



- PERFORATED METAL
- PERFORATED PLASTIC
- EXPANDED METAL
- METAL FABRICATION
- BAR GRATING
- ALUMINUM BAR GRATING
- WIRE CLOTH
- SAFETY GRATING

*Immediate Shipment from Stock
or
Custom Fabricated To Your Design*

Toll Free: 1-800-321-7042 ■ In Ohio: 1-800-362-1360

Fax: 440-951-2542 ■ www.ametco.com



Ametco Manufacturing started business in 1965 as a job shop metal fabricator based on the principles of our founder, Steve Mitrovich, of high quality at competitive price. Ametco continues today as a modern fully equipped sheet metal fabricator utilizing the newest in computer controlled manufacturing equipment.

We have also grown in other areas offering a full service warehouse operation to supply you, our customer, with all of your perforated metals and plastics, expanded metals, wire mesh and grating products. Unlike others, Ametco offers full service manufacturing of custom perforated products from prototype to production volume.

Looking for security? Consider Ametco's line of Orsogrill grating fence. The combination of classical style, function, and lasting beauty will serve your needs for years to come. Our engineering & architectural design team stands ready to supply solutions to any of your security needs.

Call us today at 800 321.7042 and see how this combination of manufacturer, warehouse and design professionals can fill your needs.



Steve Mitrovich

Steve Mitrovich
President



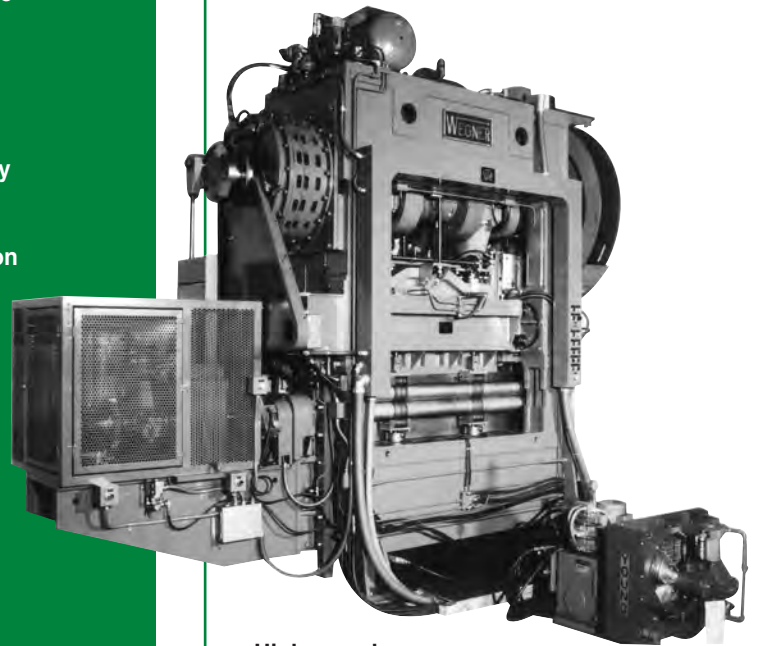
Greg Mitrovich
Vice President

Perforated Metal and Plastic

Our sophisticated perforating presses provide unparalleled flexibility in custom perforating applications. Using a 250 ton 60" wide Wegner high speed press, we pound out stock size perforations with great efficiency. The balance of our presses are set up for quick change-over, accommodating almost any punching configuration you can imagine.

Naturally, we stock the common sizes, gauges, and metals most customers expect. But it's our ability to setup for small runs of unusual configurations that sets us apart from the rest.

We pride ourselves on quick turnaround on all of our perforated products. Usually 24 hours on ready-to-ship items, and within your requirements on custom work when we have the die. We have over 65 die designs just waiting to get on press. I'm sure one of them is right for you.



High speed
Wegner perforating press

Ametco Manufacturing Corp.

