



Ph: (920) 876-3391 www.kees.com

ARCHITECTURAL STAMPED AND BAR GRILLES

TABLE OF CONTENTS

General Information	2	Perfix and Petals	13
Brick and Casablanca	3	Rectangular Cane and Round Cane	14
Cathedral and Classic	4	Round Holes	15
Circlelink and Cloverleaf	5	School Slot and Rectangular Holes	16
Crosslink and Diamond	6	Seashells	17
Egyptian and Formed Louver	7	Square Link and Triplex	18
Gothic and Grecian	8	Windsor and Custom Patterns and Shapes	19
Half Shell and Honeycomb	9	Stamped Grille Pressure Drop Data	20
Lattice and Square Holes	10	Stamped Grille Sound Data	21
Majestic and Maltese	11	Stamped Grille Options	22
Mosaic and Octagonal	12	Bar Grilles	23
		Curved Bar Grilles & Bar Grille Performance Data	24

MATERIALS

Stamped grilles are available in **steel, galvanized steel, stainless steel (type 304 or 316), aluminum, brass (muntz alloy 280 - color match to architectural bronze), or commercial bronze (alloy 220)** in a variety of thicknesses as summarized below and noted on individual catalog pages:

Steel and galvanized steel; 24 gauge thru 3/16" thick. 1/4" thick available for some applications. Contact the factory for details on usage of 1/4" thick materials.

Stainless steel; 24 gauge thru 10 gauge.

Aluminum; .080" thru 3/16" thick.

Brass (muntz) and commercial bronze; .080", 1/8" or 3/16" thick.

Bar grilles are available in **stainless steel (type 304 or 316), brass (alloy 385 - also known as architectural bronze), or aluminum.**

FINISHES

Stamped grilles are available in a wide variety of standard and custom finishes:

Steel and galvanized steel; mill, prime coat, lacquer, enamel or epoxy in standard or paint-to-match colors.

Stainless steel; mill, satin polish, mirror polish, prime coat, lacquer, enamel or epoxy in standard or paint-to-match colors.

Aluminum; mill, clear or color anodize, prime coat, lacquer, enamel or epoxy in standard or paint-to-match colors.

Brass and bronze; mill, satin polish, mirror polish, oxidized, or lacquer.

Bar grilles are available in a wide variety of standard and custom finishes:

Stainless steel; mill, satin polish, lacquer, enamel or epoxy in standard or paint-to-match colors.

Brass; mill, satin polish, oxidized, or lacquer.

OPTIONS

Stamped grilles and bar grilles are available with numerous mounting options, and with an opposed blade damper constructed of steel, aluminum or stainless steel mounted to the back of the grille. Stamped grilles are available with a hinged access door panel, which can be solid or perforated. Bar grilles are available with hinged or removable access door panel, mitered corner, sidewall inside or outside corner, and cutout section.

TYPICAL LIMITATIONS

Stamped grille patterns may be available in a single piece up to approximately 120" x 58" overall outside dimensions of frame. Other size limitations apply to smaller hole patterns and certain materials. Larger grilles of unlimited size can be made of multiple sections for field assembly. Consult factory for details on maximum size recommendations for specific patterns and materials. Stamped grilles shown are general representations only and actual pattern may vary slightly. Corners may have a small radii as required for manufacturing. Industry standard flatness tolerances apply. Bar grilles can be made up to 96" in length in a single section. Consult factory for information on single piece limitations for bar grilles over 24" wide.

TYPICAL SPECIFICATIONS

Provide architectural stamped grilles as manufactured by **KEES INCORPORATED** pattern (pattern number), overall dimensions of (width x height), pattern dimensions of (width x height), (material thickness) thick (material), with (finish) finish, and grille mounting option (mounting option). Provide other option(s) (as required: opposed blade damper (OBD), hinged perforated panel (HPP), hinged solid panel (HSP)).

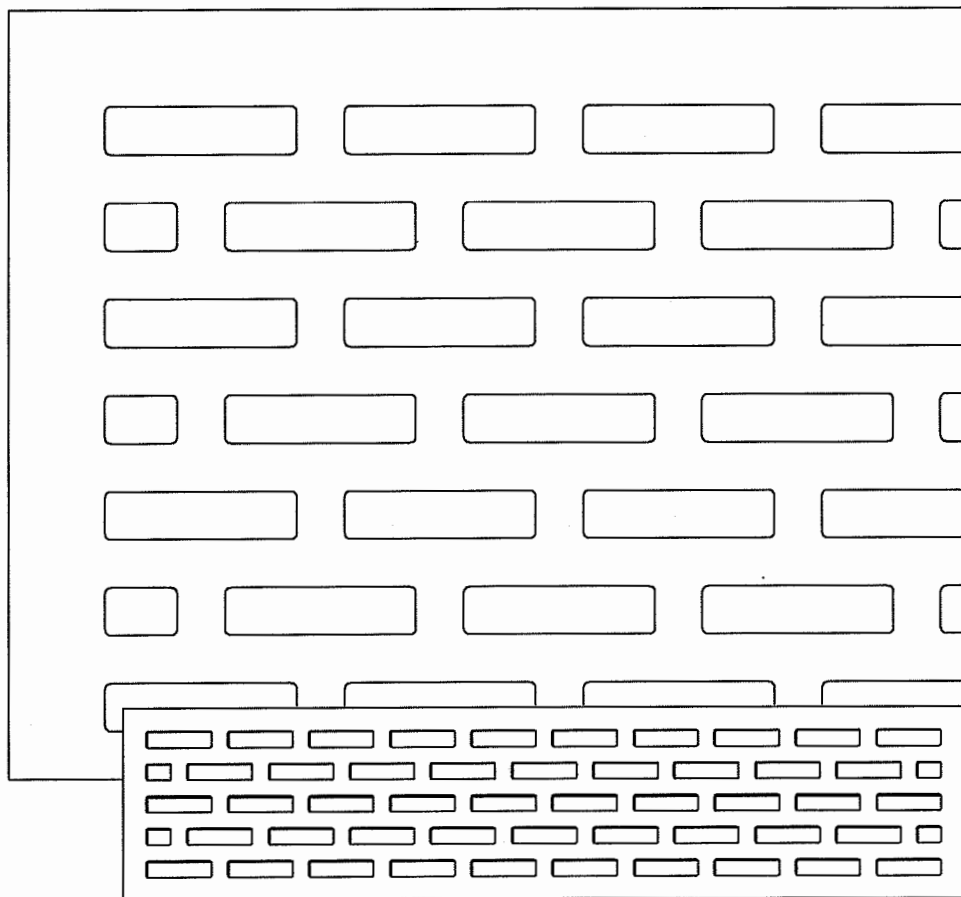
Provide architectural bar grilles as manufactured by **KEES INCORPORATED** frame style (frame style), core style (core style), blades (blade spacing) on centers, support bars (bar spacing) on centers, (width x height), (material), with (finish) finish, and grille mounting option (mounting option). Provide (as required: opposed blade damper (OBD), (mitered corner), (sidewall inside corner), (sidewall outside corner), (hinged access door), (liftout access door), (cutout)).

BRICK

PATTERN BR100
1" X 1/4" - 40% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.
Finish: See Page 2
Mounting and other options: See Page 22

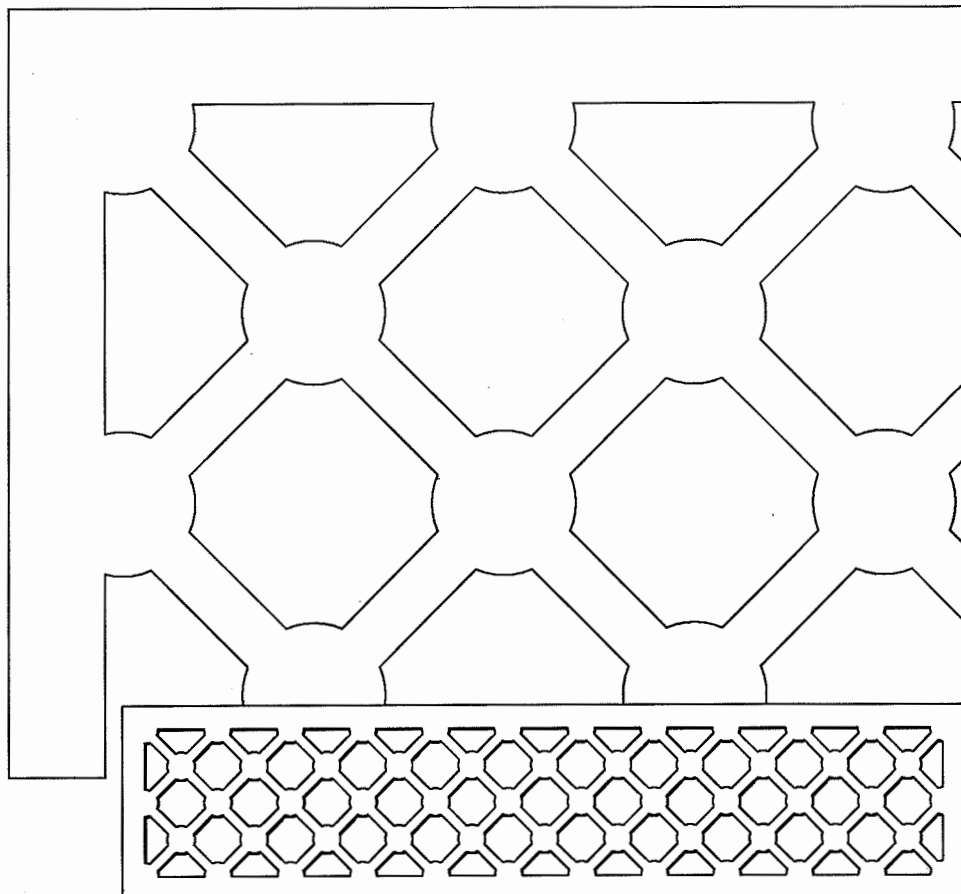


CASABLANCA

PATTERN CA200
2" - 58% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.
Finish: See Page 2
Mounting and other options: See Page 22

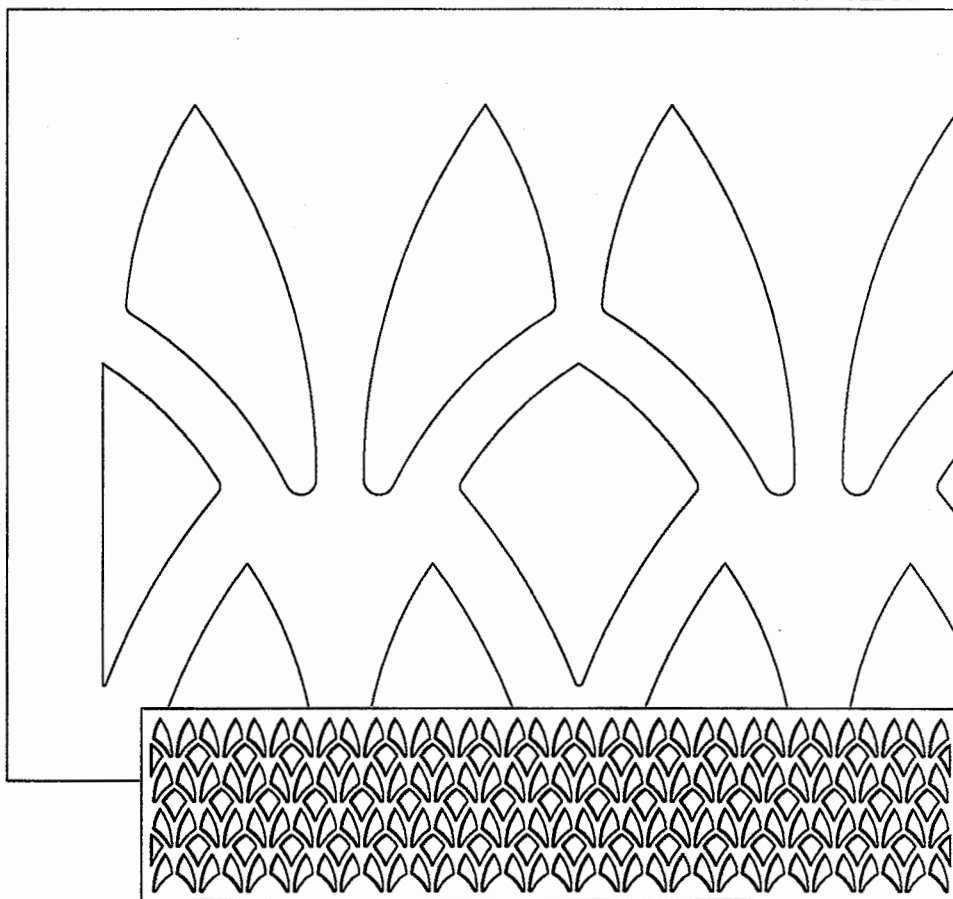


CATHEDRAL

PATTERN CT238
2-3/8" - 57% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100"
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	12 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.
Finish: See Page 2
Mounting and other options: See Page 22

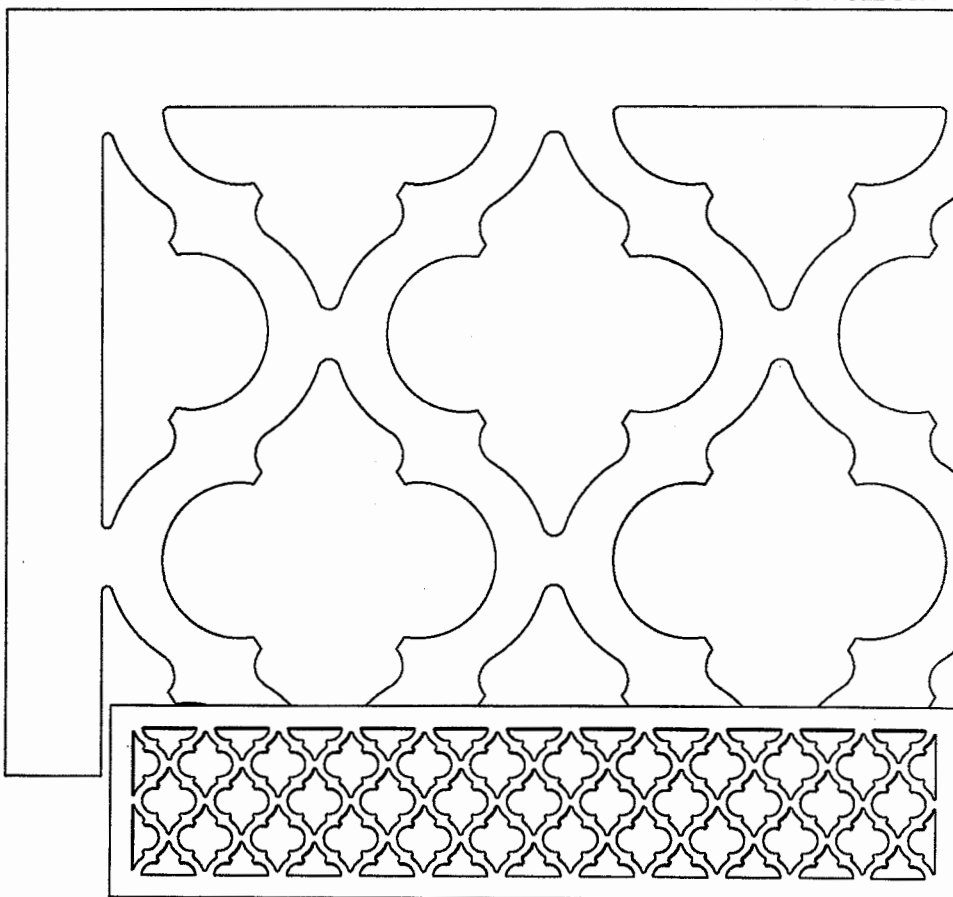


CLASSIC

PATTERN CS200
2" - 72% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.
Finish: See Page 2
Mounting and other options: See Page 22



CIRCLELINK

PATTERN CI200 - FULL SCALE

PATTERN CI125
1-1/4" - 40% OPEN

PATTERN CI200
2" - % OPEN (CONSULT FACTORY)

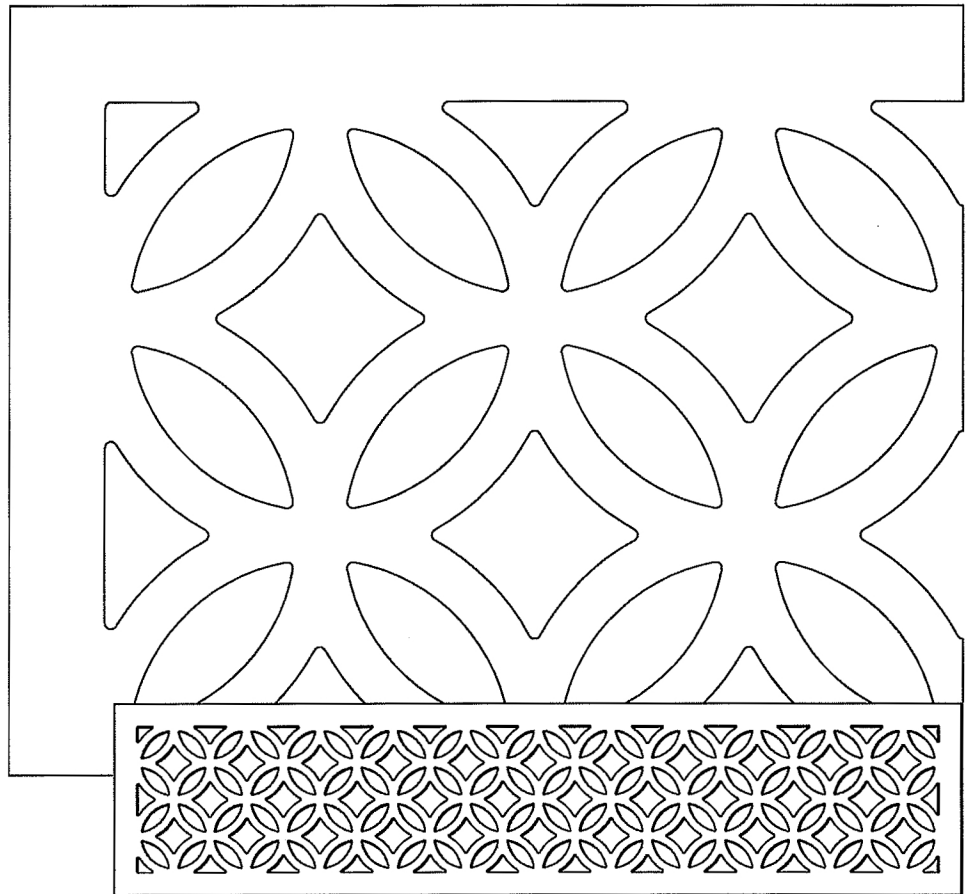
MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125" *
Brass or Bronze:	.080"	.125" *
Stainless Steel:	14 GA.	12 GA. **
Steel:	14 GA.	10 GA. ***

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22

- * .080" for PATTERN CI125
- ** 14 GA. for PATTERN CI125
- *** 14 GA. for PATTERN CI125



CLOVERLEAF

PATTERN CL050 - FULL SCALE

PATTERN CL050
1/2" - 51% OPEN

PATTERN CL100
1" - 50% OPEN

NOTE: The distance between holes can be varied but cannot be less than the material thickness.

