

# INDUSTRIAL / ARCHITECTURAL PERFORATED SHEET



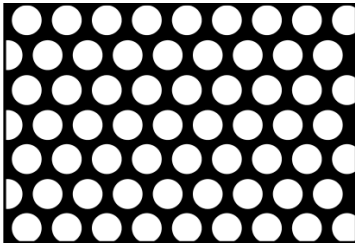
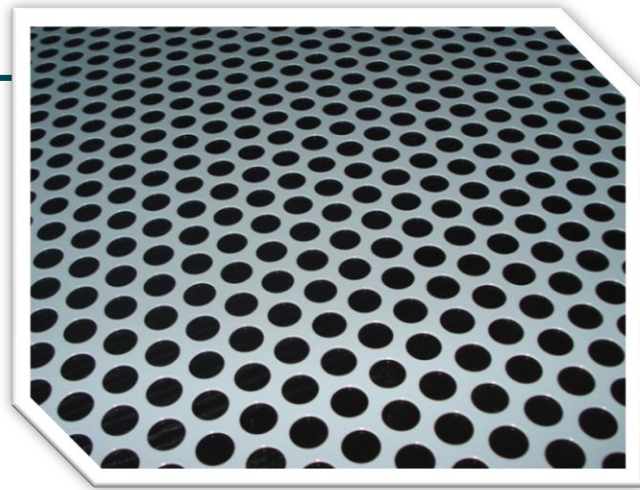
**Chen Cai Metal**  
Friendly Environment

34 years manufacture history

## Perforated Metal

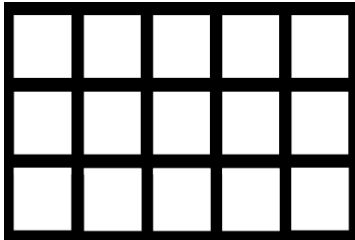
Perforated metal is also named as perforated sheet, perforated plate, punched plate, perforated screen and is sheet metal that typically has been mechanically stamped or punched using specialized tooling in high speed punching machinery, to create a pattern of holes, squares, slots or decorative shapes.

Materials are usually available in stainless steel, mild steel, galvanized, aluminum, brass and copper.



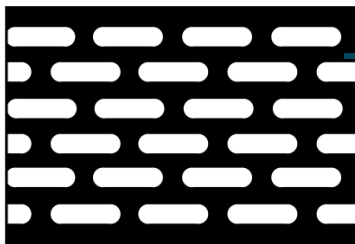
### Round Pattern

Round holes are the most popular pattern. There are three types of industry standard distribution patterns: 60° staggered, 45° staggered and 90° rectangular..



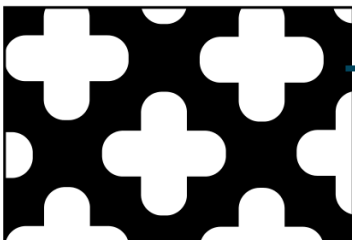
### Square Pattern

A very good option when a greater open area is required in a project. Also lots of size and patterns arrangements.



### Slotted Pattern

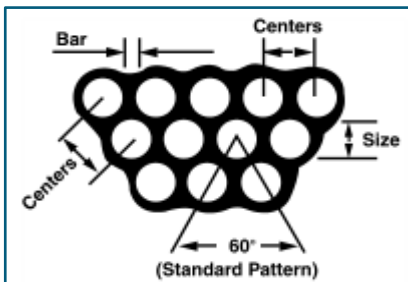
Provide more ventilation than round perforation and is better suited for decorative use than square perforation.