4326 Hamann Parkway

P.O. Box 1210

Willoughby, Ohio 44096

www.Ametco.com

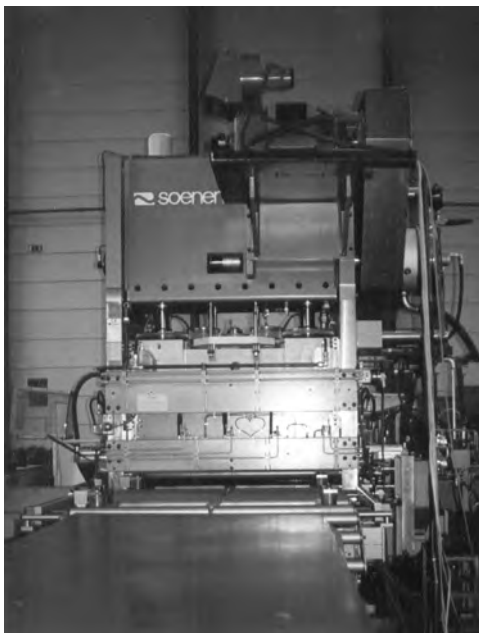
ametco@ametco.com

Call toll free: **1-800-321-7042**

or fax us at: **1-440-951-2542**

**Newest Perforating Press
in the country
SOENEN 250 TON 60" WIDE**

Ametco added a new Soenen perforating press as part of our commitment to maintaining a state of the art manufacturing plant. The new press has a hit rate of more than twice the speed of any of Ametco's existing presses. The new press also has automatic gagging bars to produce any margin configuration that you might require. Let us show you on your next perforating requirement how these advancements will allow Ametco to be your best source for perforated material.



PERFORATED METAL pages 4-11
Carbon steel, Stainless steel, Aluminum, and Galvanized stock items, with full size illustrations of perforated products

PERFORATED PLASTIC pages 12-13
PVC dark gray and Polypropylene

EXPANDED METAL pages 14-17
Standard and flattened styles

METAL FABRICATION pages 18-20
Modern CNC fabricating equipment to complete almost any job

EQUIPMENT LIST page 21

BAR GRATING pages 22-26
Close and square mesh, stair tread and heavy weld bar grating

ALUMINUM BAR GRATING pages 27-28
Rectangular and I-Bar construction with a plain or serrated surface

WIRE CLOTH page 29
Ten different metals in a wide assortment of meshes

SAFETY GRATING pages 30-31
Safety-grip, diamond grip, safety tread, and ladder rungs

Call 1-800-321-7042 to receive the complete Ametco fencing and gate catalog.

Perforating Standards



The following standards are intended to aid designers, engineers, and buyers of perforated product in selecting the correct item for their application. For simplicity, Ametco has adopted the general terminology used by the Industrial Perforators Association. For closer tolerances than described in this bulletin, please contact Ametco's sales department for details.

Sheet and Plate Size Specification

Standard stock size sheets and plates

(Typical: 36" x 96", 36" x 120", 48" x 96", 48" x 120")

The width and length will be **standard mill shearing** plus any stretch of the material by perforating, unless otherwise specified. For carbon steel sheets or plates, our tolerances are the same as the American Iron and Steel Institute.

Sheets and plates resheared after perforating

Length and width tolerances for:

thickness lighter than 1/8" = $\pm 1/32$ "

thickness 1/8" to 3/16" incl. = $\pm 1/16$ "

thickness heavier than 3/16" to 1/2" incl. = $\pm 1/8$ "

thickness heavier than 1/2" = check with our Sales Dept.

If special re-square tolerances are required, consult our Sales Department

Thickness of Metals

Steel – Use "Manufacturer's Standard Gauge for Steel Sheets"

Stainless Steel – Use the U.S. Standard Gauge Table

Monel – Use the U.S. Standard Gauge Table

Copper, Brass or Muntz – Use the B&S Gauge Table

Aluminum – Use the B&S Gauge Table

Perforations (pages 10-11)

Round Perforations – Staggered (60 degree pattern) is standard. Variations include the 45 degree staggered, and Straight Line Pattern.

Square Perforations – Staggered Pattern or Straight Line Pattern.

Slotted Perforations – Side Staggered, End Staggered, or Straight Lines. Slotted Perforations will be round end slots; specify if square end slots are required.

Custom Perforations – Consult Ametco.

Spacing of Perforations (see page 11)

Spacing for large perforations will be designated by either **Centers** of Perforations, or by the **Open area** required.

Spacing for small perforations will be designated by either **Centers**, or **Open area**, or if more practical, by the **Number of Perforations to the Square Inch**.