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125" *
Brass or Bronze:	.080"	.125" *
Stainless Steel:	14 GA.	12 GA. **
Steel:	14 GA.	10 GA. ***

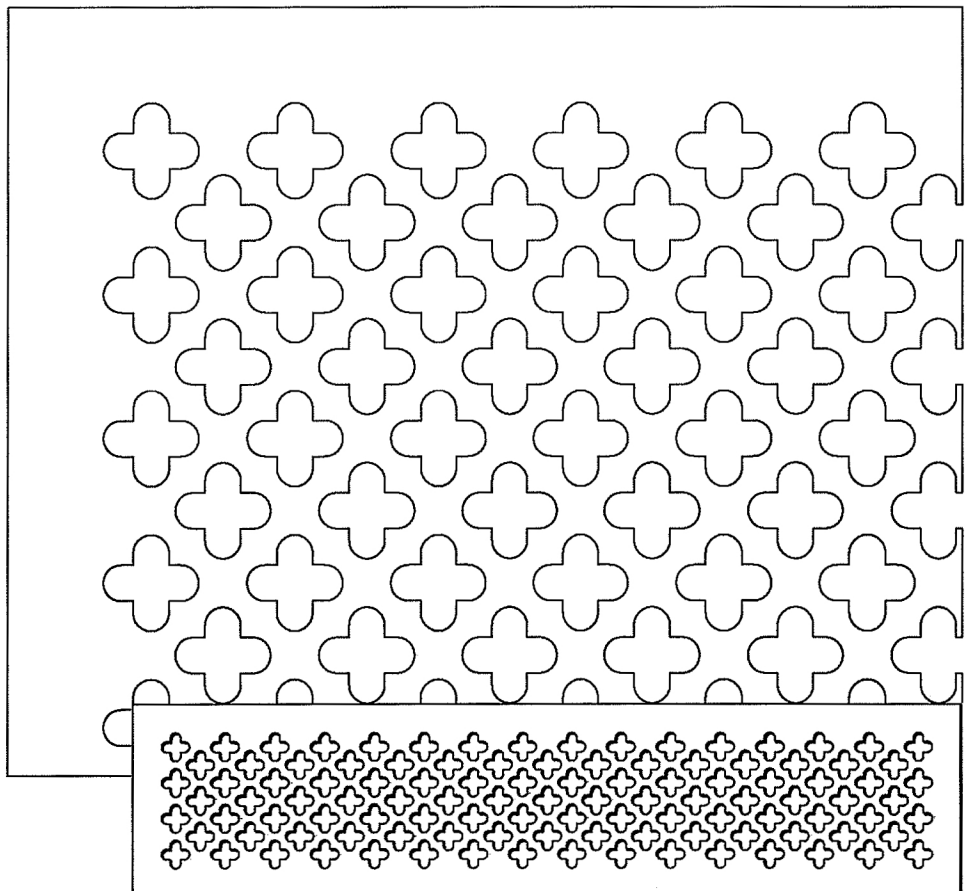
Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22

- * .190" for PATTERN CL050
- ** 10 GA. for PATTERN CL050
- *** 7 GA. for PATTERN CL050

NOTE: For PATTERN CL050, restrictive size limits apply.



CROSS-LINK

PATTERN CR075
3/4" - 45% OPEN

PATTERN CR150
1-1/2" - 45% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100" *
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	12 GA. **

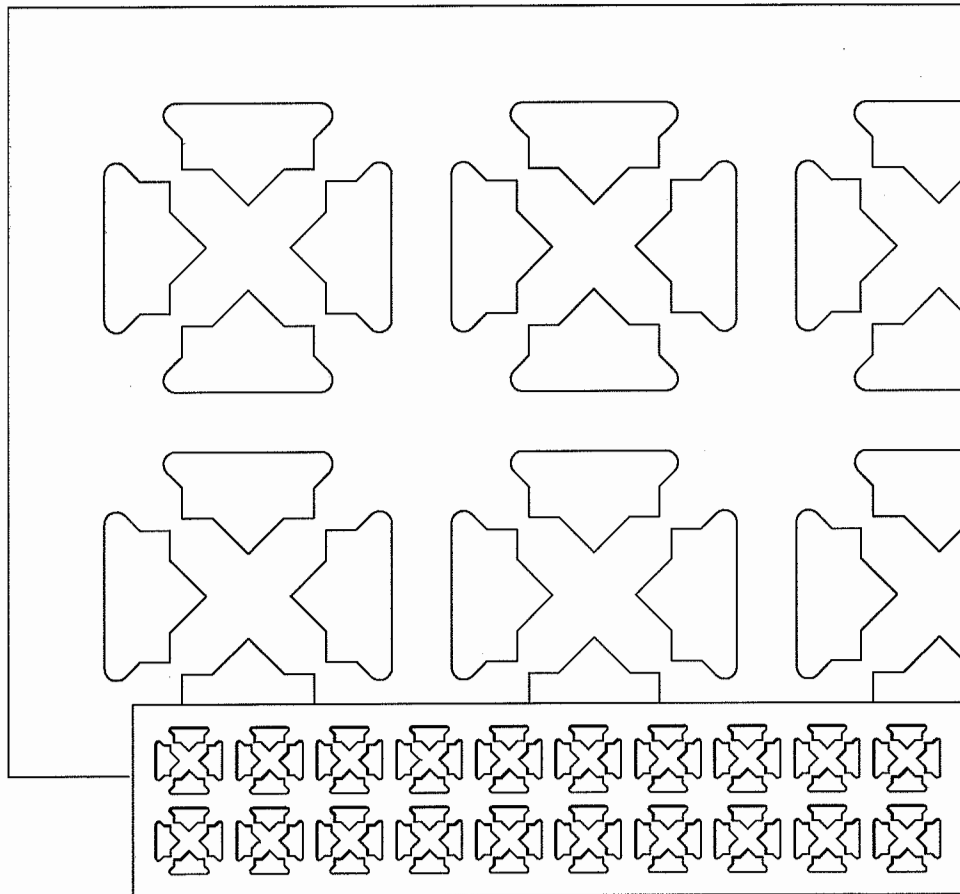
Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22

* .080" for PATTERN CR075

** 14 GA. for PATTERN CR075



DIAMOND OR CAMELOT

PATTERN DI050
1/2" - 53% OPEN (3/16" Fret)
PATTERN DI075
3/4" - 56% OPEN (1/4" Fret)
PATTERN DI100
1" - 64% OPEN (1/4" Fret)

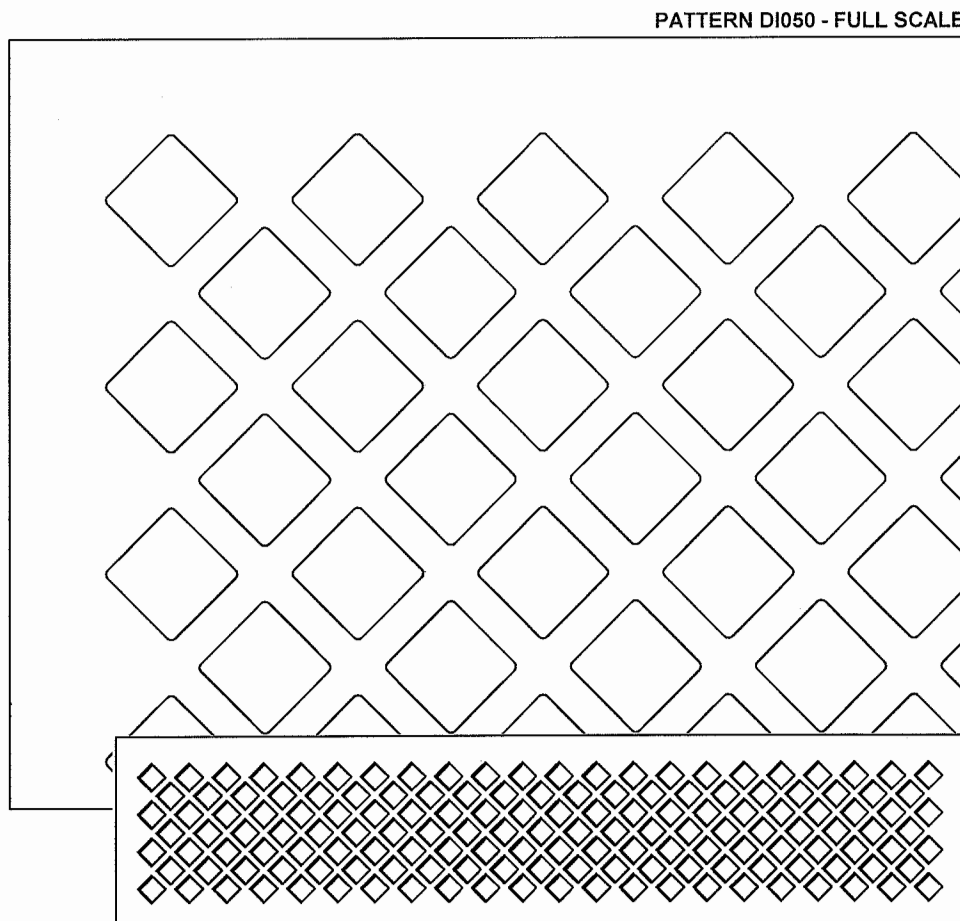
NOTE: Partial patterns available for DI075 and DI100. Other pattern sizes available. The distance between holes can be varied but cannot be less than the material thickness.

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22



EGYPTIAN

PATTERN EG100

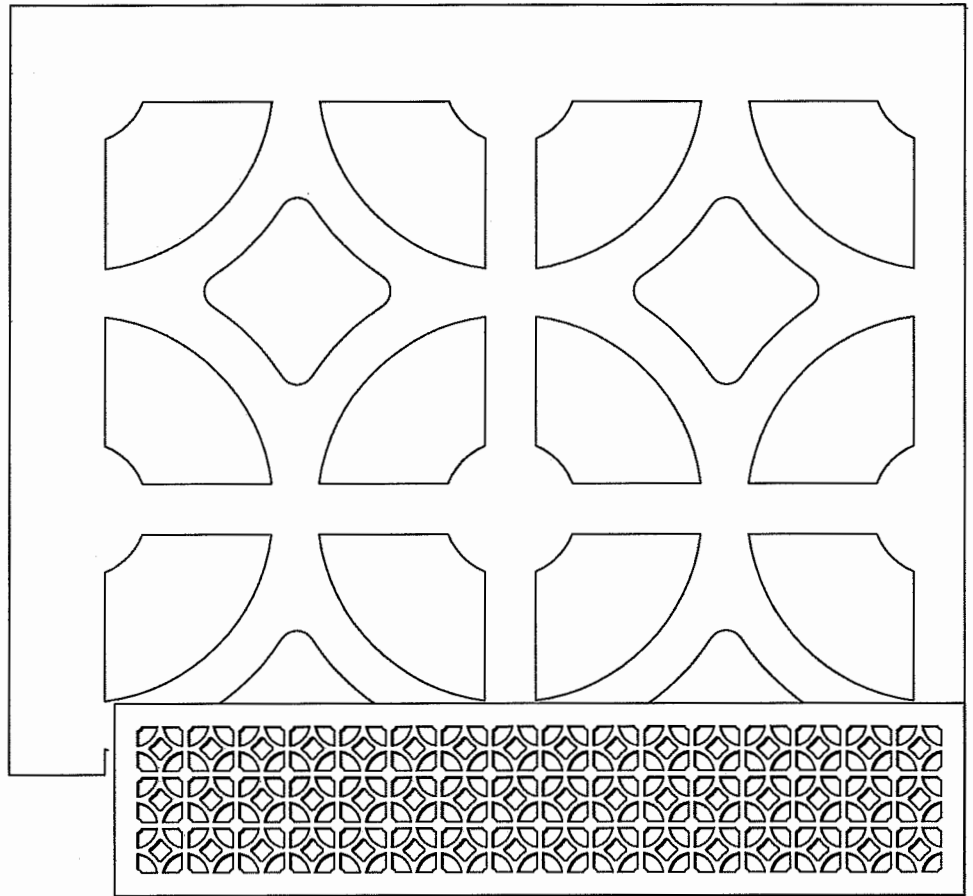
1" - 42% OPEN

PATTERN EG200

2" - 55% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.
Finish: See Page 2
Mounting and other options: See Page 22



FORMED LOUVER

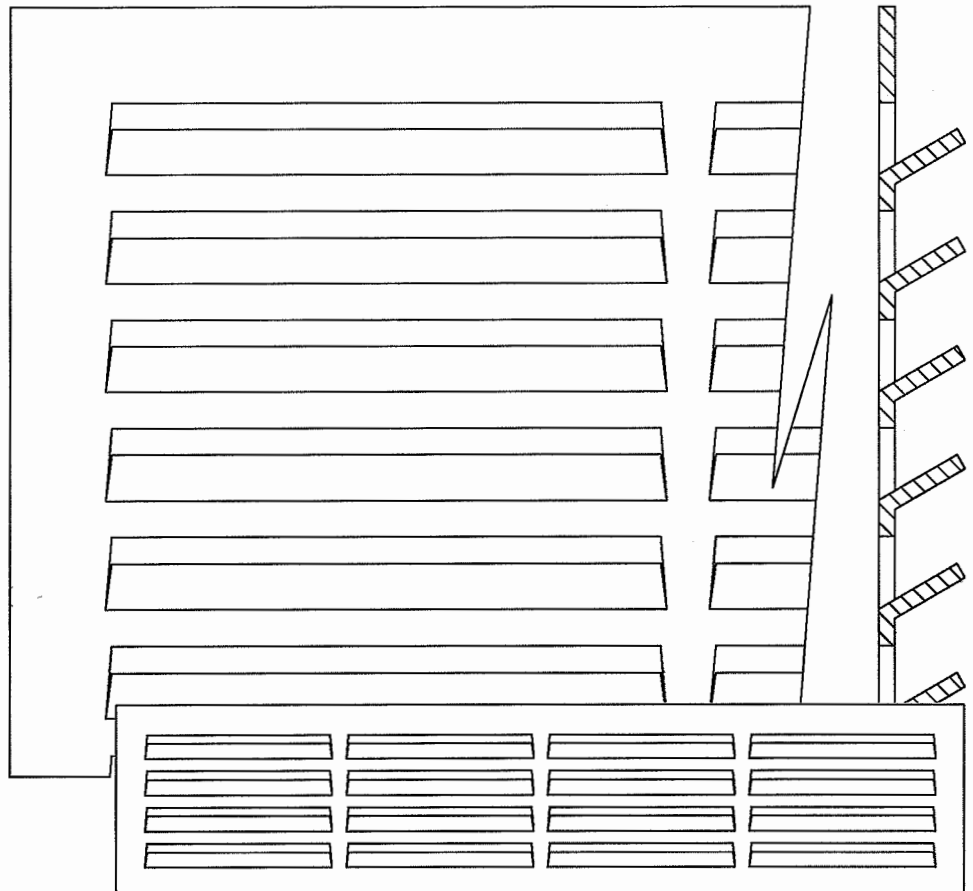
PATTERN FL300

1/2" - 51% OPEN

NOTE: The distance between holes can be varied but cannot be less than the material thickness.