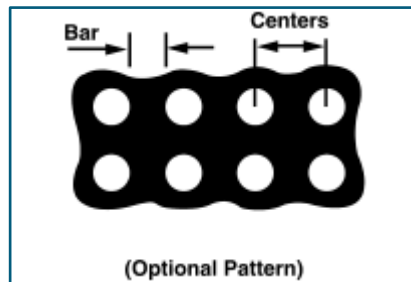
### Decorative Pattern

Many decorative patterns. The applications are: canopy screen, exterior building facade, interior ceiling tiles, enclosure, handrail screen,

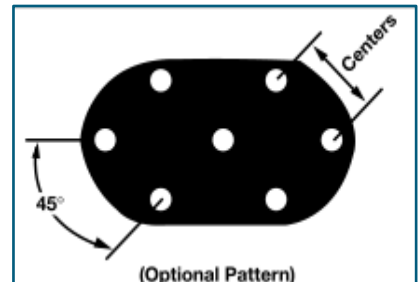
## COMMON TYPES OF PERFORATIONS



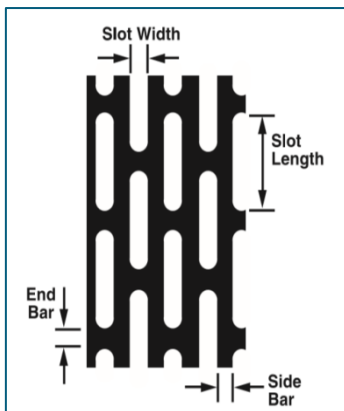
ROUND PERFORATION STAGGERED



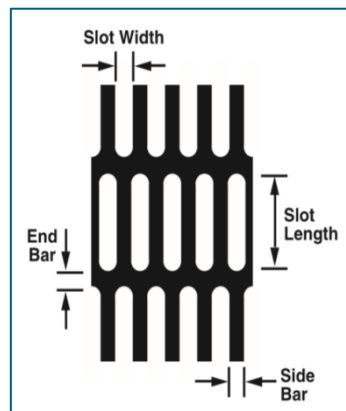
ROUND PERFORATION STRAIGHT



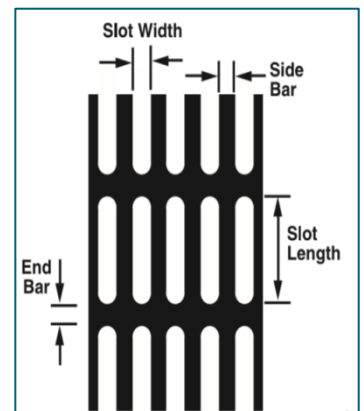
ROUND PERFORATION 45 DEGREE



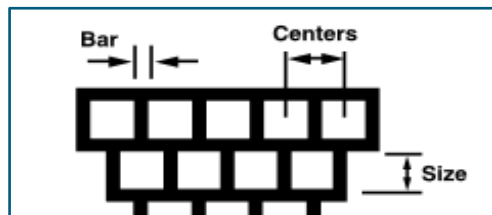
SLOTS SIDE STAGGERED



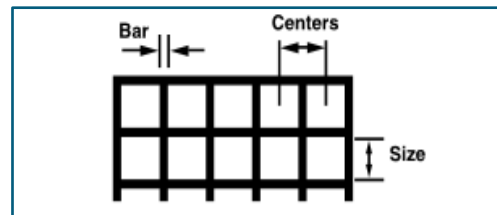
SLOTS END STAGGERED



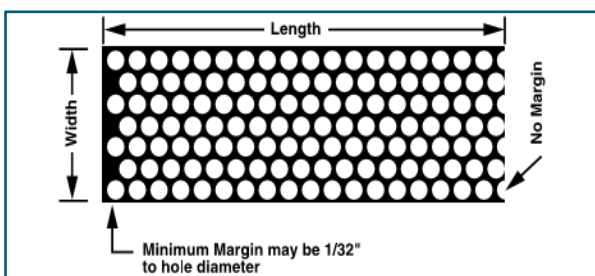
SLOTS STRAIGHT



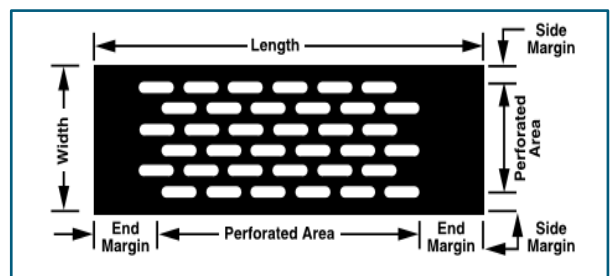
SQUARE PERFORATIONS STAGGERED



SQUARE PERFORATIONS STRAIGHT



PERFORATION SIZE SHEET OR PLATE WITH MINIMUM MARGINS



SHEET OR PLATE CUTTED AFTER PERFORATING WITH MARGINS AS SPECIFIED



## TOOL LIST

Refer-No.	Perforation (inches)	Hole PSI	Type Centers	Open Area
HJC-1501	.020	Straight	825	30%
HJC-1502	.020	Staggered	625	23%
HJC-1503	.023	Straight	576	24%
HJC-1504	.023	Staggered	400	18%
HJC-1505	.027	Straight	400	23%
HJC-1506	.027	Staggered	320	18%
HJC-1507	.033	Staggered	225	19%
HJC-1508	.033	Straight	330	29%
HJC-1509	.040	Straight	225	30%
HJC-1510	.040	Staggered	186	23%
HJC-1511	.041	Staggered	-	32%
HJC-1512	.043	Staggered	-	35%
HJC-1513	.045	Straight	225	37%
HJC-1514	.045	Staggered	169	28%
HJC-1515	.050	Straight	144	33%
HJC-1516	.050	Staggered	115	26%
HJC-1517	.055	Straight	144	33%
HJC-1518	.055	Staggered	135	30%
HJC-1519	.058	Straight	144	38%