Pattern of Perforations (see page 9)

Unfinished End Pattern – As a result of tool design, some specifications of staggered pattern perforations yield a pattern that appears incomplete at both ends of the sheet. This is an industry standard.

Finished End Pattern – As a result of tool design, some specifications of staggered pattern perforations yield a completed pattern on both ends of the plate.

Staggered Perforations, both Round and Square – The pattern stagger is normally in the short dimension of the sheet. Holes in a straight row pattern are normally parallel to long dimension of sheet.

Slotted Perforations – Slots can be furnished parallel with either the length or width of the sheet in most cases.

Margins (see page 9)

Perforated stock size sheets and plates.

The long side of a sheet will be supplied with minimum margins. The short side of a sheet will have either minimum margins or no margins.

Sheets and plates resheared after perforating.

Special margins are available, but they must carry a tolerance within the limits of the perforating tool.

Unfinished end pattern is standard in the industry.

Flatness of Sheets and Plates

Perforated sheets or plates can, generally, be furnished to AISI flatness tolerances. However, if your job contains one of the following conditions you should consult Ametco's Sales Department.

- Perforated sheet has extra wide margins.
- Blank areas required within the perforated area.
- Perforated sheet has a large percentage of open area.
- Heavy gauge metal in relation to the size of the perforation.
- Special alloys.
- Stretcher leveled sheets.

Customer Supplied Materials

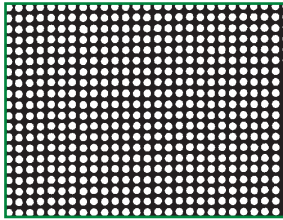
Material furnished by the customer must be referred to as "Perforating and Processing Only". All materials furnished must be of perforating quality. The **weight** of material furnished refers to the weight before perforating.

Additional Services

If work in addition to perforating is to be performed, please submit detailed information and sketches to Ametco.

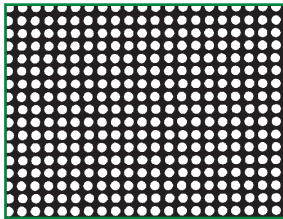
Perforated Metal

Stock Items



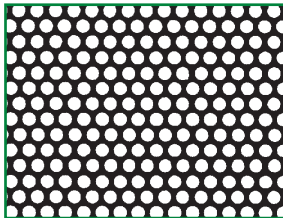
- .033" diameter
- Straight line centers
- 324 holes per sq. inch
- 28% open area

Special Order



- .045" diameter
- Straight line centers
- 225 holes per sq. inch
- 36% open area

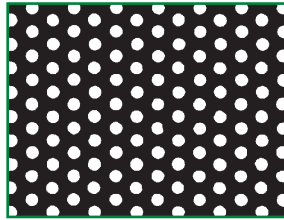
Special Order



- 1/16" diameter
- 3/32" staggered centers
- 132 holes per sq. inch
- 41% open area

Carbon Steel

18 gauge 48" x 96"



- 1/16" diameter
- 1/8" staggered centers
- 75 holes per sq. inch
- 23% open area

Carbon Steel

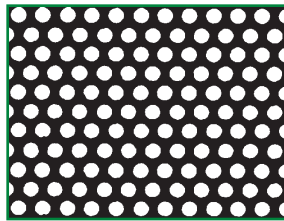
22 gauge 48" x 96"
 20 gauge 48" x 96"
 18 gauge 48" x 96"
 16 gauge 48" x 96"

Stainless Type 304

22 gauge 36" x 96"

Aluminum 3003H14

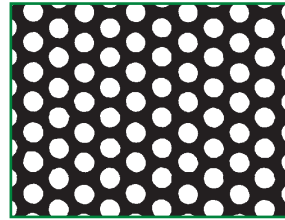
.032" thick 36" x 96"
 .032" thick 48" x 96"
 .050" thick 48" x 96"



- 5/64" diameter
- 1/8" staggered centers
- 75 holes per sq. inch
- 36% open area

Carbon Steel

20 gauge 48" x 120"



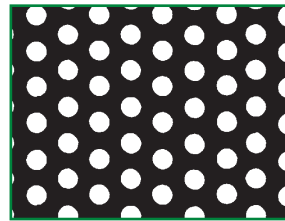
- 3/32" diameter
- 5/32" staggered centers
- 47 holes per sq. inch
- 33% open area