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.080"
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	14 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.
Finish: See Page 2
Mounting and other options: See Page 22



GOTHIC

PATTERN GO053
17/32" - 58% OPEN

PATTERN GO106
1-1/16" - 58% OPEN

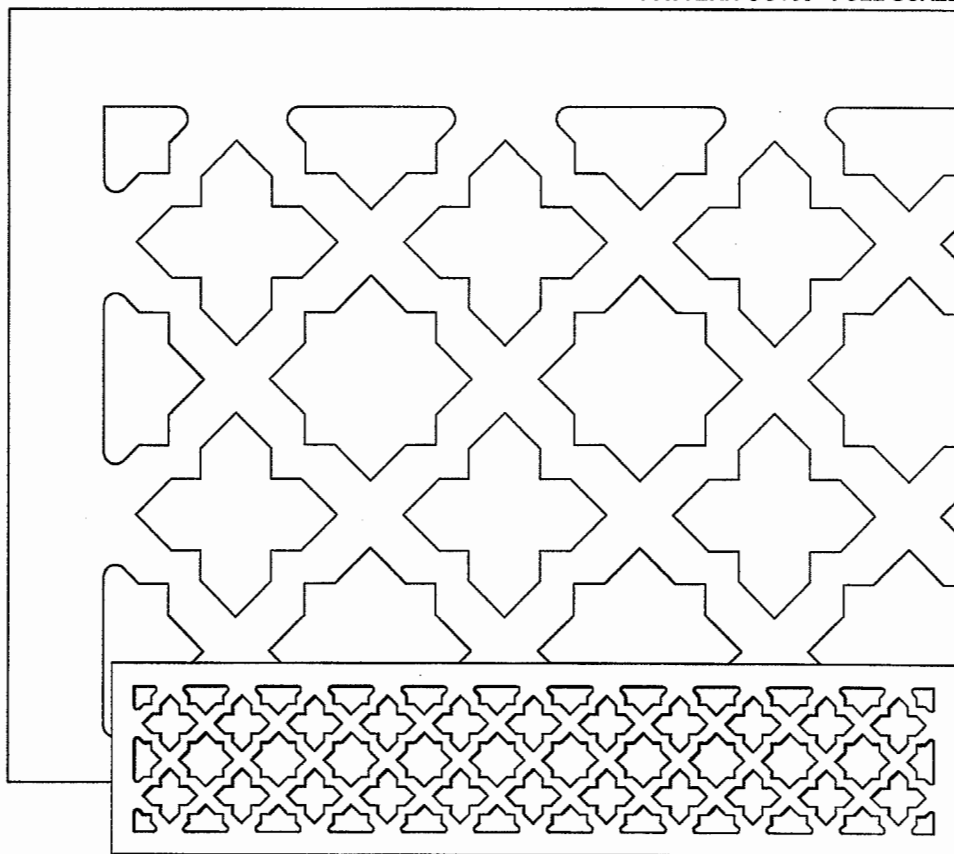
MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100"
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	12 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22

PATTERN GO106 - FULL SCALE



GRECIAN OR UNION JACK

PATTERN GR125
1-1/4" - 40% OPEN
(3/16" Between Patterns)

PATTERN GR250
2-1/2" - 49% OPEN
(1/4" Between Patterns)

PATTERN GR500
5" - 50% OPEN
(1/2" Between Patterns)

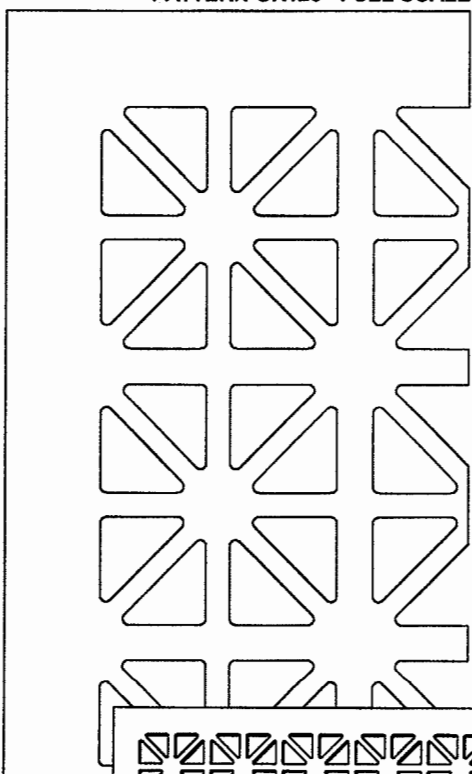
MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.190" *
Brass or Bronze:	.080"	.190" *
Stainless Steel:	14 GA.	10 GA. **
Steel:	14 GA.	7 GA. ***

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

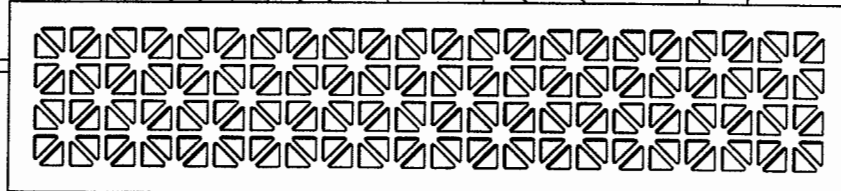
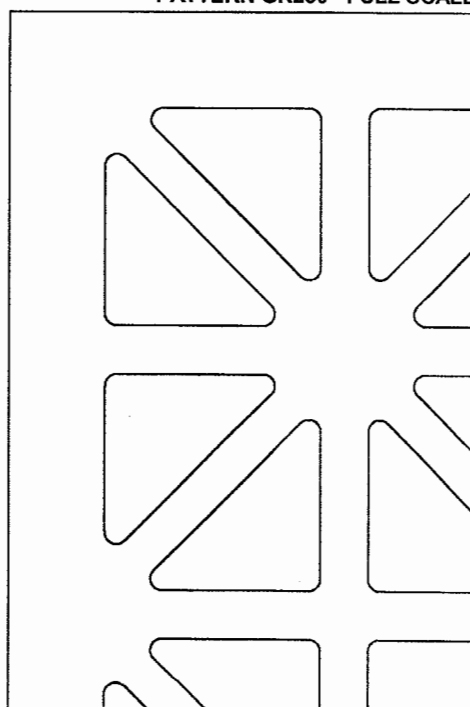
Finish: See Page 2

Mounting and other options: See Page 22

PATTERN GR125 - FULL SCALE



PATTERN GR250 - FULL SCALE



* .125" for PATTERN GR500

** 12 GA. for PATTERN GR500

*** 10 GA. for PATTERN GR500

HALF SHELL

PATTERN HA150
1-1/2" - 58% OPEN

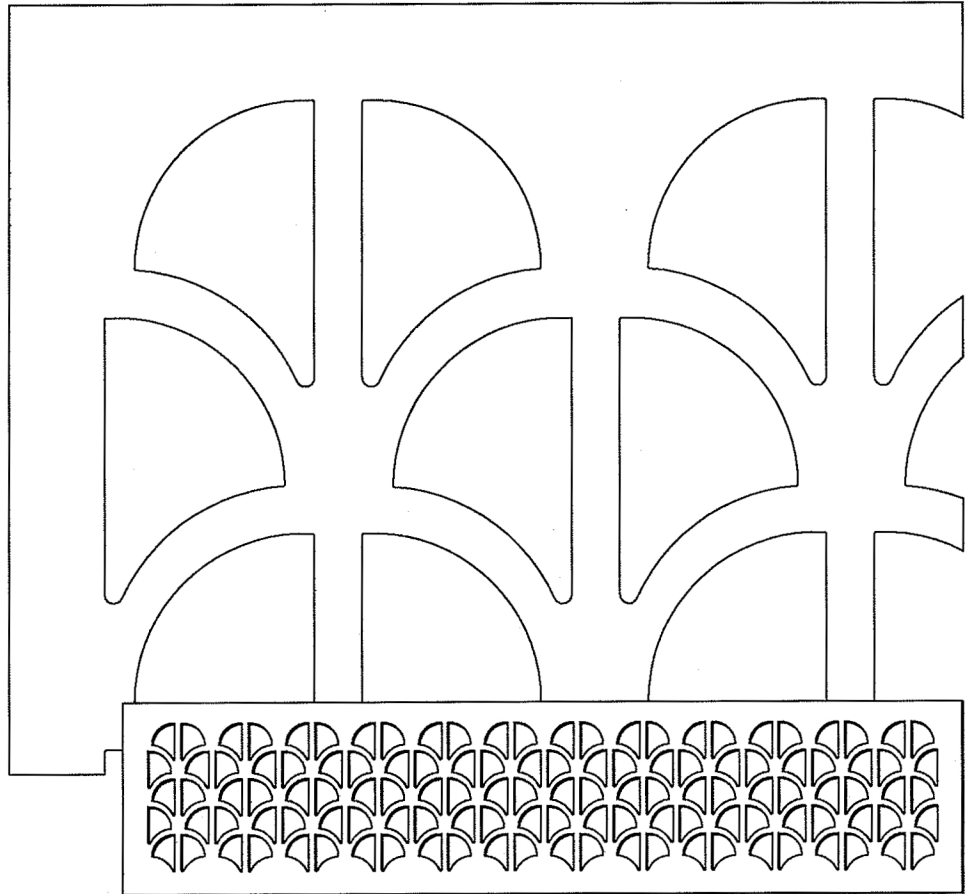
PATTERN HA200
2" - 70% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22



HONEYCOMB

PATTERN HO075
3/4" - 56% OPEN

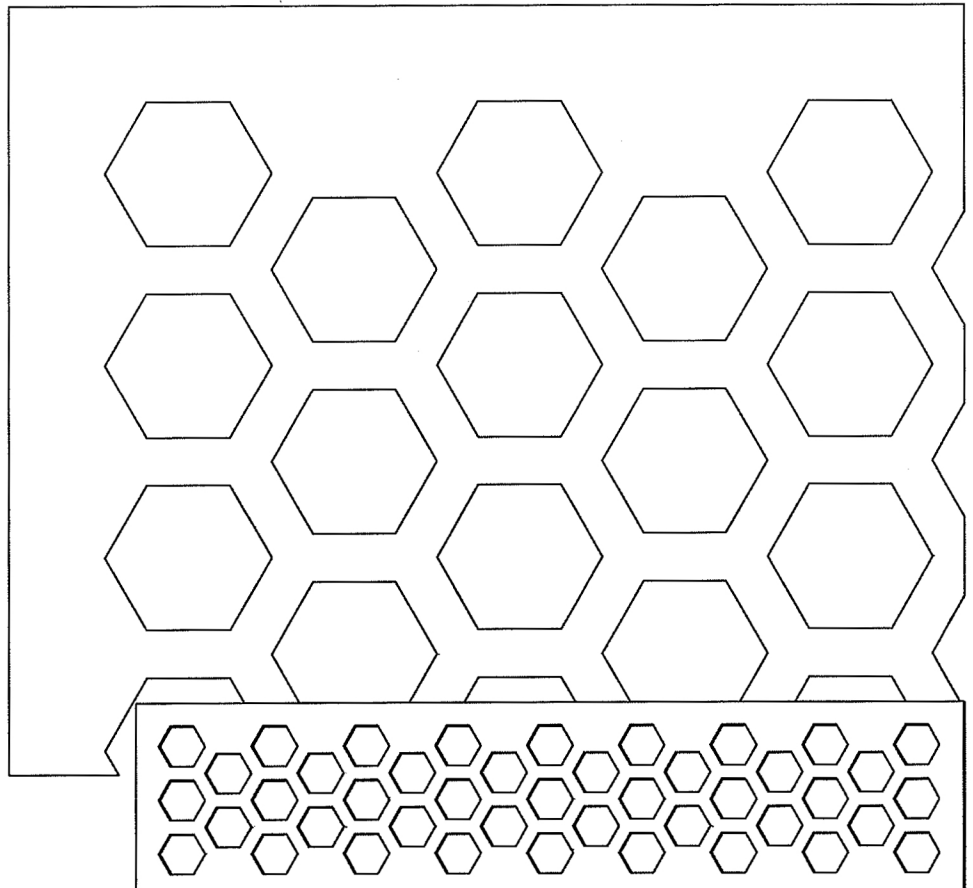
NOTE: The distance between holes can be varied but cannot be less than the material thickness.

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100"
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	12 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22



LATTICE

PATTERN LA025

1/4" - 44% OPEN (1/8" Fret)

PATTERN LA038

3/8" - 56% OPEN (1/8" Fret)

PATTERN LA050

1/2" - 53% OPEN (3/16" Fret)

PATTERN LA075

3/4" - 56% OPEN (1/4" Fret)

PATTERN LA081

13/16" - 66% OPEN (3/16" Fret)

PATTERN LA100

1" - 64% OPEN (1/4" Fret)

NOTE: Other pattern sizes available.
The distance between holes can be varied but cannot be less than the material thickness.

THICKNESS

MATERIAL	MIN.	MAX.
Aluminum:	.080"	3/16" *
Brass or Bronze:	.080"	3/16" *
Stainless Steel:	14 GA.	10 GA. **
Steel:	14 GA.	7 GA. ***

Also see Page 2 for more information regarding material selection.

For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

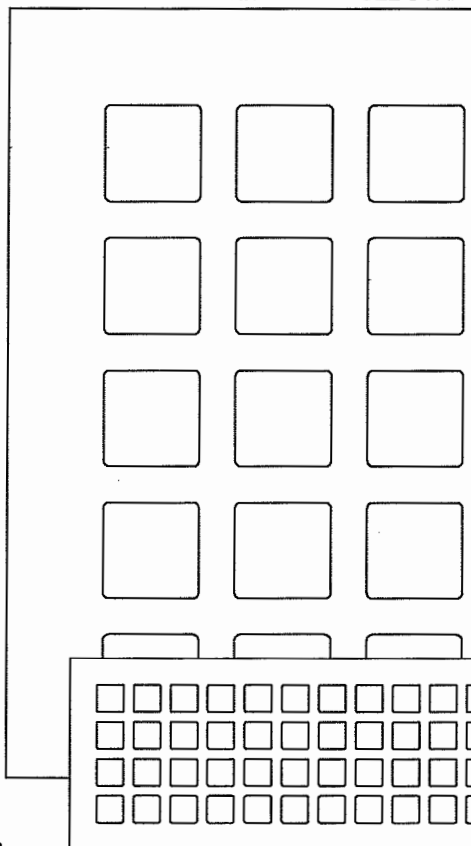
Mounting and other options: See Page 22

* 1/8" for PATTERNS LA025 and LA038

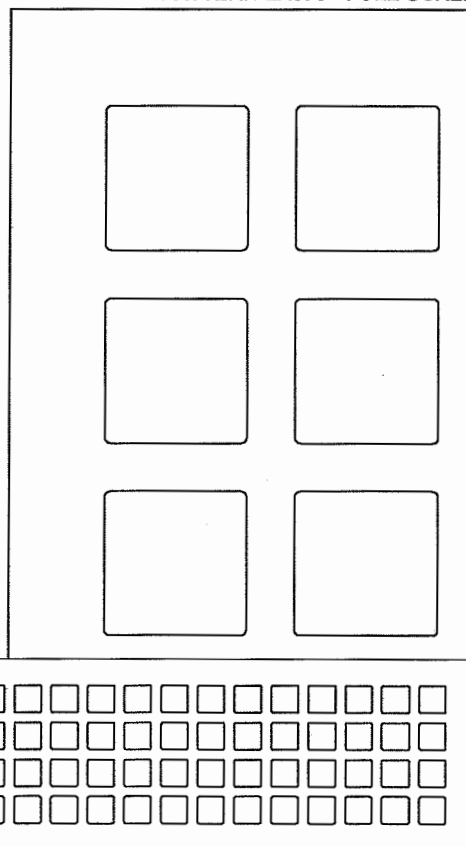
** 12 GA. for PATTERNS LA025 and LA038

*** 10 GA. for PATTERNS LA025 and LA038

PATTERN LA050 - FULL SCALE



PATTERN LA075 - FULL SCALE



SQUARE HOLES - FULL SCALE

Available in many combinations of hole sizes and center dimensions, a few of which are shown. Available in straight or staggered hole patterns.

THICKNESS

MATERIAL	MIN.	MAX.*
Aluminum:	.080"	Varies
Brass or Bronze:	.080"	Varies
Stainless Steel:	14 GA.	Varies
Steel:	14 GA.	Varies

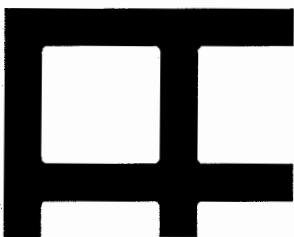
* Fret cannot be less than material thickness. Consult factory for 1/4" material thickness.

Also see Page 2 for more information regarding material selection.

For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22

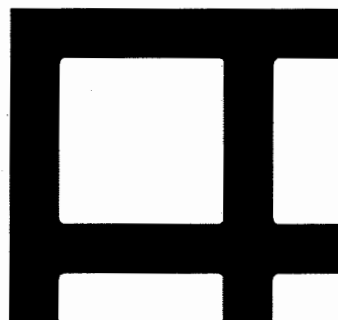


5/8" SQ. (.625"), 13/16" CENTERS
59% OPEN, GA.: 24 THRU 7

SQUARE HOLES - STRAIGHT PATTERN

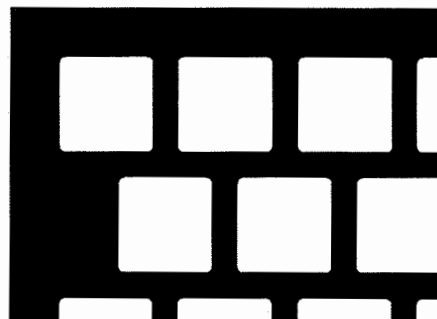
HOLE SIZE	CENTERS	FREE AREA
1/4"	5/16"	64%
5/16"	7/16"	51%
3/8"	9/16"	45%
1/2"	5/8"	64%
1/2"	3/4"	44%
5/8"	13/16"	59%
3/4"	15/16"	64%
7/8"	1-1/16"	68%
7/8"	1-1/8"	60%
1"	1-1/4"	64%
1"	1-1/2"	44%
1-1/2"	1-7/8"	64%
1-1/2"	2"	56%
1-3/4"	2-1/2"	49%
2"	2-3/4"	53%
2"	3"	44%

NOTE: Consult factory for available material gauges and grille size limitations.



