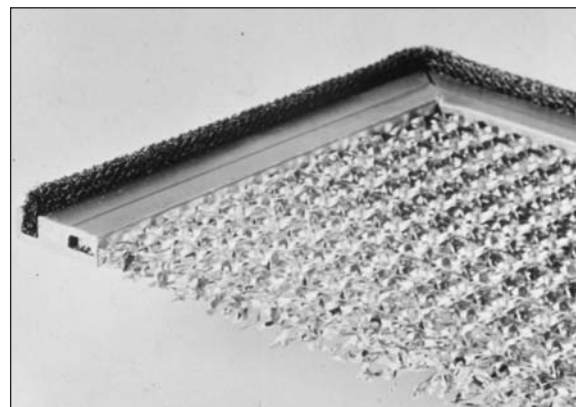
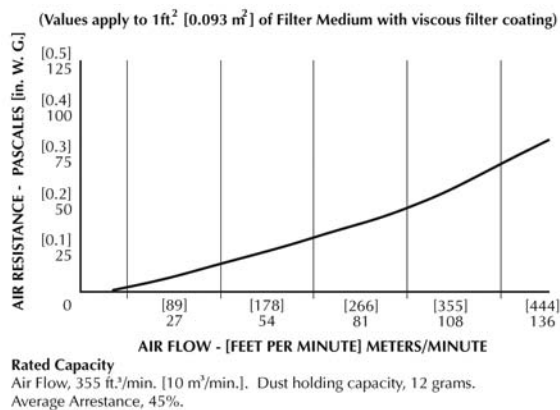
TECKAIRE panels are used on electronic equipment enclosures and shielded rooms. They are especially suited for applications requiring a shielding vent panel of minimum depth. TECKAIRE panels will perform under harsh environmental conditions and meet MIL-E-5272C, Section 4.6, salt spray test.

AIR FLOW CHARACTERISTICS (WITH VISCOUS FILTER COATING)

At the rated air velocity of 355 feet per minute, the pressure drop through TECKAIRE with viscous filter coating is less than .22 in. W.G. [55 Pascals]. At this velocity, average dust arrestance is 45% with about 12 grams of dust retained for each 1 ft.² [0.093 m²] of filter area. Standard TECKAIRE Filters are supplied without a viscous impingement coating. When specified, TECKAIRE

TECKAIRE AIRFLOW AND FILTRATION CHARACTERISTICS

Figure 1.



Filters will be furnished with a viscous impingement coating consisting of a water soluble film of hydrocarbon oil. Dust saturated filters may be washed in water, recoated, and returned to service.

SPECIFICATIONS

MATERIAL DESCRIPTION

- **Frame:** Aluminum alloy 6063-T1 per QQ-A-200/9 (ASTM-B-221).
- **Filter Medium:** Aluminum alloy 1145-H-19, with interlayer polyethylene binder.
- **EMI Gasket**
Wire mesh: Sn/Cu/Fe (tin coated, copper clad steel) wire per ASTM B-520.
Viscous Filter Coating⁽¹⁾: Water soluble hydrocarbon oil film.

FINISH DESCRIPTION

- **Chromate:** Trivalent Chromium conversion coating in compliance with Eu RoHS Directive 2002/95/EC.

(1) Upon request the panels are coated with a viscous impingement coating.

VENT PANEL FRAME DIMENSIONING

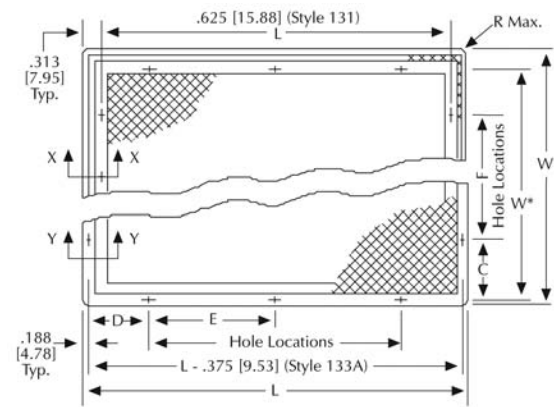


Figure 2.

FRAME		
FEATURE	DIMENSION	TOLERANCE
Length & Width	up to 8 in. [203 mm] 8-24 in. [204-610 mm] > 24 in. [610 mm]	$\pm .015$ in. [0.4 mm] $\pm .031$ in. [0.8 mm] $\pm .062$ in. [1.6 mm]
Hole Locations	C,D,E,F	$\pm .015$ in. [0.38 mm]
Hole Diameters	ALL	$\pm .005$ in. [0.13 mm]
Frame Cross Sections	ALL	$\pm .010$ in. [0.25 mm]

EMI SHIELDING PERFORMANCE

TECKNIT TECKAIRE Shielding Effectiveness has been tested in accordance with TECKNIT Test Method TSETS-01 and based upon modified MIL-STD- 285. Typical Shielding Effectiveness values are based on a 5" square panel.

TECKAIRE	H-FIELD	E-FIELD	PLANE WAVE	
	100 kHz	10 MHz	1 GHz	10 GHz
PLATING	dB	dB	dB	dB
Chromate	60	125	75	55

FRAME STYLE 131

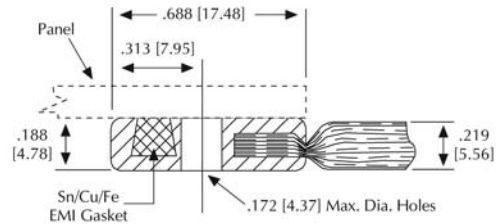


Figure 3.

FRAME STYLE 133A

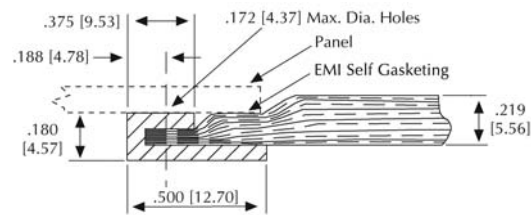


Figure 4.

ORDERING INFORMATION

When ordering TECKAIRE Air Vent Panels, specifications should include: extrusion style number, overall frame and opening dimensions, and hole locations. For specification assistance, contact your nearest TECKNIT area representative or factory location.

TECKNIT