HJC-1520	.058	Staggered	115	35%

Refer-No.	Perforation (inches)	Hole PSI	Type centers	Open Area
HJC-1521	.063	Staggered	3/32"	40%
HJC-1522	.063	Straight	1/10"	30%
HJC-1523	.063	Staggered	7/64"	30%
HJC-1524	.063	Staggered	1/8"	23%
HJC-1525	.067	Staggered	1/8"	28%
HJC-1526	.071	Staggered	1/8"	30%
HJC-1527	.077	Staggered	7/64"	45%
HJC-1528	.078	Staggered	1/8"	36%
HJC-1529	.079	Staggered	7/64"	45%
HJC-1530	.083	Straight	1/8"	37%
HJC-1531	.083	Staggered	5/32"	26%

Refer-No.	Perforation (inches)	Hole PSI	Type Centers	Open Area
HJC-1532	.093	Staggered	9/64"	40%
HJC-1533	.093	Staggered	5/32"	33%
HJC-1534	.093	Staggered	11/64"	26%
HJC-1535	.093	Staggered	3/16"	23%
HJC-1536	.093	SL	3/16"	20%
HJC-1537	.093	Staggered	17/64"	11%
HJC-1538	.093	Staggered	1/4"	13%
HJC-1539	.100	Staggered	5/32"	36%
HJC-1540	.100	SL	9/64"	45%
HJC-1541	.109	Staggered	3/16"	29%
HJC-1542	.109	Staggered	7/32"	23%
HJC-1543	.109	Staggered	5/32"	45%
HJC-1544	.113	Staggered	7/32"	25%
HJC-1545	.117	Staggered	3/16"	33%
HJC-1546	.117	Staggered	7/32"	27%
HJC-1547	.117	Staggered	5/32"	50%
HJC-1548	.125	Staggered	3/16"	40%
HJC-1549	.125	SL	3/16"	28%
HJC-1550	.125	Staggered	7/32"	29%
HJC-1551	.125	Staggered	1/4"	23%
HJC-1552	.125	SL	1/4"	20%
HJC-1553	.125	SL	5/16"	11%
HJC-1554	.141	Staggered	3/16"	51%
HJC-1555	.141	Staggered	7/32"	38%
HJC-1556	.141	Staggered	1/4"	28%
HJC-1557	.148	Staggered	1/4"	30%
HJC-1558	.148	Staggered	7/32"	30%
HJC-1559	.156	Staggered	3/16"	46%
HJC-1560	.156	Staggered	7/32"	36%
HJC-1561	.156	Staggered	1/4"	28%
HJC-1562	.156	Staggered	9/32"	26%
HJC-1563	.156	SL	17/64"	15%
HJC-1564	.156	Staggered	3/8"	43%