7/8" SQ. (.875"), 1-1/8" CENTERS
60% OPEN, GA.: 24 THRU 7

STAGGERED HOLE PATTERN



MAJESTIC

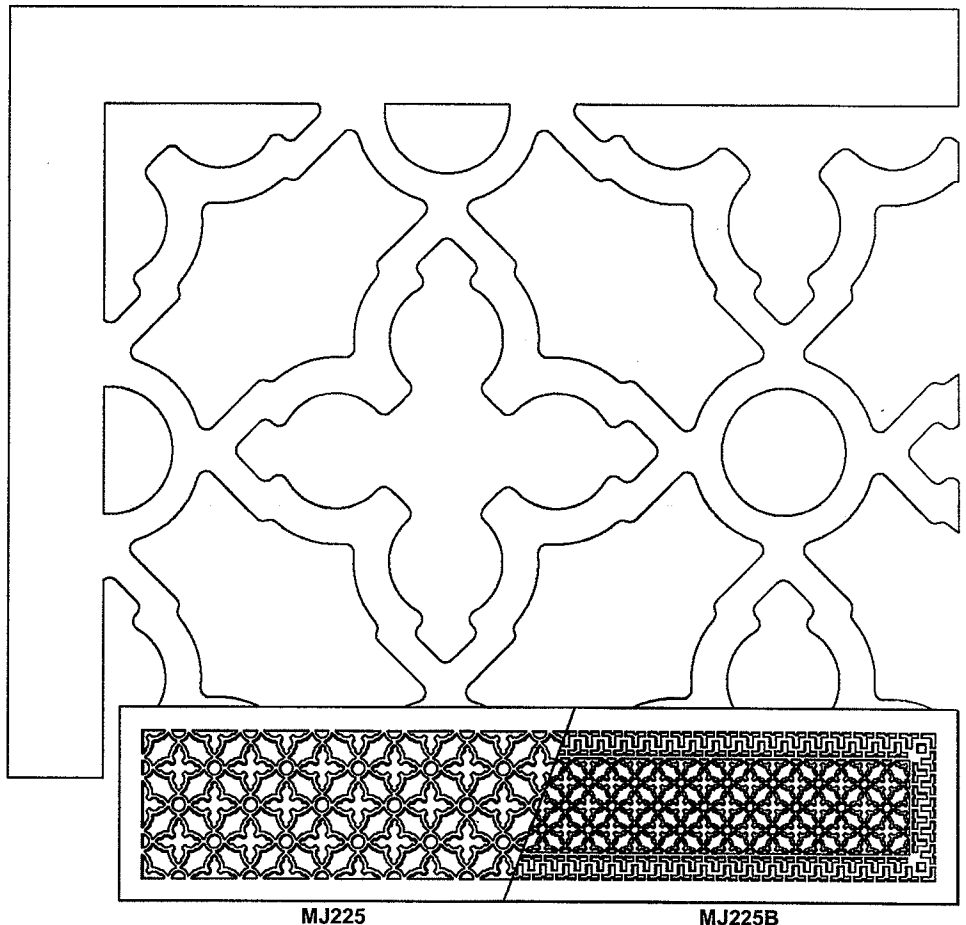
PATTERN MJ225
2-1/4" - 64% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2
Mounting and other options: See Page 22

Also available with a decorative border;
PATTERN MJ225B.



MJ225

MJ225B

MALTESE

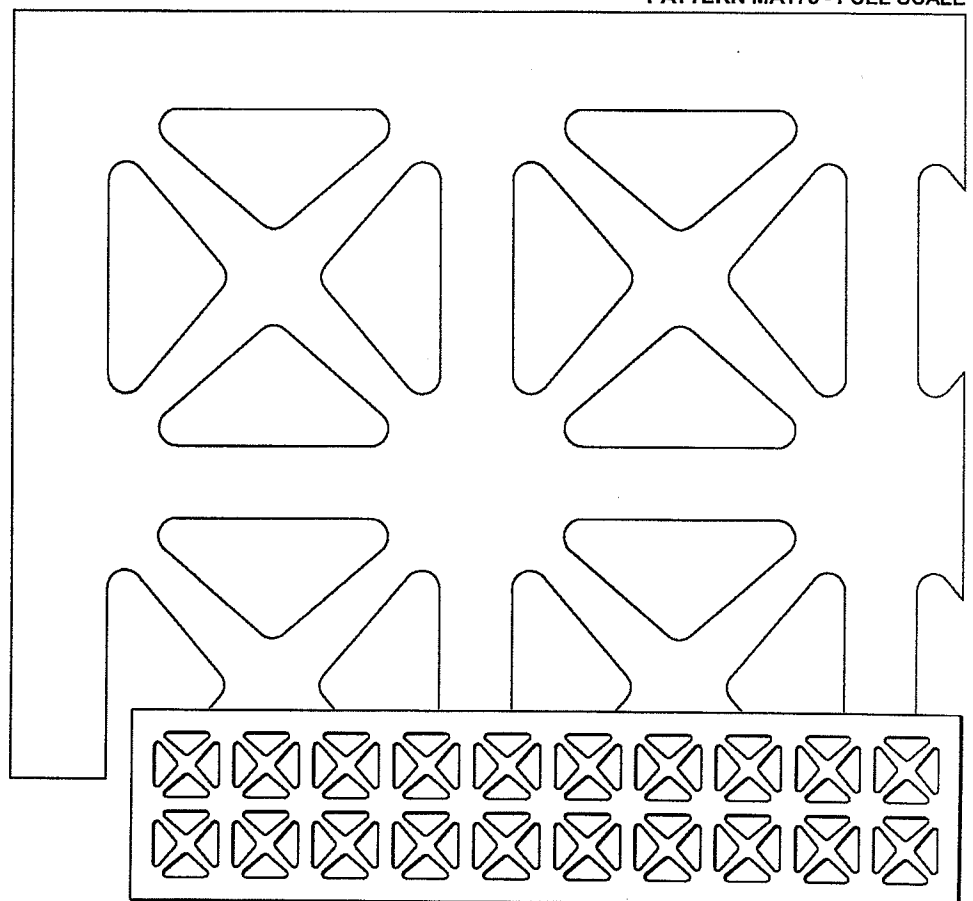
PATTERN MA175
1-3/4" - 41% OPEN
(3/8" Between Patterns)

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.190"
Brass or Bronze:	.080"	.190"
Stainless Steel:	14 GA.	10 GA.
Steel:	14 GA.	7 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2
Mounting and other options: See Page 22

NOTE: Restrictive size limits apply.



MOSAIC

PATTERN MO138

1-3/8" - 54% OPEN

PATTERN MO138 - FULL SCALE

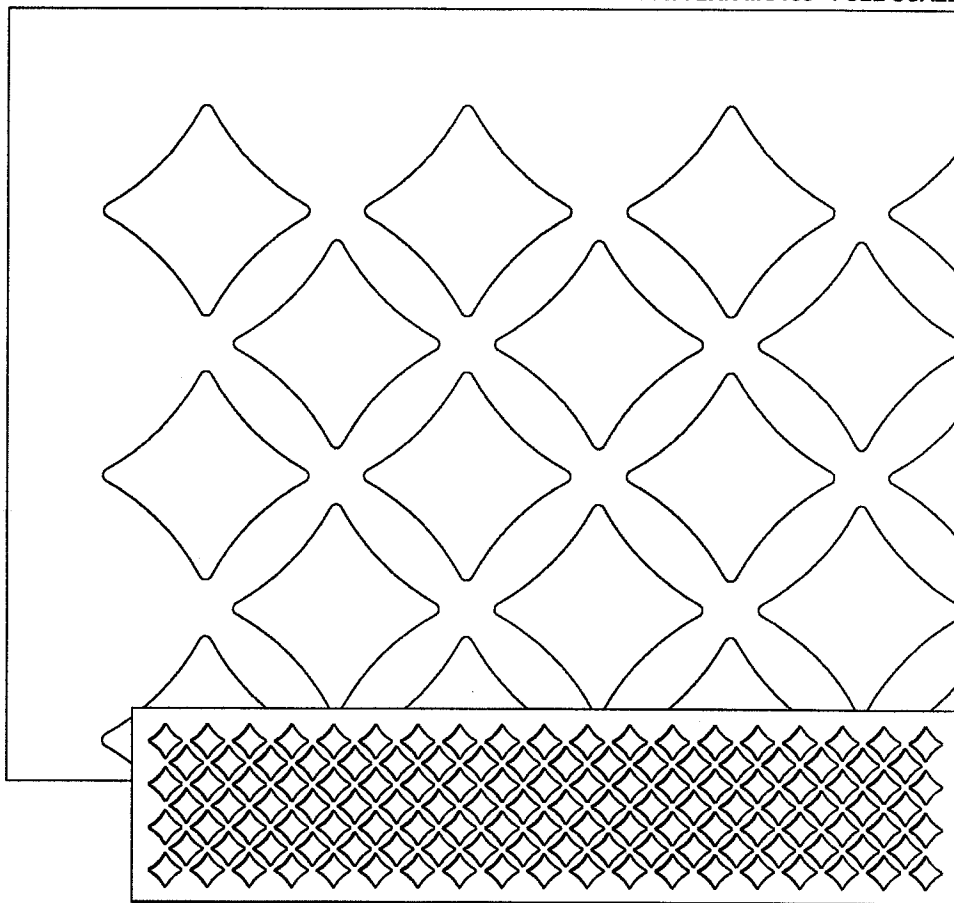
MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.

For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22



OCTAGONAL

PATTERN OC044

7/16" - 55% OPEN

PATTERN OC075

3/4" - 53% OPEN

PATTERN OC075 - FULL SCALE

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100" *
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	12 GA. **

Also see Page 2 for more information regarding material selection.

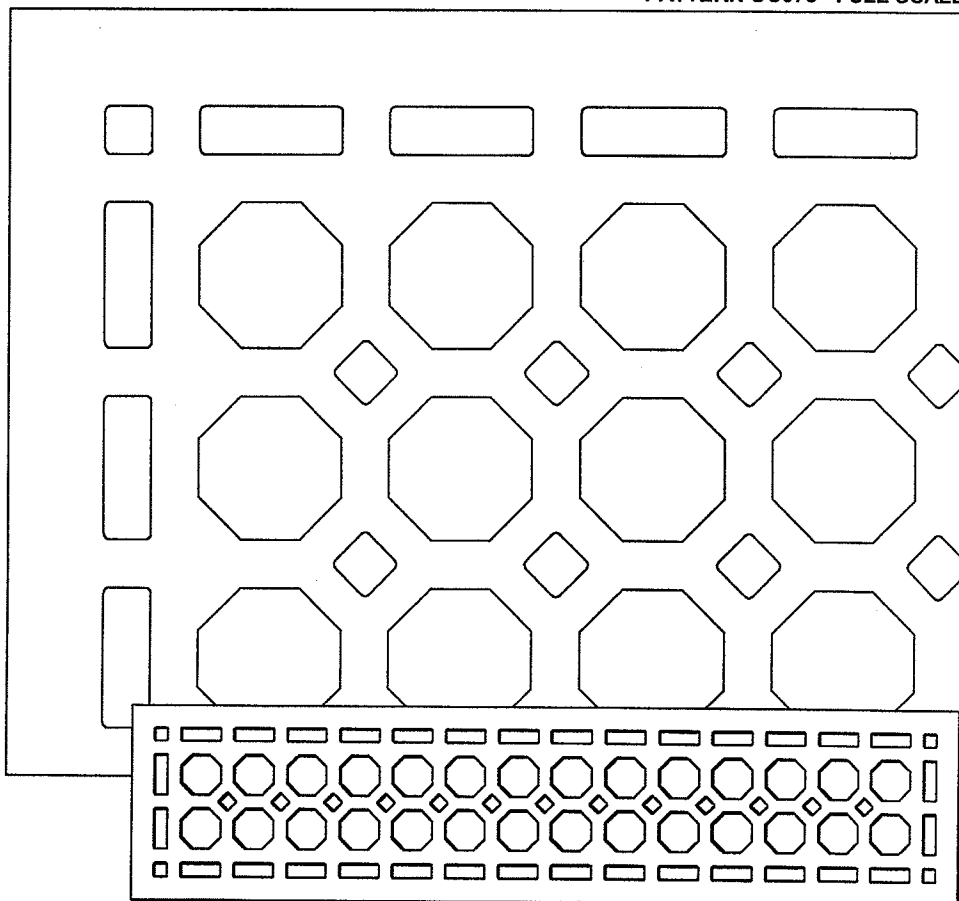
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22

* .080" for PATTERN OC044

** 14 GA. for PATTERN OC044



PERFEX

PATTERN PE062
5/8" - 28% OPEN
(1/8" Between Patterns)

PATTERN PE088
7/8" - 37% OPEN
(3/16" Between Patterns)

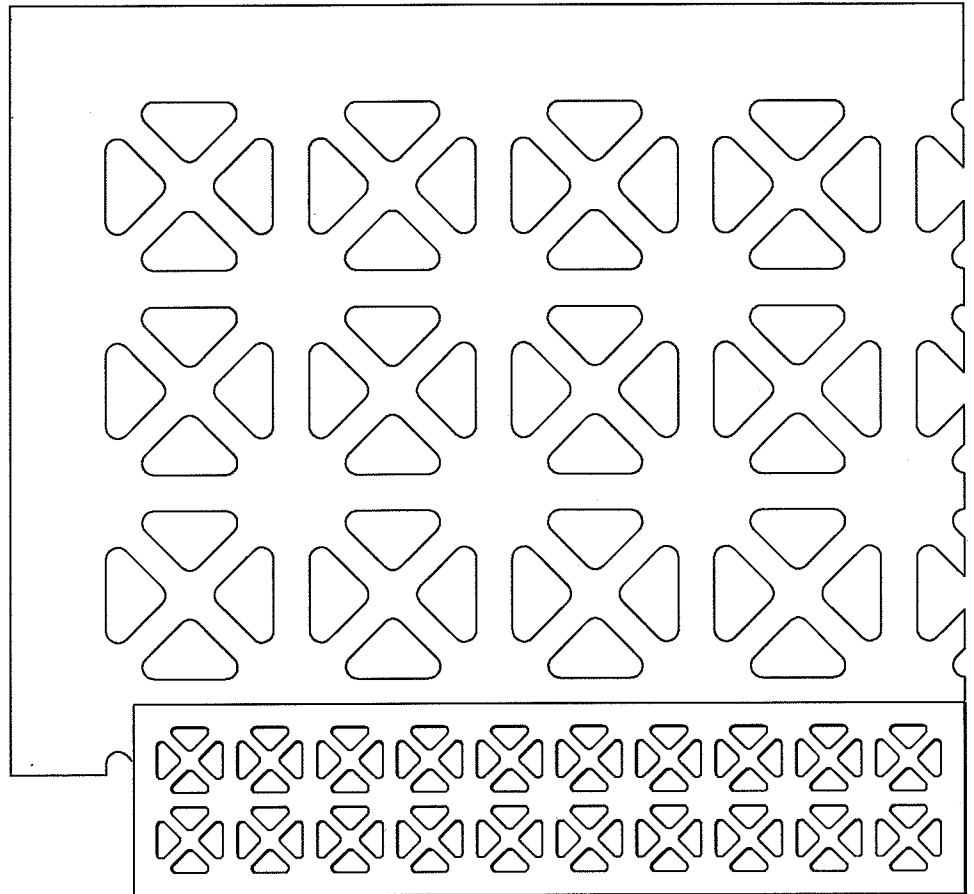
PATTERN PE168
1-11/16" - 50% OPEN
(1/4" Between Patterns)

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125" *
Brass or Bronze:	.080"	.125" **
Stainless Steel:	14 GA.	12 GA. ***
Steel:	14 GA.	10 GA. ****

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2
Mounting and other options: See Page 22

- * .10" for PATTERN PE062
- ** .080" for PATTERN PE062
- *** 14 GA. for PATTERN PE062
- **** 12 GA. for PATTERN PE062