Carbon Steel

22 gauge 36" x 120"
 18 gauge 36" x 120"
 16 gauge 48" x 120"
 60" x 120"
 14 gauge 48" x 120"

Stainless Type 304

22 gauge 36" x 96"
 18 gauge 48" x 120"
 16 gauge 36" x 96"



- 3/32" diameter
- 3/16" staggered centers
- 33 holes per sq. inch
- 25% open area

Carbon Steel

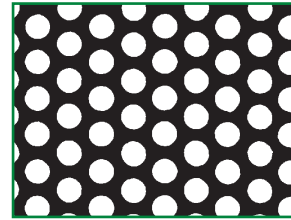
22 gauge 48" x 120"

Polypropylene

1/16" thick 48" x 96"
 1/8" thick 48" x 96"

PVC

1/8" thick 48" x 96"



- 1/8" diameter
- 3/16" staggered centers
- 33 holes per sq. inch
- 40% open area

Carbon Steel

28 gauge 36" x 120"
 22 gauge 36" x 96"
 36" x 120"
 48" x 96"
 20 gauge 36" x 120"
 48" x 96"
 18 gauge 36" x 120"
 16 gauge 36" x 96"
 36" x 120"
 48" x 96"
 48" x 120"
 60" x 120"
 14 gauge 36" x 120"
 48" x 120"
 12 gauge 48" x 120"
 11 gauge 36" x 120"
 48" x 120"

Galvanized

20 gauge 36" x 120"
 48" x 120"
 16 gauge 36" x 120"

Stainless Type 304

28 gauge 36" x 96"
 26 gauge 36" x 96"
 24 gauge 36" x 96"
 22 gauge 36" x 96"
 48" x 120"
 20 gauge 36" x 96"
 18 gauge 48" x 120"
 16 gauge 36" x 96"
 48" x 120"
 14 gauge 48" x 120"
 11 gauge 48" x 120"

Stainless Type 316

22 gauge 36" x 96"
 16 gauge 36" x 96"

Aluminum 3003H14

.032" thick 36" x 96"
 .040" thick 36" x 120"
 .050" thick 48" x 96"
 .063" thick 36" x 96"
 48" x 120"
 .125" thick 48" x 96"

Polypropylene

1/16" thick 48" x 96"
 1/8" thick 48" x 96"

PVC

1/16" thick 48" x 96"
 1/8" thick 48" x 96"

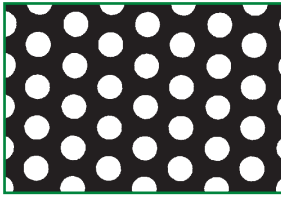


24 hour shipment on stock items



Perforated Metal

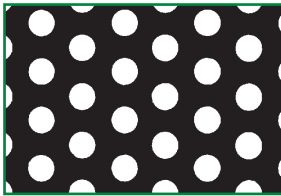
Stock Items



- 1/8" diameter
- 7/32" staggered centers
- 24 holes per sq. inch
- 30% open area

Carbon Steel

22 gauge 36" x 120"
16 gauge 48" x 120"
11 gauge 48" x 120"



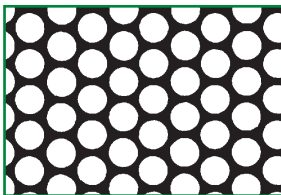
- 1/8" diameter
- 1/4" staggered centers
- 18.5 holes per sq. inch
- 23% open area

Carbon Steel

16 gauge 48" x 120"

Polypropylene

1/8" thick 48" x 96"
3/16" thick 48" x 96"



- 5/32" diameter
- 3/16" staggered centers
- 33 holes per sq. inch
- 63% open area

Carbon Steel

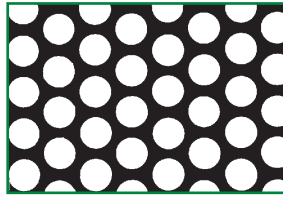
22 gauge 36" x 96"
 48" x 96"
20 gauge 48" x 120"
18 gauge 36" x 120"
16 gauge 48" x 120"

Stainless Type 304

22 gauge 36" x 96"
20 gauge 36" x 96"
18 gauge 36" x 96"