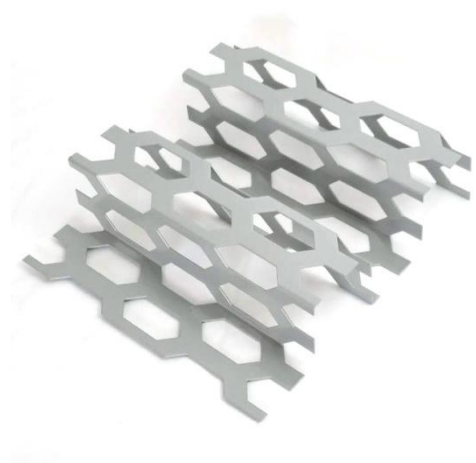
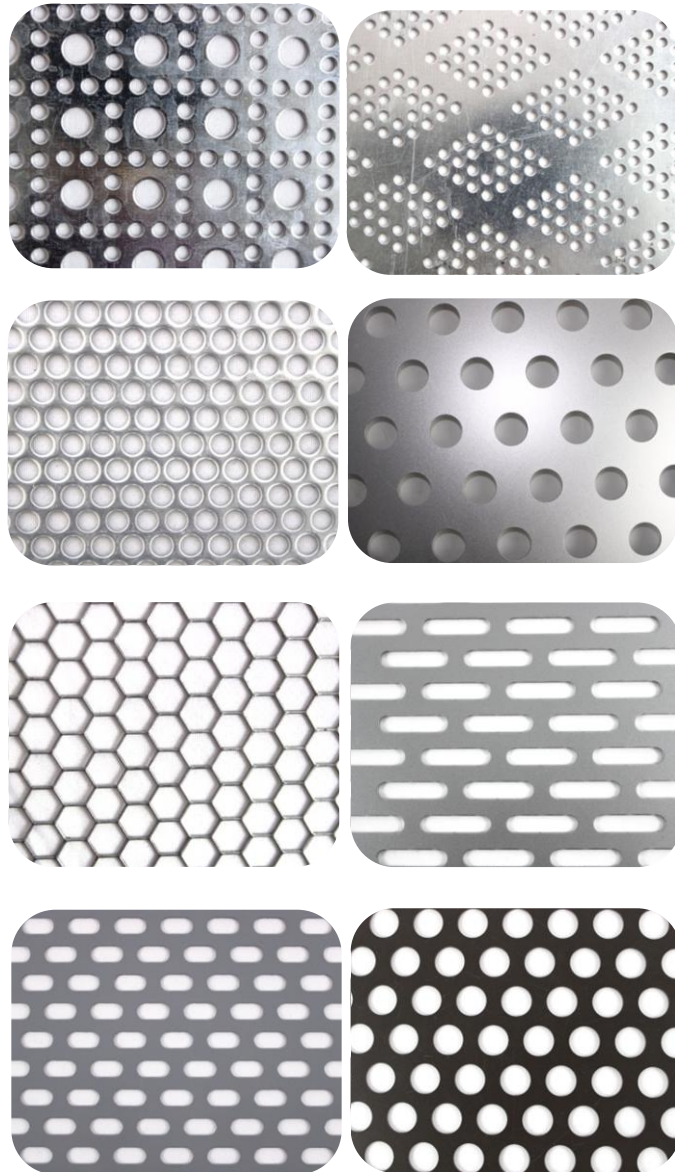
## TOOLS LIST