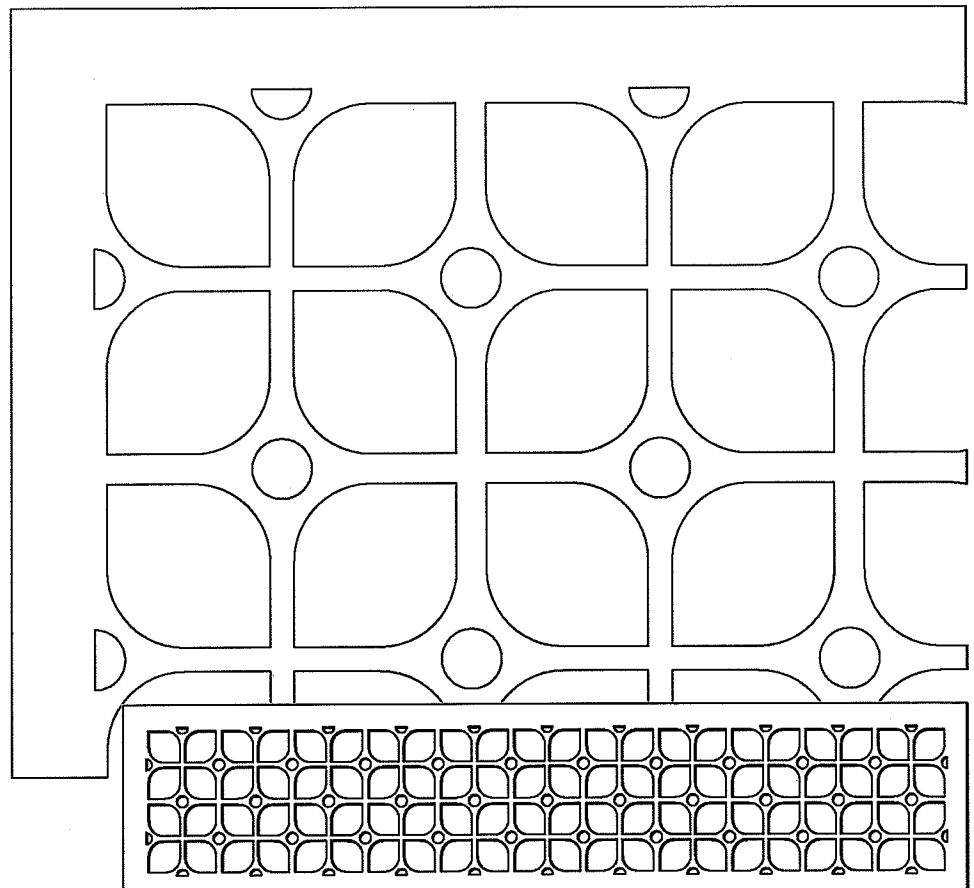
PETALS

PATTERN PT188
1-7/8" - 52% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2
Mounting and other options: See Page 22



RECTANGULAR CANE

PATTERN RE125
1-1/4" - 58% OPEN

PATTERN RE163
1-5/8" - 55% OPEN

PATTERN RE169
1-11/16" - 56% OPEN

PATTERN RE175
1-3/4" - 57% OPEN

PATTERN RE188
1-7/8" - 59% OPEN

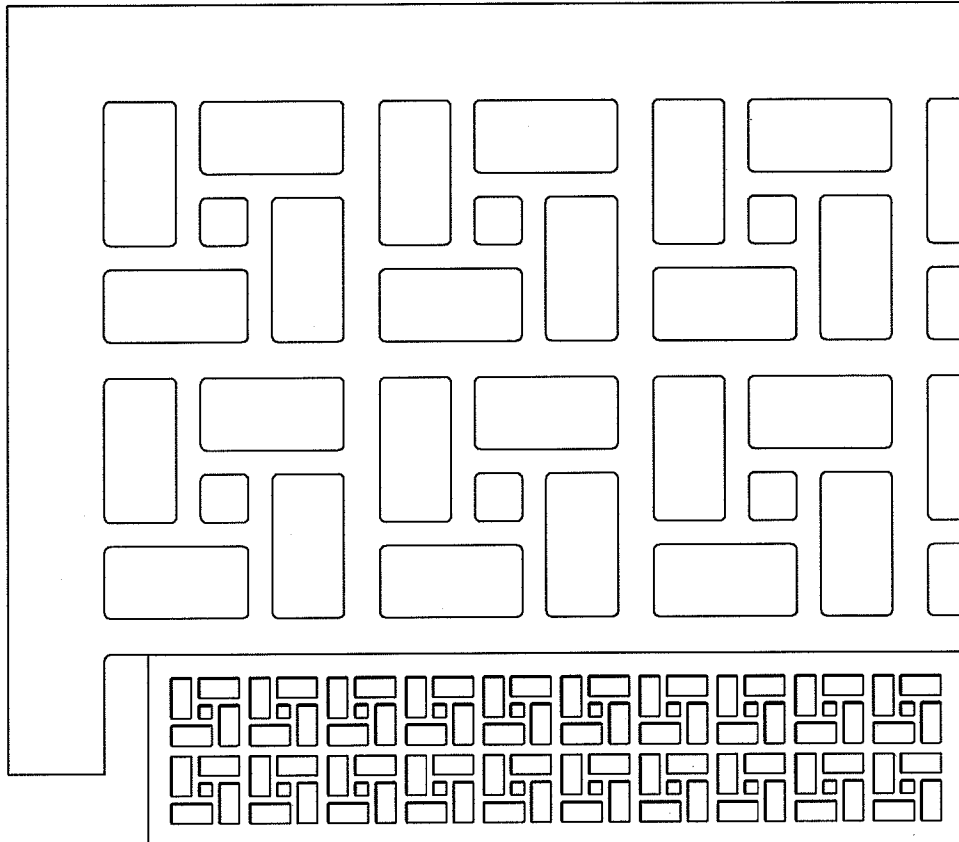
MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100" *
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	12 GA. **

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2
Mounting and other options: See Page 22

* .080" for PATTERNS RE163 and RE169
** 14 GA. for PATTERNS RE163 and RE169

PATTERN RE125 - FULL SCALE



ROUND CANE

PATTERN RO070
45/64" - 38% OPEN

PATTERN RO131
1-5/16" - 48% OPEN

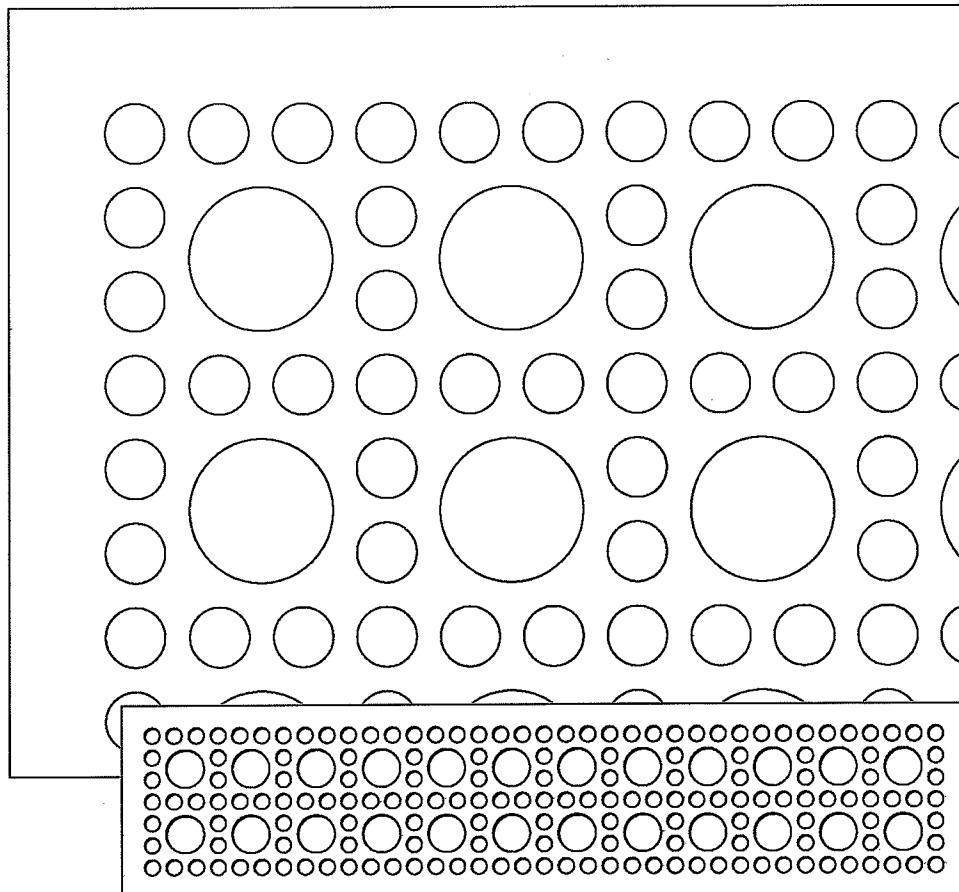
MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100" *
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	12 GA. **

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2
Mounting and other options: See Page 22

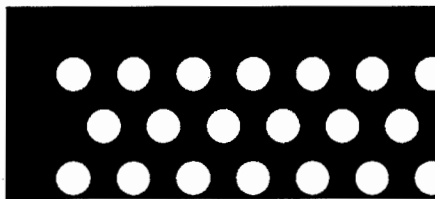
* .080" for PATTERN RE070
** 14 GA. for PATTERN RE070

PATTERN RO131 - FULL SCALE

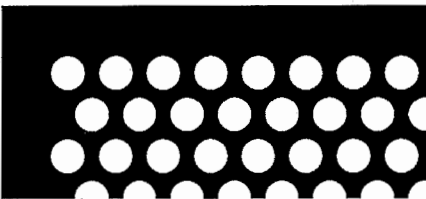


ROUND HOLES - SHOWN FULL SCALE

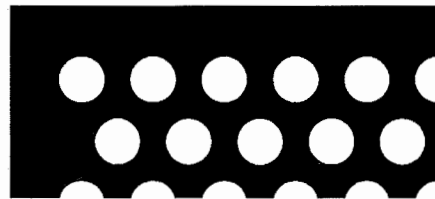
Available in many combinations of hole diameters and center dimensions, a few of which are shown. Available in staggered or straight hole patterns. Gauges shown are for steel, aluminum, brass or bronze. Consult factory for available stainless steel gauges. Consult factory for grille size limitations.



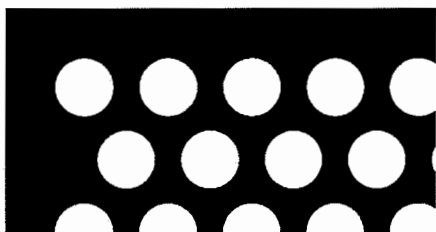
3/16" DIA. (.187"), 5/16" CENTERS
33% OPEN, GA.: 14 THRU 12
(TYPICAL HIGH SECURITY
APPLICATION, IDEAL FOR
PSYCHIATRIC WARDS)



3/16" DIA. (.187"), 1/4" CENTERS
50% OPEN, GA.: 14 THRU 12
(TYPICAL HIGH SECURITY
APPLICATION, IDEAL FOR
PSYCHIATRIC WARDS)



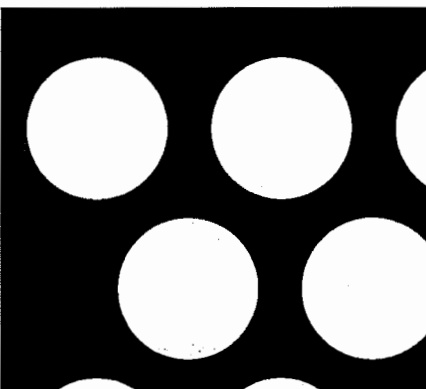
1/4" DIA. (.250"), 3/8" CENTERS
42% OPEN, GA.: 14 THRU 12
(TYPICAL HIGH SECURITY
APPLICATION)



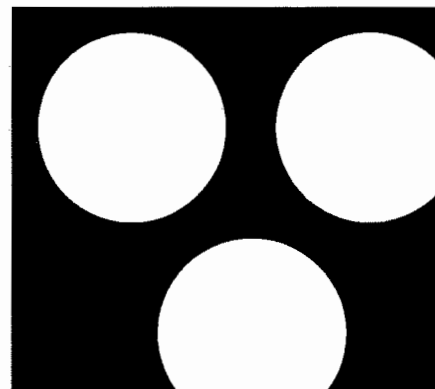
STAGGERED HOLE PATTERN -

SA031

5/16" DIA. (.312"), 7/16" CENTERS
46% OPEN, GA.: 14 THRU 7
(TYPICAL HIGH
SECURITY APPLICATION)



3/4" DIA. (.750"), 31/32" CENTERS
54% OPEN, GA.: 14 THRU 7



1" DIA., 1-1/4" CENTERS
57% OPEN, GA.: 14 THRU 1/4"

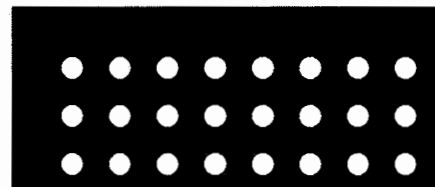
METAL THICKNESS		
STEEL U.S.S. GAUGE	THICKNESS	ALUMINUM OR BRASS NEAREST THICKNESS
NO. 14	.0747	.080
NO. 12	.1046	.100
NO. 10	.1345	.125
NO. 7	.1793	N/A
3/16"	.1875	3/16"
1/4"	.25	1/4"

ROUND HOLES - 60 DEG. STAGGERED		
HOLE DIA.	CENTERS	FREE AREA
1/8"	3/16"	41%
1/8"	7/32"	30%
1/8"	1/4"	23%
5/32"	7/32"	46%
5/32"	1/4"	35%
3/16"	1/4"	51%
3/16"	5/16"	33%
7/32"	5/16"	44%
1/4"	5/16"	58%
1/4"	3/8"	40%
1/4"	7/16"	30%
1/4"	1/2"	23%
5/16"	7/16"	46%
3/8"	1/2"	51%
3/8"	9/16"	41%
3/8"	5/8"	33%
7/16"	5/8"	44%
1/2"	11/16"	48%
9/16"	3/4"	51%
5/8"	13/16"	54%
3/4"	31/32"	54%
3/4"	1"	51%
7/8"	1-1/16"	62%
1"	1-1/4"	58%

NOTE: Consult factory for available material gauges and grille size limitations.

STRAIGHT HOLE PATTERN - SR025

1/4" DIA. (.25"), 1/2" STRAIGHT CENTERS
20% OPEN



MATERIAL	THICKNESS	
	MIN.	MAX.*
Aluminum:	.080"	Varies
Brass & Bronze:	.080"	Varies
Stainless Steel:	14 GA.	Varies
Steel:	14 GA.	Varies

*Hole diameter and fret cannot be less than material thickness. Consult factory for 1/4" material thickness. For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2
Mounting and other options: See Page 22

SCHOOL SLOT

PATTERN SC138

1-3/8" X 5/16" - 65% OPEN (1/8" Fret)

PATTERN SC188

1-7/8" X 5/16" - 67% OPEN (1/8" Fret)

NOTE: Other pattern sizes available. The distance between patterns can be varied but cannot be less than the material thickness.

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	1/8" *
Brass or Bronze:	.080"	1/8" *
Stainless Steel:	14 GA.	12 GA. *
Steel:	14 GA.	12 GA. *

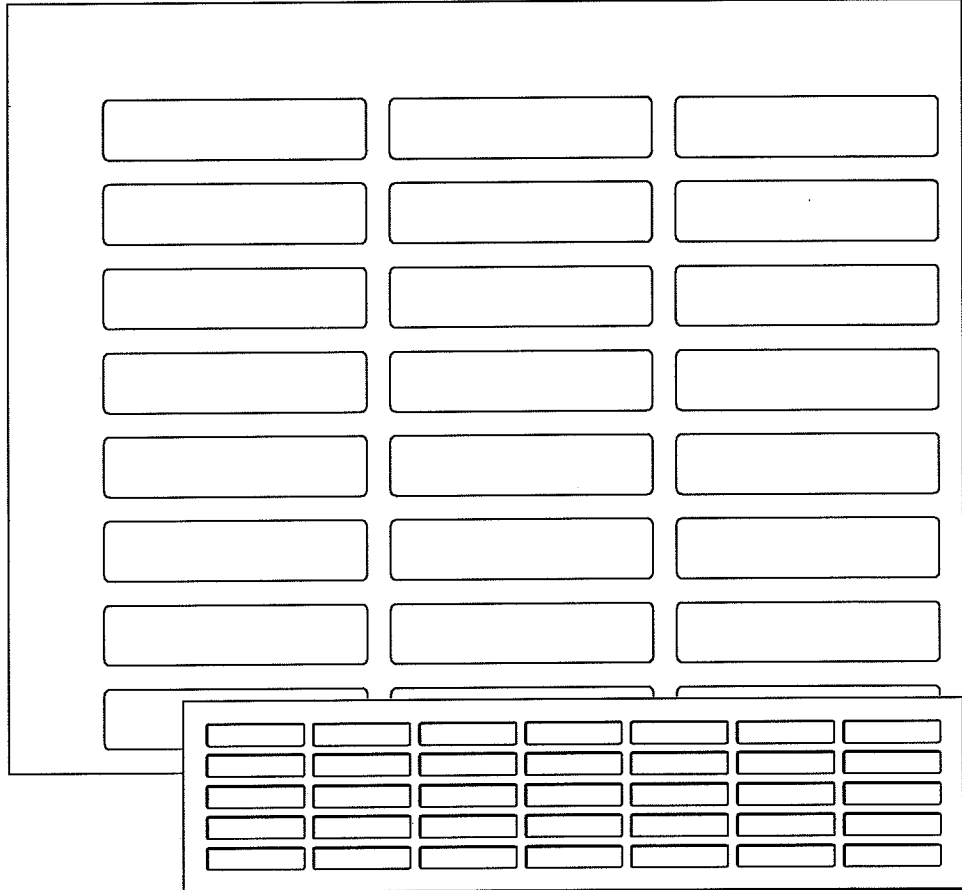
Also see Page 2 for more information regarding material selection.

For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

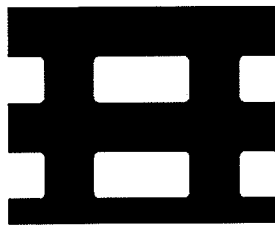
Mounting and other options: See Page 22

* Large grilles may have lower limits or restrictive size limits.