Aluminum 3003H14

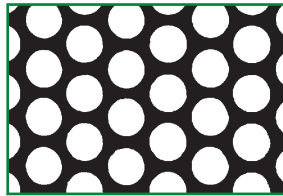
.040" thick 48" x 96"
.063" thick 36" x 96"



- 5/32" diameter
- 7/32" staggered centers
- 24 holes per sq. inch
- 46% open area

Carbon Steel

22 gauge 48" x 120"
18 gauge 36" x 120"
16 gauge 48" x 120"



- 3/16" diameter
- 1/4" staggered centers
- 18.5 holes per sq. inch
- 50% open area

Carbon Steel

20 gauge 36" x 120"
 48" x 120"
16 gauge 36" x 120"
 48" x 120"
 60" x 120"
14 gauge 48" x 120"
11 gauge 48" x 120"

Galvanized

18 gauge 36" x 120"

Stainless Type 304

20 gauge 36" x 96"
16 gauge 36" x 96"
 48" x 120"

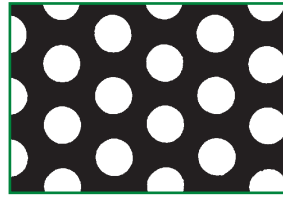
14 gauge 48" x 120"

Stainless Type 316

20 gauge 36" x 96"

Aluminum 3003H14

.040" thick 48" x 96"



- 3/16" diameter
- 5/16" staggered centers
- 12 holes per sq. inch
- 32% open area

Carbon Steel

20 gauge 48" x 120"
16 gauge 48" x 120"
 60" x 120"
14 gauge 48" x 120"
11 gauge 48" x 120"
3/16" thick 48" x 120"

Stainless Type 304

16 gauge 48" x 120"
11 gauge 48" x 120"

Aluminum 3003H14

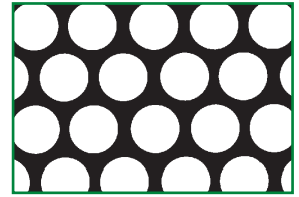
.063" thick 36" x 96"

Polypropylene

1/8" thick 48" x 96"
3/16" thick 48" x 96"

PVC

1/8" thick 48" x 96"
3/16" thick 48" x 96"



- 1/4" diameter
- 5/16" staggered centers
- 12 holes per sq. inch
- 58% open area

Carbon Steel

28 gauge 36" x 96"
22 gauge 36" x 96"
20 gauge 36" x 120"
 48" x 120"
16 gauge 36" x 120"
 48" x 120"
 60" x 120"
11 gauge 48" x 120"

Stainless Type 304

22 gauge 36" x 96"
18 gauge 36" x 96"
16 gauge 48" x 120"

Aluminum 3003H14

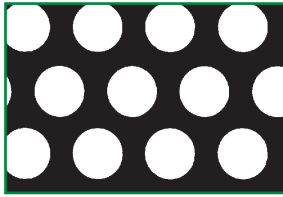
.025" thick 36" x 96"





Perforated Metal

Stock Items



- 1/4" diameter
- 3/8" staggered centers
- 8.5 holes per sq. inch
- 40% open area

Carbon Steel

22 gauge 36" x 120"
 20 gauge 48" x 120"
 16 gauge 48" x 120"
 60" x 120"
 14 gauge 48" x 120"
 11 gauge 48" x 120"
 60" x 120"
 3/16" thick 48" x 120"
 1/4" thick 48" x 120"

Stainless Type 304

20 gauge 36" x 96"
 16 gauge 36" x 96"
 48" x 120"
 11 gauge 36" x 96"
 48" x 120"

Stainless Type 316

16 gauge 48" x 120"

Aluminum 3003H14

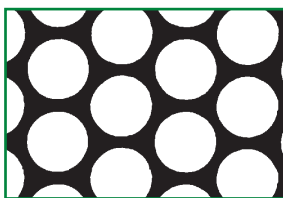
.040" thick 36" x 96"
 .125" thick 48" x 120"
 60" x 120"