Refer-No.	Perforation (inches)	Hole PSI	Type Centers	Open Area
HJC-1565	.172	Staggered	1/4"	43%
HJC-1566	.172	Staggered	3/8"	19%
HJC-1567	.172	Staggered	9/32"	33%
HJC-1568	.180	Staggered	9/32"	35%
HJC-1569	.188	Staggered	7/32"	66%
HJC-1570	.188	Staggered	1/4"	51%
HJC-1571	.188	Staggered	9/32"	41%
HJC-1572	.188	Staggered	5/16"	33%
HJC-1573	.188	SL	1/4"	55%
HJC-1574	.188	SL	9/16"	12%
HJC-1575	.203	Staggered	9/32"	47%
HJC-1576	.219	Staggered	5/16"	45%
HJC-1577	.219	Staggered	11/32"	36%
HJC-1578	.219	Staggered	9/16"	15%
HJC-1579	.219	SL	7/16"	23%
HJC-1580	.223	Staggered	11/32"	39%
HJC-1581	.234	Staggered	5/64"	52%
HJC-1582	.234	Staggered	11/32"	42%
HJC-1583	.234	Staggered	3/8"	35%
HJC-1584	.242	Staggered	3/8"	37%
HJC-1585	.250	Staggered	5/16"	58%
HJC-1586	.250	Staggered	11/32"	48%
HJC-1587	.250	Staggered	3/8"	40%
HJC-1588	.250	Staggered	1/2"	22%
HJC-1589	.250	SL	1/2"	20%
HJC-1590	.250	SL	1"	5%
HJC-1591	.258	Staggered	7/16"	30%
HJC-1592	.258	Staggered	3/8"	45%
HJC-1593	.266	Staggered	3/8"	46%
HJC-1594	.281	Staggered	3/8"	50%
HJC-1595	.281	Staggered	13/32"	44%
HJC-1596	.297	Staggered	7/16"	42%
HJC-1597	.305	Staggered	7/16"	45%
HJC-1598	.313	Staggered	3/8"	62%

Refer-No.	Perforation (inches)	Hole PSI	Type Centers	Open Area
HJC-1599	.313	Staggered	7/16"	47%
HJC-1601	.316	Staggered	7/16"	49%
HJC-1602	.320	Staggered	1/2"	45%
HJC-1603	.328	Staggered	7/16"	50%
HJC-1604	.328	Staggered	1/2"	45%
HJC-1605	.336	Staggered	1/2"	47%
HJC-1606	.344	Staggered	15/32"	48%
HJC-1607	.344	Staggered	1/2"	43%
HJC-1608	.352	Staggered	1/2"	45%
HJC-1609	.359	Staggered	15/32"	50%
HJC-1610	.359	Staggered	17/32"	41%
HJC-1611	.359	Staggered	3/4"	21%
HJC-1612	.367	Staggered	9/16"	36%
HJC-1613	.375	Staggered	1/2"	51%
HJC-1614	.375	Staggered	17/32'	45%
HJC-1615	.375	Staggered	9/16"	40%
HJC-1616	.375	Staggered	5/8"	33%
HJC-1617	.375	Staggered	11/16"	27%
HJC-1618	.383	Staggered	9/16"	42%
HJC-1619	.391	Staggered	9/16"	45%
HJC-1620	.406	Staggered	9/16"	47%
HJC-1621	.406	Staggered	5/8"	42%
HJC-1622	.422	Staggered	13/16"	25%
HJC-1623	.422	Staggered	5/8"	27%
HJC-1624	.430	Staggered	5/8"	30%
HJC-1625	.438	Staggered	9/16"	54%
HJC-1626	.438	Staggered	5/8"	45%
HJC-1627	.438	Staggered	3/4"	30%
HJC-1628	.445	Staggered	5/8"	47%
HJC-1629	.453	Staggered	11/16"	47%
HJC-1630	.469	Staggered	5/8"	47%
HJC-1631	.469	Staggered	3/4"	38%
HJC-1632	.484	Staggered	11/16"	42%