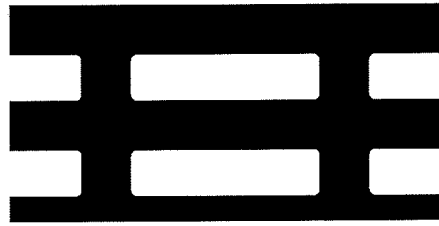


RECTANGULAR SLOTS - SHOWN FULL SCALE

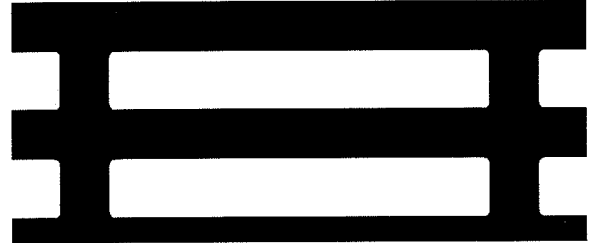
Available in many combinations of hole diameters and center dimensions, a few of which are shown. Available in staggered (BRICK - see page 3) or straight hole patterns. Gauges shown are for steel, aluminum, brass or bronze. Consult factory for available stainless steel gauges. Consult factory for grille size limitations.



1/4" x 1/2" SLOTS,
1/4" FRETS, 33% OPEN
GAUGES: 24 THRU 7



1/4" x 1" SLOTS, 1/4" FRETS, 40% OPEN
GAUGES: 24 THRU 7



5/16" x 2" SLOTS, 1/4" FRETS, 49% OPEN
GAUGES: 24 THRU 7

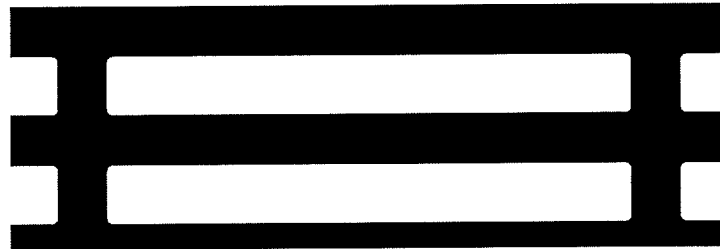
MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	Varies
Brass or Bronze:	.080"	Varies
Stainless Steel:	14 GA.	Varies
Steel:	14 GA.	Varies

Also see Page 2 for more information regarding material selection.

For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

Mounting and other options: See Page 22



5/16" x 2-3/4" SLOTS,
1/4" FRETS,
51% OPEN,
GAUGES: 24 THRU 7

RECTANGULAR HOLES - STRAIGHT PATTERN

HOLE SIZE	FRET	F.A.	HOLE SIZE	FRET	F.A.	HOLE SIZE	FRET	F.A.
1/8" X 1-1/4"	1/4"	27%	1/4" X 2-1/2"	1/4"	45%	5/16" X 1-7/8"	1/8"	67%
3/16" X 13/32"	1/4"	26%	1/4" X 3"	1/4"	46%	5/16" X 2"	1/4"	49%
1/4" X 1-1/2"	1/4"	43%	1/4" X 4"	1/4"	47%	3/8" X 1-3/8"	1/4"	51%
1/4" X 1-3/4"	1/4"	44%	5/16" X 1-3/8"	1/8"	65%	1/2" X 1"	1/4"	53%
1/4" X 2"	1/4"	44%				1/2" X 2"	1/4"	59%

NOTE: Consult factory for available material gauges and grille size limitations.

SEASHELL

PATTERN SE050

1/2" - 59% OPEN

PATTERN SE088

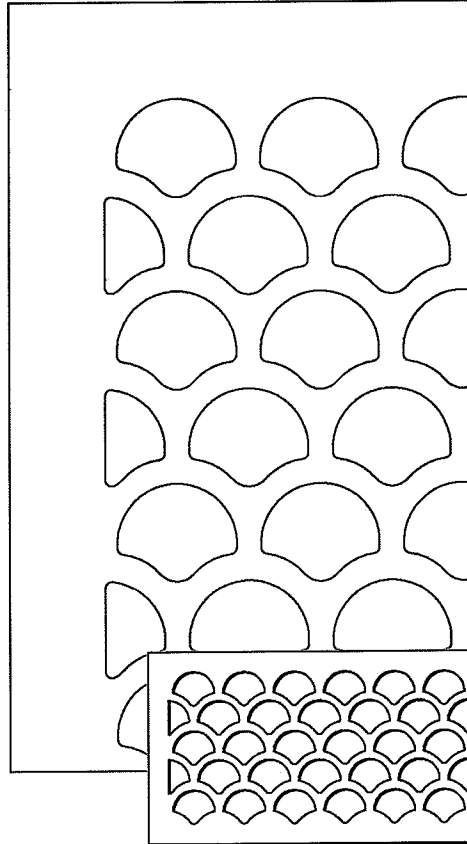
7/8" - 56% OPEN

NOTE: Partial shells are standard but optional.

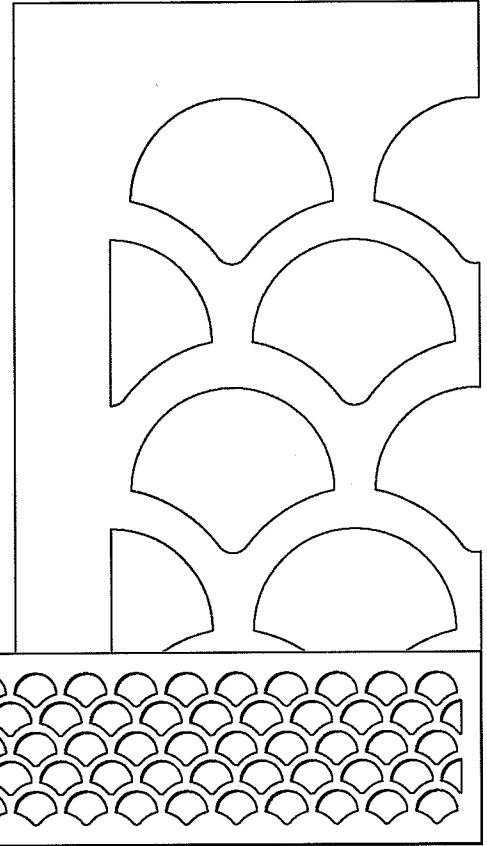
MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125"
Brass or Bronze:	.080"	.125"
Stainless Steel:	14 GA.	12 GA.
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.
Finish: See Page 2
Mounting and other options: See Page 22

PATTERN SE050 - FULL SCALE



PATTERN SE088 - FULL SCALE



SEASHELL

PATTERN SE175

1-3/4" - 63% OPEN

PATTERN SE250

2-1/2" - 69% OPEN

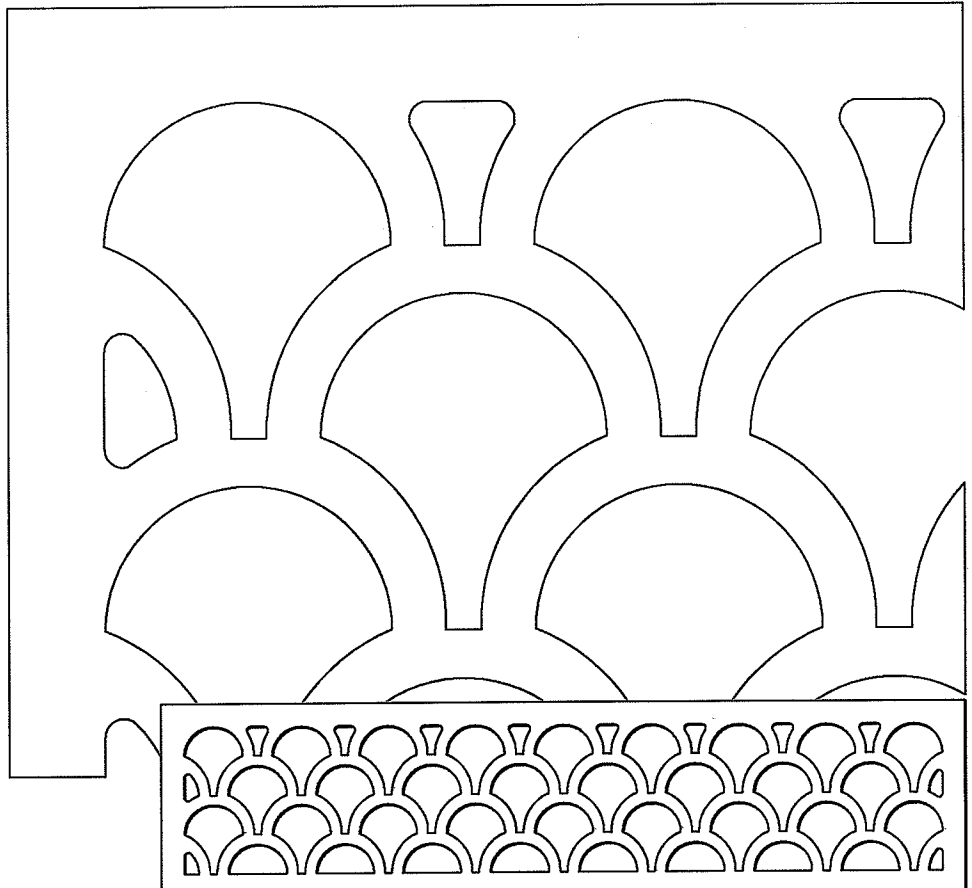
NOTE: Partial shells are standard but optional.

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100" *
Brass or Bronze:	.080"	.080" *
Stainless Steel:	14 GA.	14 GA. **
Steel:	14 GA.	12 GA. ***

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.
Finish: See Page 2
Mounting and other options: See Page 22

- * .125" for PATTERN SE250
- ** 12 GA. for PATTERN SE250
- *** 10 GA. for PATTERN SE250

PATTERN SE175 - FULL SCALE



SQUARE LINK

PATTERN SQ100

1" - 38% OPEN (3/16" Between Patterns)

PATTERN SQ125

1-1/4" - 40% OPEN (1/4" Between Patterns)

PATTERN SQ150

1-1/2" - 46% OPEN (1/4" Between Patterns)

PATTERN SQ175

1-3/4" - 49% OPEN (1/4" Between Patterns)

PATTERN SQ200

2" - 52% OPEN (1/4" Between Patterns)

PATTERN SQ225

2-1/4" - 56% OPEN (1/4" Between Patterns)

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125" *
Brass or Bronze:	.080"	.125" **
Stainless Steel:	14 GA.	12 GA. ***
Steel:	14 GA.	10 GA. ****

Also see Page 2 for more information regarding material selection.

For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

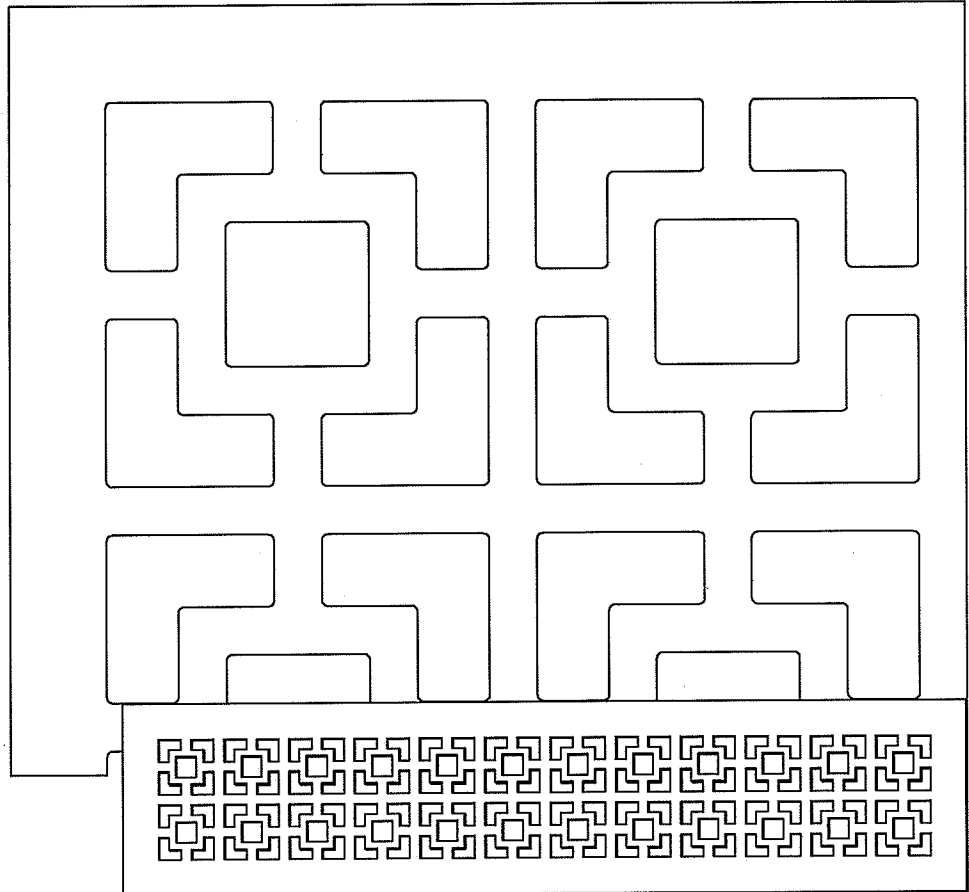
Mounting and other options: See Page 22

* .100" for SQ225, .190" for SQ200

** .080" for SQ225, .190" for SQ200

*** 14 GA. for SQ225, 10 GA. for SQ200

**** 12 GA. for SQ225, 7 GA. for SQ200



TRIPLEX OR PARQUET

PATTERN TR119

1-3/16" - 35% OPEN
(5/16" Between Patterns)

PATTERN TR200

2" - 59% OPEN
(1/4" Between Patterns)

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.125" *
Brass or Bronze:	.080"	.125" **
Stainless Steel:	14 GA.	12 GA. ***
Steel:	14 GA.	10 GA.

Also see Page 2 for more information regarding material selection.

For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

Finish: See Page 2

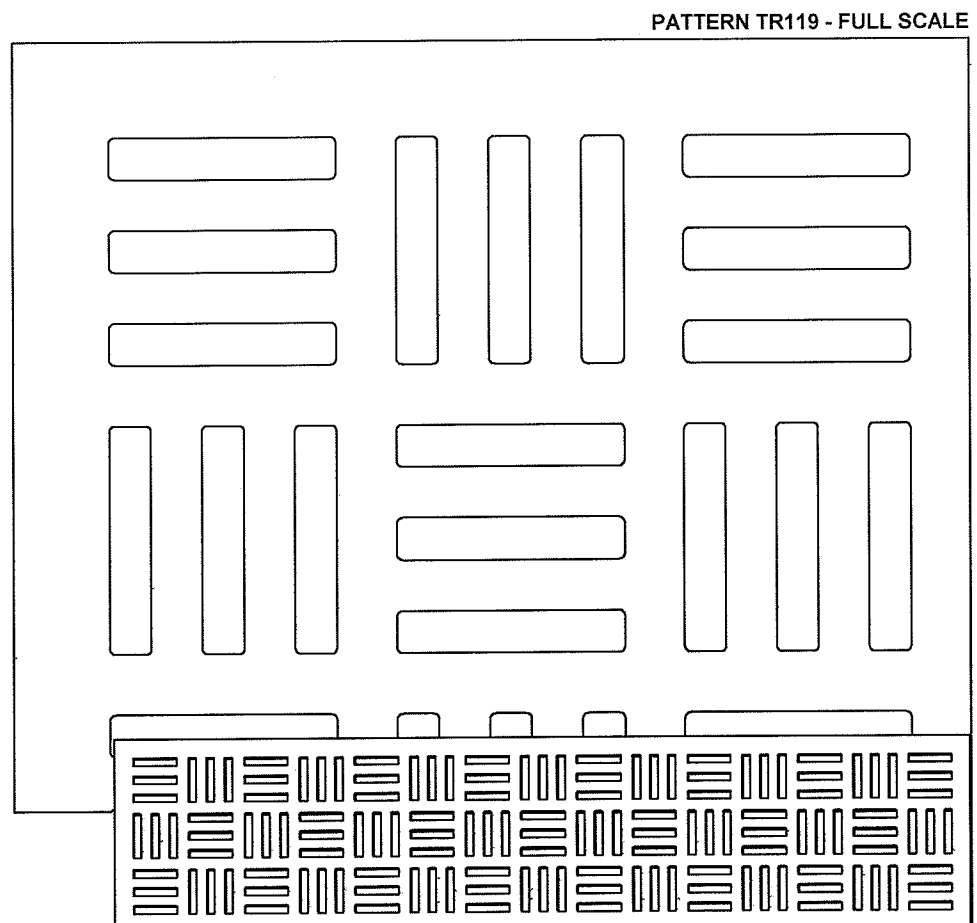
Mounting and other options: See Page 22

* .080" for PATTERN TR200

** .100" for PATTERN TR200

*** 14 GA. for PATTERN TR200

**** 12 GA. for PATTERN TR200



WINDSOR

PATTERN WI062
5/8" - 33% OPEN

PATTERN WI100
1" - 37% OPEN

PATTERN WI200
2" - 55% OPEN

MATERIAL	THICKNESS	
	MIN.	MAX.
Aluminum:	.080"	.100" *
Brass or Bronze:	.080"	.080"
Stainless Steel:	14 GA.	14 GA.
Steel:	14 GA.	12 GA. **

Also see Page 2 for more information regarding material selection.
For additional pattern dimension information and full scale pattern drawings, visit our website, www.kees.com.