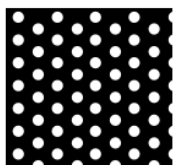
## TOOLS LIST

Refer-No.	Perforation (inches)	Hole PSI	Type Centers	Open Area
HJC-1633	.500	Staggered	11/16"	47%
HJC-1634	.500	Staggered	3/4"	40%
HJC-1635	.500	Staggered	7/8"	30%
HJC-1636	.500	SL	1"	20%
HJC-1637	.531	Staggered	3/4"	45%
HJC-1638	.531	Staggered	3/16"	40%
HJC-1639	.547	Staggered	3/4"	42%
HJC-1640	.547	Staggered	3/4"	45%
HJC-1641	.563	Staggered	3/4"	51%
HJC-1642	.578	Staggered	3/4"	55%
HJC-1643	.594	Staggered	13/16"	48%
HJC-1644	.625	Staggered	13/16"	53%
HJC-1645	.625	Staggered	7/8"	47%
HJC-1646	.641	Staggered	7/8"	50%
HJC-1647	.656	Staggered	7/8"	50%
HJC-1648	.688	Staggered	15/16"	50%
HJC-1649	.750	Staggered	1"	51%
HJC-1650	.750	Staggered	15/16"	55%
HJC-1651	.750	Staggered	1-1/8"	40%
HJC-1652	.781	Staggered	1"	53%
HJC-1653	.813	Staggered	1-1/16"	50%
HJC-1654	.875	Staggered	1-1/8"	54%
HJC-1655	1.00	Staggered	1-1/4"	58%

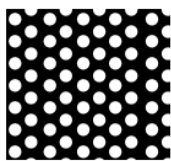


## ROUND HOLES

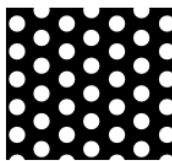
### FEW POPULAR PERFORATIONS- (HOLES AT ACTUAL SIZE)



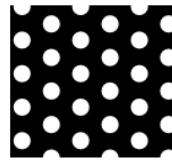
1/16" @1/8"  
STAGGERED  
22.5%



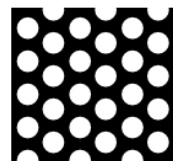
.078 @1/8"  
STAGGERED  
36%



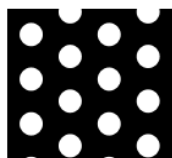
3/32" @5/32"  
STAGGERED  
32%



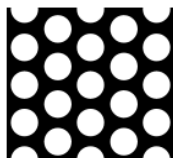
3/32" @3/16"  
STAGGERED  
23%



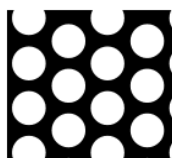
1/8" @3/16"  
STAGGERED  
40%



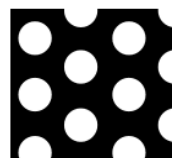
1/8" @1/4"  
STAGGERED  
23%



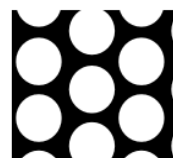
5/32" @7/32"  
STAGGERED  
46%



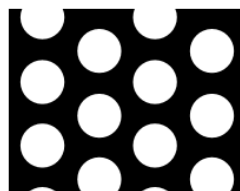
3/16" @1/4"  
STAGGERED  
51%



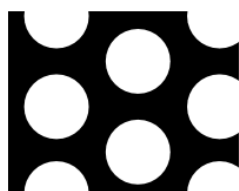
3/16" @5/16"  
STAGGERED  
33%



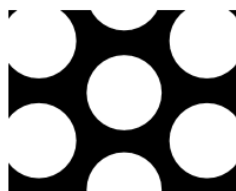
1/4" @5/16"  
STAGGERED  
58%



1/4" @3/8"  
STAGGERED  
40%



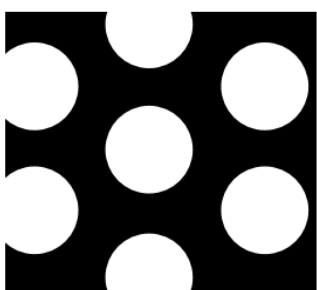
3/8" @9/16"  
STAGGERED  
40%



7/16" @9/16"  
STAGGERED  
51%



1/2" @11/16"  
STAGGERED  
47%



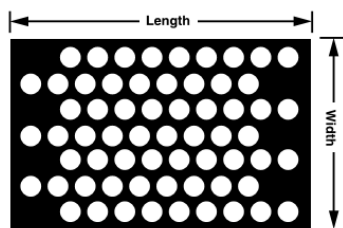
1/2" @3/4"  
STAGGERED  
40%



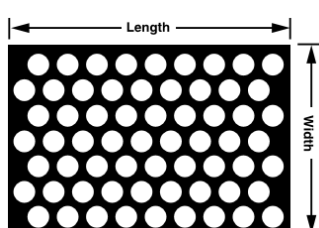
3/4" @1"  
STAGGERED  
51%



1" @1-1/4"  
STAGGERED  
58%



UNFINISHED END PATTERN



FINISHED END PATTERN

PLEASE CONTACT US FOR  
MORE PATTERNS.....



## APPLICATIONS

**Perforated metal** are widely used in industry and architectural area. For industry use, it is most commonly as screens, filters, shields and guards; for architectural use, it could be used both in interiors and exteriors, for both performance and aesthetic.

- Vents
- Screens
- Guards
- Decorative
- Grills
- Diffusers
- Filters
- Strainers
- Artware

### Advantages of perforated metal

- Light weight
- Versatile
- Customizable
- Cost-effective
- Decorative
- large open area



Room Divider



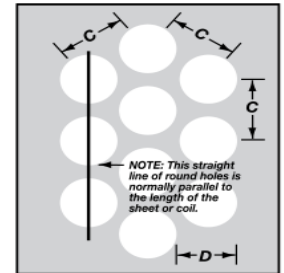
Building Exterior

### Formulas for Percentage of Open Area

D=hole diameter; C=center spacing

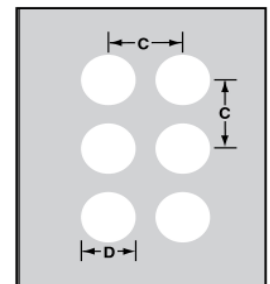
60° Staggered Centers Pattern (Standard)

$$\frac{\text{Dia}^2}{\text{Center}^2} \times 90.5 = \text{Percentage of Open Area}$$



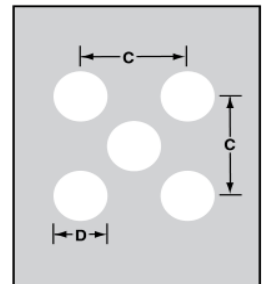
Straight Line Pattern

$$\frac{\text{Dia}^2}{\text{Center}^2} \times 78.54 = \text{Percentage of Open Area}$$



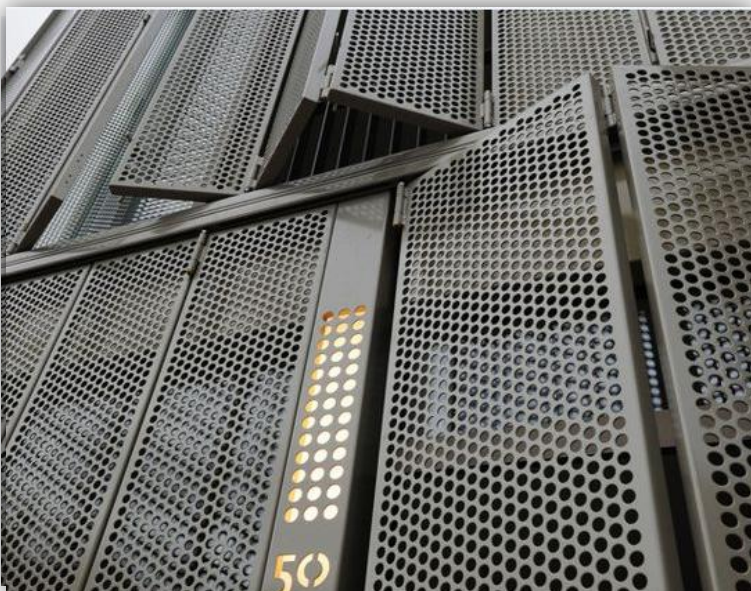
45° Staggered Centers Pattern

$$\frac{\text{Dia}^2}{\text{Center}^2} \times 157.08 = \text{Percentage of Open Area}$$





## APPLICATIONS- DECORATIVE USE





## APPLICATIONS- INDUSTRIAL USE