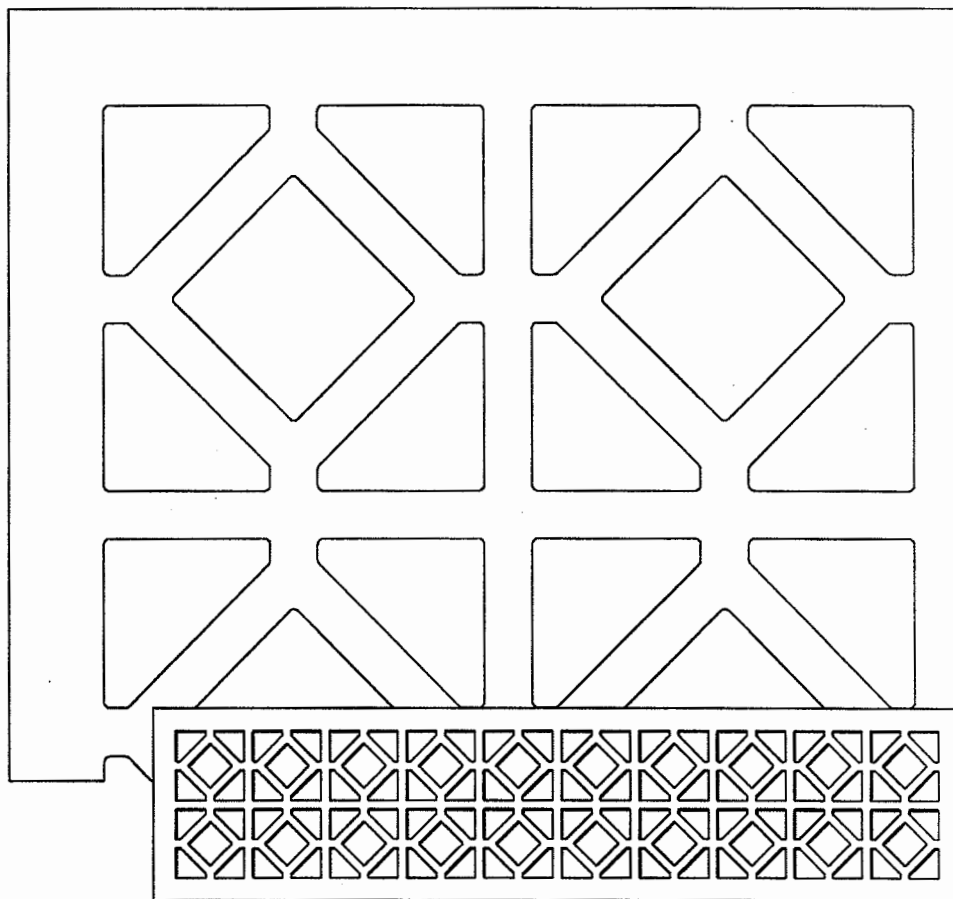
Finish: See Page 2

Mounting and other options: See Page 22

*.080" for PATTERNS WI100 and WI200

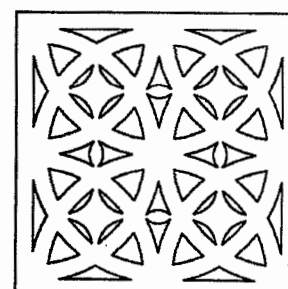
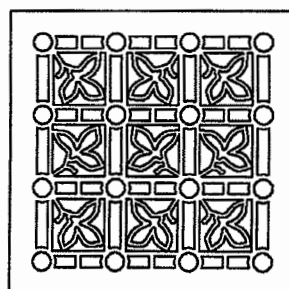
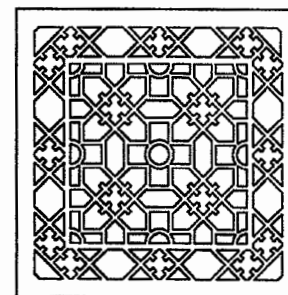
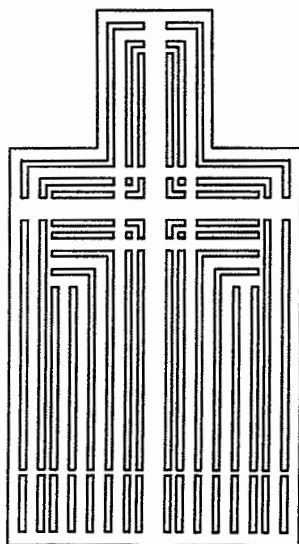
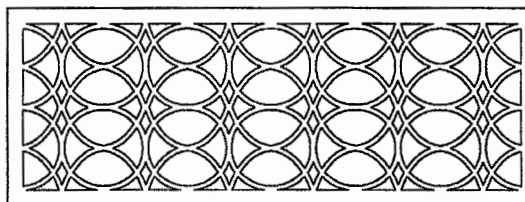
**14 GA. for PATTERNS WI100 and WI200

PATTERN WI200 - FULL SCALE



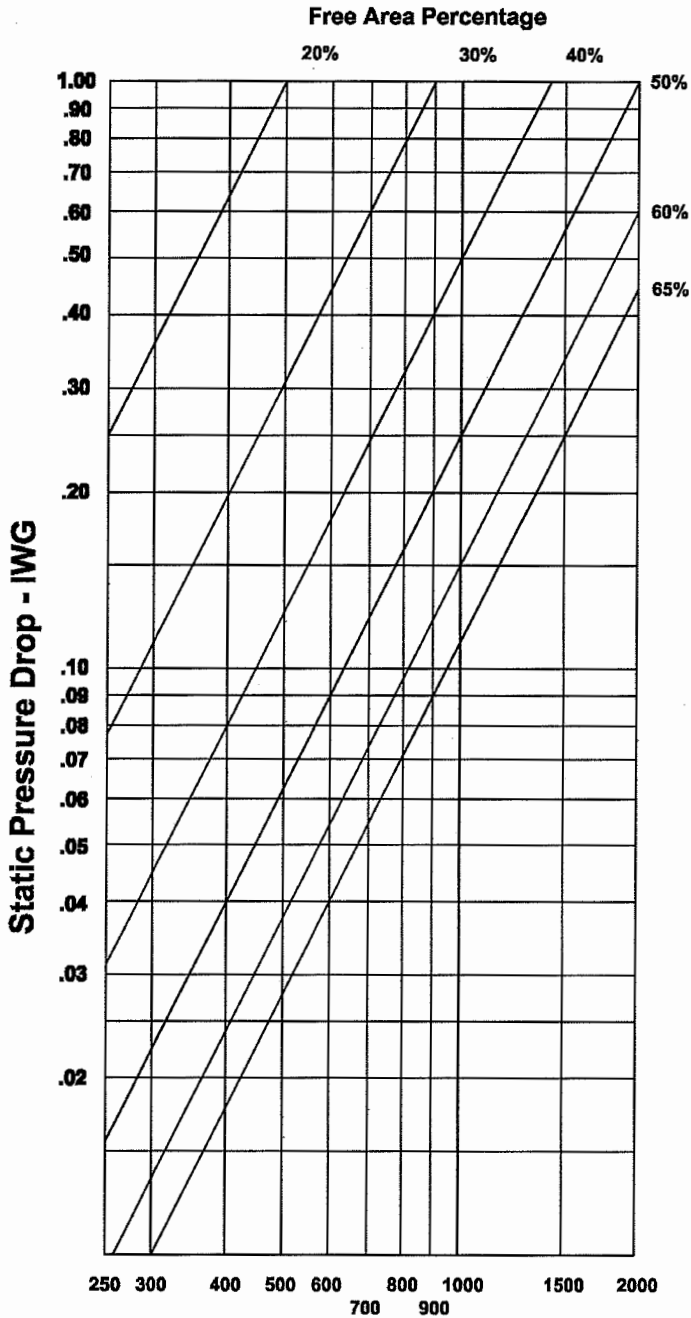
CUSTOM AND WATER JET PATTERNS

Custom patterns, logos, etc. are available using waterjet cutting technology.

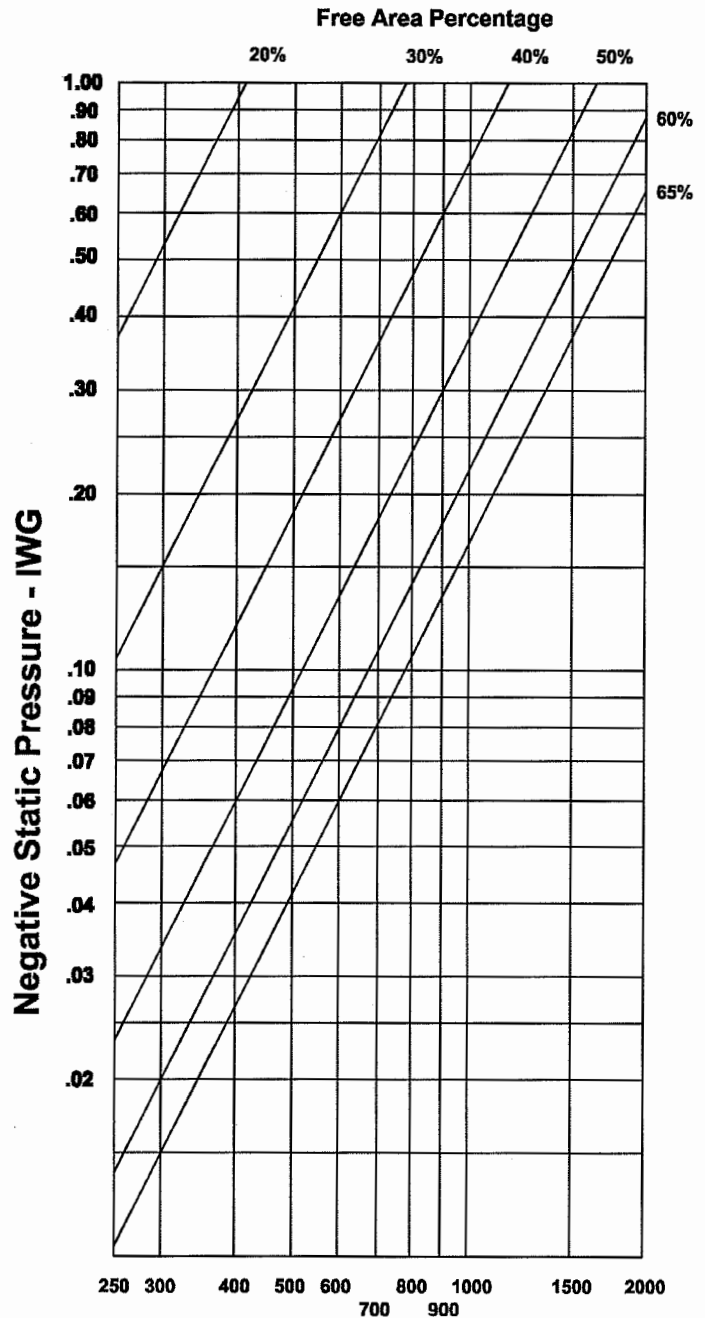


STAMPED GRILLE PRESSURE DROP

SUPPLY



RETURN



PERFORMANCE DATA - EXAMPLE

Performance data is based on face velocity @ perforated area and percentage of free area.

To calculate the face velocity, you need the cfm and the pattern area (not the duct area) of the grille.

For a 12" x 12" duct and pattern EG200 Egyptian, the pattern area is 11" x 11" = (11 x 11) 144 = .84 sq.ft..

For 500 CFM the face velocity at the perforated area = 500 CFM / .84 sq. ft. = 595 ft./min..

EG200 pattern has a percentage of free area of 55% resulting in a return pressure loss of .095 IWG.

NC LEVELS

SUPPLY GRILLES							
PERCENT OPEN	SIZE	FACE VELOCITY @ PERFORATED AREA - FPM					
		300	400	500	600	800	1000
20%	6" X 6"	29	39	47			
	12" X 12"	37	48	>50 NC			
	18" X 18"	42	>50 NC	>50 NC			
	24" X 24"	45	>50 NC	>50 NC			
	36" X 36"	>50 NC	>50 NC	>50 NC			
	48" X 48"	>50 NC	>50 NC	>50 NC			
30%	6" X 6"	<25 NC	27	35	42		
	12" X 12"	<25 NC	35	43	50		
	18" X 18"	30	40	48	>50 NC		
	24" X 24"	33	44	>50 NC	>50 NC		
	36" X 36"	38	49	>50 NC	>50 NC		
	48" X 48"	42	>50 NC	>50 NC	>50 NC		
40%	6" X 6"	<25 NC	<25 NC	26	33	43	
	12" X 12"	<25 NC	26	35	41	>50 NC	
	18" X 18"	<25 NC	31	39	46	>50 NC	
	24" X 24"	<25 NC	35	43	50	>50 NC	
	36" X 36"	29	40	48	>50 NC	>50 NC	
	48" X 48"	33	43	>50 NC	>50 NC	>50 NC	
50%	6" X 6"	<25 NC	<25 NC	<25 NC	26	37	45
	12" X 12"	<25 NC	<25 NC	28	34	45	>50 NC
	18" X 18"	<25 NC	<25 NC	33	39	50	>50 NC
	24" X 24"	<25 NC	28	36	43	>50 NC	>50 NC
	36" X 36"	<25 NC	33	41	48	>50 NC	>50 NC
	48" X 48"	26	37	45	>50 NC	>50 NC	>50 NC
60%	6" X 6"		<25 NC	<25 NC	<25 NC	31	39
	12" X 12"		<25 NC	<25 NC	29	39	48
	18" X 18"		<25 NC	27	34	44	>50 NC
	24" X 24"		<25 NC	31	37	48	>50 NC
	36" X 36"		27	36	42	>50 NC	>50 NC
	48" X 48"		31	39	46	>50 NC	>50 NC
65%	6" X 6"		<25 NC	<25 NC	<25 NC	29	37
	12" X 12"		<25 NC	<25 NC	26	37	45
	18" X 18"		<25 NC	<25 NC	31	42	>50 NC
	24" X 24"		<25 NC	28	35	45	>50 NC
	36" X 36"		25	33	40	>50 NC	>50 NC
	48" X 48"		29	37	43	>50 NC	>50 NC

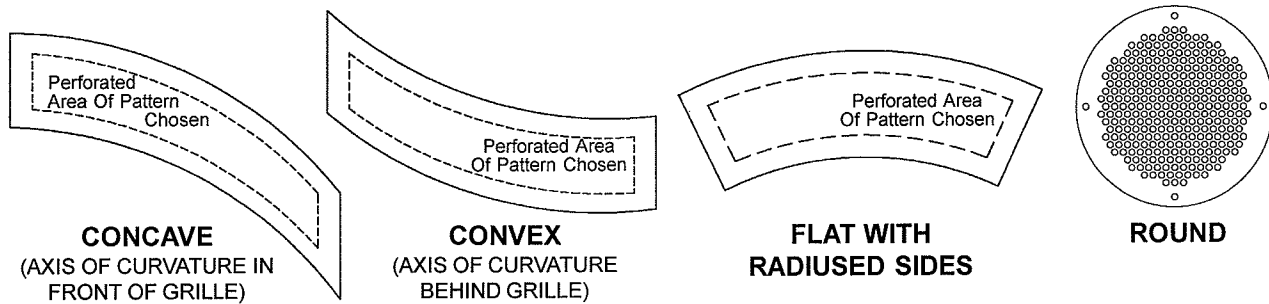
NC based on 10dB room absorption

RETURN GRILLES							
PERCENT OPEN	SIZE	FACE VELOCITY @ PERFORATED AREA - FPM					
		300	400	500	600	800	1000
20%	6" X 6"	31	41	49			
	12" X 12"	39	50	>50 NC			
	18" X 18"	44	>50 NC	>50 NC			
	24" X 24"	47	>50 NC	>50 NC			
	36" X 36"	>50 NC	>50 NC	>50 NC			
	48" X 48"	>50 NC	>50 NC	>50 NC			
30%	6" X 6"	<25 NC	29	37	44		
	12" X 12"	27	37	45	>50 NC		
	18" X 18"	32	42	>50 NC	>50 NC		
	24" X 24"	35	46	>50 NC	>50 NC		
	36" X 36"	40	>50 NC	>50 NC	>50 NC		
	48" X 48"	44	>50 NC	>50 NC	>50 NC		
40%	6" X 6"	<25 NC	<25 NC	28	35	45	
	12" X 12"	<25 NC	28	37	43	>50 NC	
	18" X 18"	<25 NC	33	41	48	>50 NC	
	24" X 24"	26	37	45	>50 NC	>50 NC	
	36" X 36"	31	42	50	>50 NC	>50 NC	
	48" X 48"	35	45	>50 NC	>50 NC	>50 NC	
50%	6" X 6"	<25 NC	<25 NC	<25 NC	28	39	47
	12" X 12"	<25 NC	<25 NC	30	36	47	>50 NC
	18" X 18"	<25 NC	27	35	41	>50 NC	>50 NC
	24" X 24"	<25 NC	30	38	45	>50 NC	>50 NC
	36" X 36"	<25 NC	35	43	50	>50 NC	>50 NC
	48" X 48"	28	39	47	>50 NC	>50 NC	>50 NC
60%	6" X 6"		<25 NC	<25 NC	<25 NC	33	41
	12" X 12"		<25 NC	<25 NC	31	41	50
	18" X 18"		<25 NC	29	36	46	>50 NC
	24" X 24"		<25 NC	33	39	50	>50 NC
	36" X 36"		29	38	44	>50 NC	>50 NC
	48" X 48"		33	41	48	>50 NC	>50 NC
65%	6" X 6"		<25 NC	<25 NC	<25 NC	31	39
	12" X 12"		<25 NC	<25 NC	28	39	47
	18" X 18"		<25 NC	27	33	44	>50 NC
	24" X 24"		<25 NC	30	37	47	>50 NC
	36" X 36"		27	35	42	>50 NC	>50 NC
	48" X 48"		31	39	45	>50 NC	>50 NC

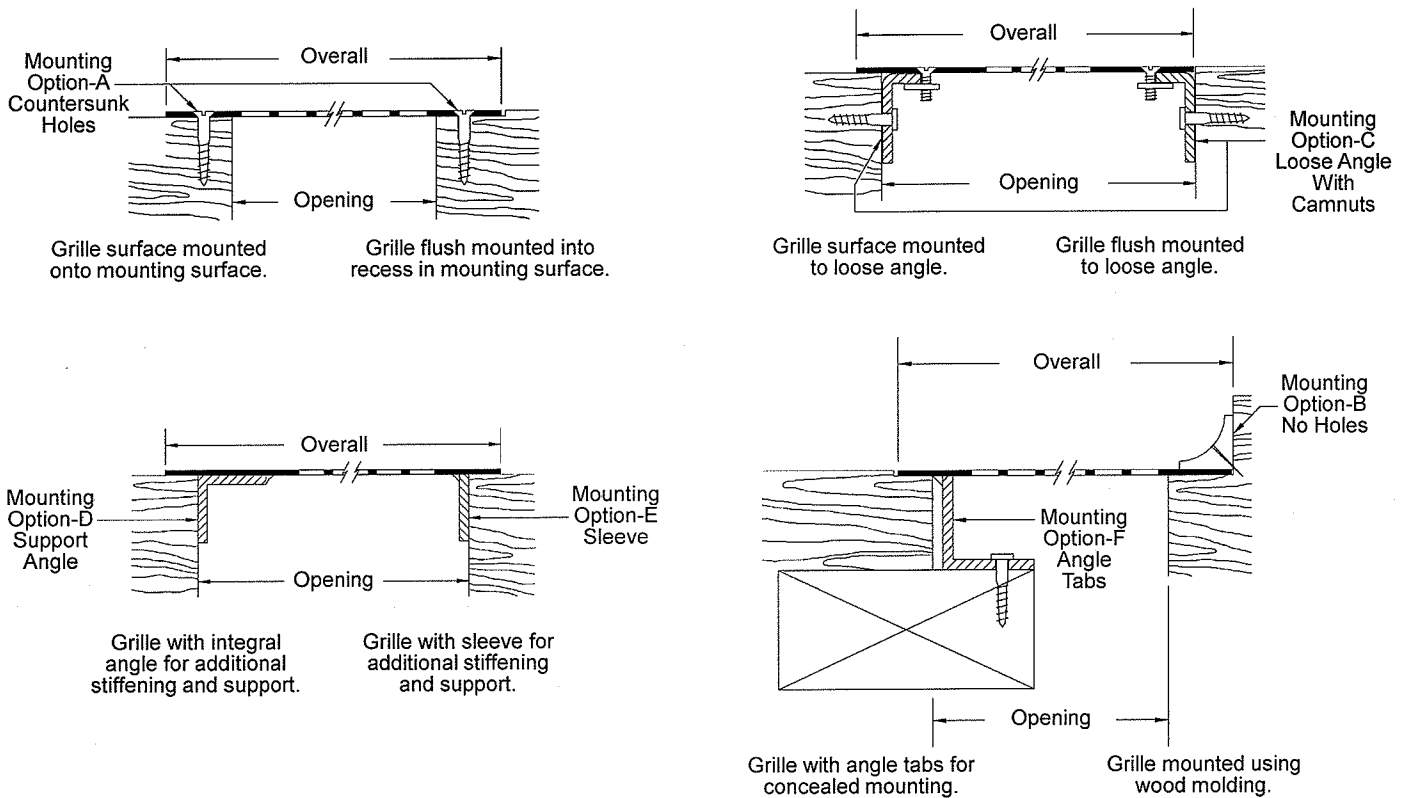
NC based on 10dB room absorption

SPECIAL SHAPED STAMPED GRILLES

Stamped grilles are available concave, convex or flat with radiused sides, round or other shapes.



GRILLE MOUNTING OPTIONS

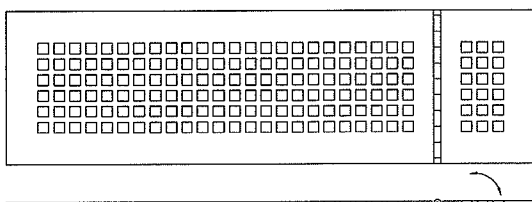


OTHER OPTIONS

HPP - Hinged Door with Perforated Panel

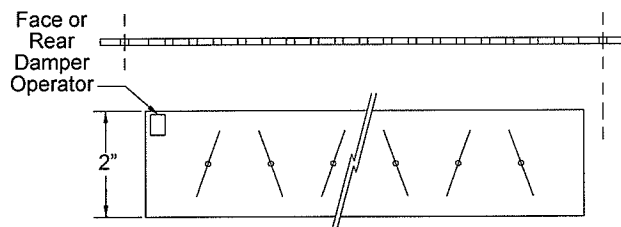
HSP - Hinged Door with Solid Panel (Not Shown)

Available in all stamped grille patterns.



OBD - Opposed Blade Damper

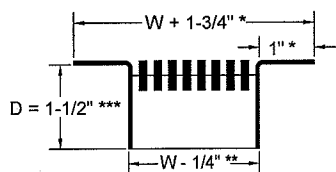
Opposed blade damper constructed of steel, extruded aluminum or stainless steel is available for welding to rear of stamped grille. Also available for mounting separate behind grille.



ALUMINUM, STAINLESS STEEL OR BRASS BAR GRILLES

FRAME STYLES

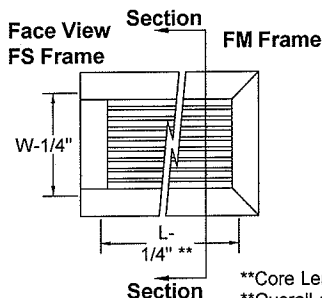
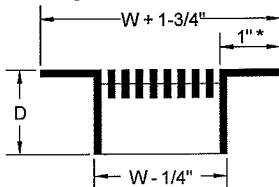
Wall/Sill/Ceiling Applications Flanged Frame - Styles FS or FM



* 1/2", 3/4" And 1-1/2" Flange Widths Also Available.

*** 4" with Optional O.B.D.

Floor Applications Flanged Frame - Style FF

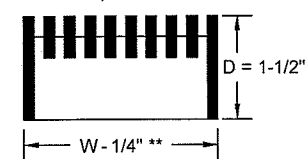


**Core Length = L-1/4"

**Overall core length varies for multiple section units based on tolerance of $\pm 1/32$ " per section.

Straight Frame - Style S

1/8" or 1/4" x 1-1/2" Bar
(Frame width matches core bar width)



CORE STYLES

1300-25 *
Bars 1/4" O.C.

0 DEGREE
DEFLECTION

1300-38 *
Bars 3/8" O.C.

1300-50
Bars 1/2" O.C.



1/8" x 1/2" Bars.
Other Centers
Available.

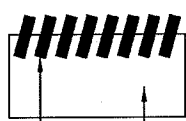
* Suitable for floor applications.

1315-25
Bars 1/4" O.C.

15 DEGREE
DEFLECTION

1315-38
Bars 3/8" O.C.

1315-50
Bars 1/2" O.C.

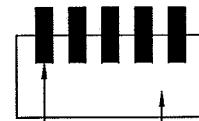


1/8" x 1/2" Bars.
Other Centers
Available.

2500-50 *
Bars 1/2" O.C.

0 DEGREE
DEFLECTION

2515-50
Bars 1/2" O.C.
15° Deflection

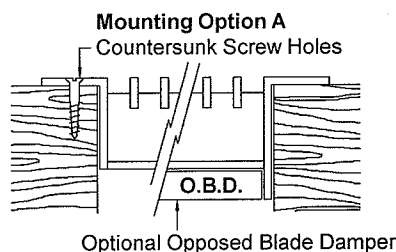


1/4" x 1/2" Bars.
Other Centers
Available.

* Suitable for floor applications.

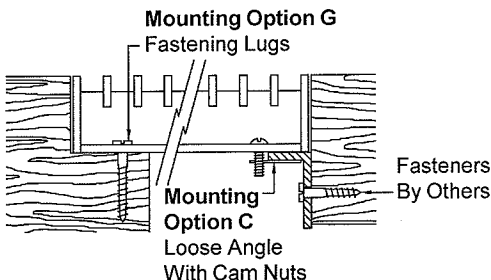
OPTIONS

COUNTERSUNK SCREW HOLES / OPPOSED BLADE DAMPER

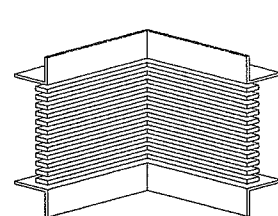
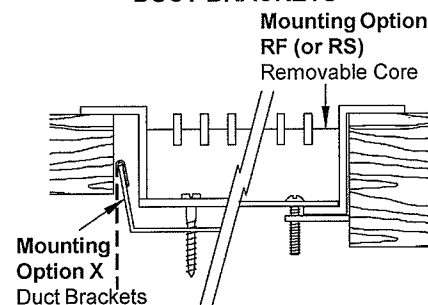


Optional Opposed Blade Damper

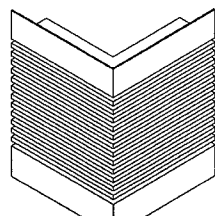
FASTENING LUGS / LOOSE ANGLE FRAME WITH MOUNTING LUGS



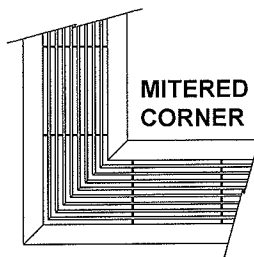
DUCT BRACKETS



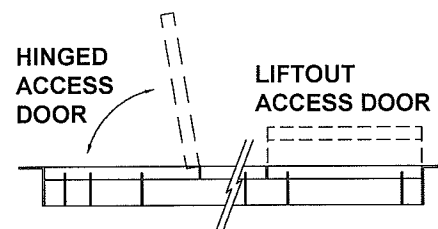
SIDEWALL INSIDE
CORNER



SIDEWALL OUTSIDE
CORNER



MITERED
CORNER



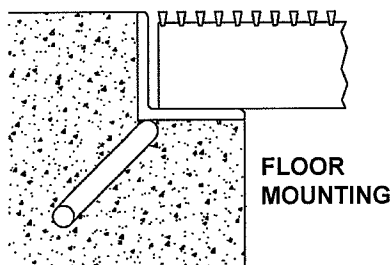
HINGED
ACCESS
DOOR

LIFTOUT
ACCESS DOOR

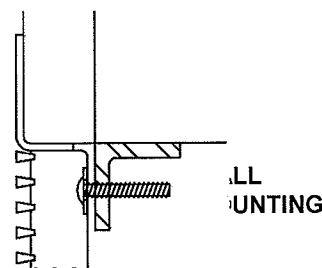
HOW TO ORDER BAR GRILLES:

List frame style, core style, blade spacing, support bar spacing, size (L x W), material, finish, grille mounting option and any other option(s).

STAINLESS STEEL GRATING - FLOOR OR WALL APPLICATIONS

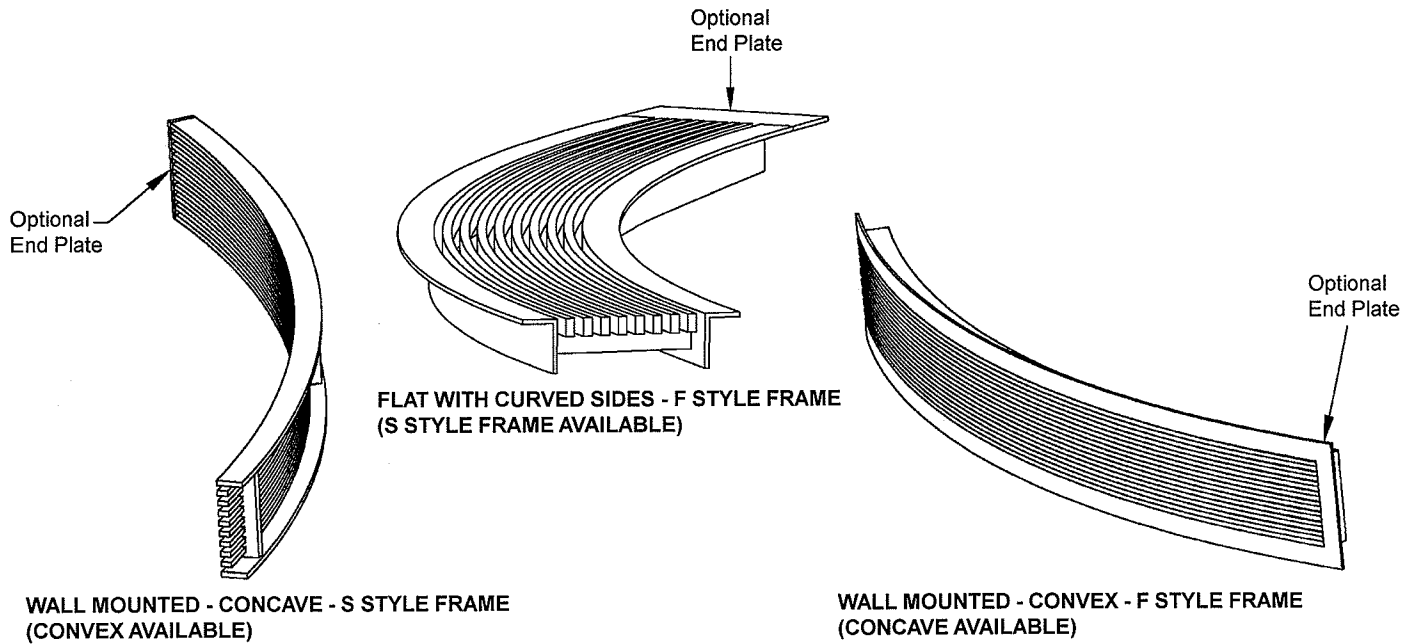


FLOOR
MOUNTING



WALL
MOUNTING

RADIUSED ARCHITECTURAL BAR GRILLES



BAR GRILLE PERFORMANCE DATA - SUPPLY***

1/8" BLADES, 1/4" O.C., 0 DEGREE DEFLECTION					
UNIT	DUCT VELOCITY - F.P.M.	200	400	600	800
WIDTH	PRESSURE DROP - I.W.G.	0.01	0.04	0.09	0.15
4"	CFM / FOOT	67	133	200	267
	NC*	L	L	26	35
	THROW**	12	15	18	20
8"	CFM / FOOT	133	267	400	533
	NC*	L	L	29	36
	THROW**	14	19	23	25
12"	CFM / FOOT	200	400	600	800
	NC*	L	L	32	39
	THROW**	17	23	27	30

1/8" BLADES, 1/2" O.C., 0 DEGREE DEFLECTION					
UNIT	DUCT VELOCITY - F.P.M.	200	400	600	800
WIDTH	PRESSURE DROP - I.W.G.	0.01	0.02	0.05	0.09
4"	CFM / FOOT	67	133	200	267
	NC*	L	L	L	31
	THROW**	13	17	20	21
8"	CFM / FOOT	133	267	400	533
	NC*	L	L	L	31
	THROW**	15	20	25	28
12"	CFM / FOOT	200	400	600	800
	NC*	L	L	26	33
	THROW**	18	25	30	33

1/4" BLADES, 1/2" O.C., 0 DEGREE DEFLECTION					
UNIT	DUCT VELOCITY - F.P.M.	200	400	600	800
WIDTH	PRESSURE DROP - I.W.G.	0.01	0.04	0.09	0.16
4"	CFM / FOOT	67	133	200	267
	NC*	L	L	L	32
	THROW**	12	15	17	19
8"	CFM / FOOT	133	267	400	533
	NC*	L	L	26	35
	THROW**	14	18	21	23
12"	CFM / FOOT	200	400	600	800
	NC*	L	L	28	36
	THROW**	15	21	25	28

* SOUND DATA BASED ON A 4 FOOT GRILLE.

"L" DESIGNATES SOUND RATING OF LESS THAN 25 NC.

SOUND CORRECTION FOR LENGTH	
LENGTH, FT.	ADDITIONAL db
4	0
8	3
12	5
16	6
24	8
40+	10

** THROWS ARE BASED ON A 4 FOOT SILL GRILLE AND 100 F.P.M. VT.

*** FOR RETURN GRILLE PERFORMANCE, THE NEGATIVE TOTAL PRESSURE IS APPROXIMATELY EQUAL TO THE LISTED STATIC PRESSURE, AND NC LEVELS ARE APPROXIMATELY THE SAME AS FOR SUPPLY.

FOR 15 DEGREE BLADE PERFORMANCE, VISIT OUR WEBSITE, www.kees.com

To maintain KEES' policy of continuous product improvement, we reserve the right to change prices, specifications, ratings or dimensions without notice or obligation.

KEES, INC. - ARCHITECTURAL GRILLE DIVISION

400 South Industrial Drive • Elkhart Lake, WI 53020

1-800-889-7215 (Outside Wisconsin) • (920) 876-3391 • FAX (920) 876-3065 • www.kees.com

ASBG 01/12