- 1/4" diameter
- 1/2" staggered centers
- 5 holes per sq. inch
- 23% open area

Carbon Steel

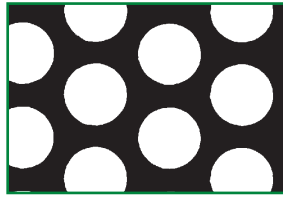
16 gauge 48" x 120"
 11 gauge 48" x 120"



- 5/16" diameter
- 3/8" staggered centers
- 8.5 holes per sq. inch
- 65% open area

Carbon Steel

16 gauge 48" x 120"



- 5/16" diameter
- 7/16" staggered centers
- 6.5 holes per sq. inch
- 50% open area

Carbon Steel

16 gauge 48" x 120"
 11 gauge 48" x 120"



- 3/8" diameter
- 1/2" staggered centers
- 5 holes per sq. inch
- 52% open area

Carbon Steel

16 gauge 48" x 120"
 11 gauge 48" x 120"



- 3/8" diameter
- 9/16" staggered centers
- 4 holes per sq. inch
- 40% open area

Carbon Steel

20 gauge 48" x 120"
 16 gauge 48" x 120"
 60" x 120"
 11 gauge 48" x 120"
 60" x 120"
 3/16" thick 48" x 120"
 1/4" thick 48" x 120"

Stainless Type 304

16 gauge 36" x 96"
 11 gauge 48" x 120"

Aluminum 3003H14

.125" thick 48" x 120"

PVC

3/16" thick 48" x 96"



- 1/2" diameter
- 11/16" staggered centers
- 2.45 holes per sq. inch
- 48% open area

Carbon Steel

20 gauge 36" x 96"
 36" x 120"
 48" x 120"
 18 gauge 36" x 120"
 48" x 120"
 16 gauge 36" x 120"
 48" x 120"
 60" x 120"
 11 gauge 48" x 120"
 60" x 120"
 3/16" thick 48" x 120"
 1/4" thick 48" x 120"

Stainless Type 304

20 gauge 48" x 96"
 16 gauge 36" x 96"
 48" x 120"
 11 gauge 48" x 120"

Aluminum 3003H14

.063" thick 36" x 96"
 .125" thick 48" x 96"

PVC

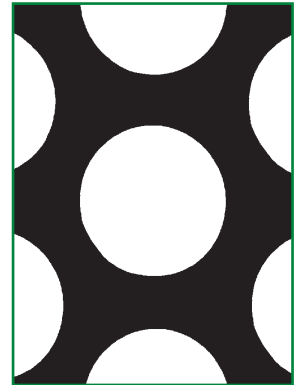
1/4" thick 48" x 96"



- 5/8" diameter
- 13/16" staggered centers
- 1.75 holes per sq. inch
- 54% open area

Carbon Steel

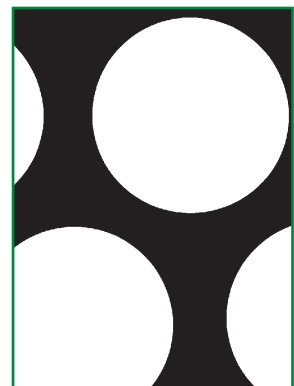
16 gauge 48" x 120"



- 3/4" diameter
- 1" staggered centers
- 1.1 holes per sq. inch
- 51% open area

Carbon Steel

16 gauge 48" x 120"
 11 gauge 48" x 120"
 3/16" thick 48" x 120"



- 1" diameter
- 1-1/4" staggered centers
- .74 holes per sq. inch
- 57% open area

Carbon Steel

11 gauge 48" x 120"



Perforated Metal

Stock Items

Check List for Ordering Perforated Products

Quantity

in sheets

Thickness

by gauge number or decimal inches

Product

type of metal or plastic

Sheet size

length & width

Perforation size

hole size in inches

Perforation shape

shape of the open area (see page 8)

Perforation spacing

number of perforations per square inch

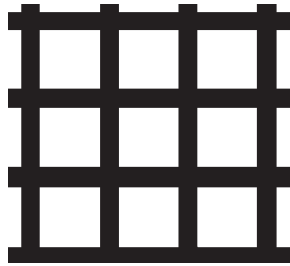
Margins (s)

if needed, it's the solid area on the perimeter, sides or ends of the sheet

Other information

when ordering "slotted perforations", specify which slot dimension is parallel to length of the sheet or plate

3/8" Square Holes



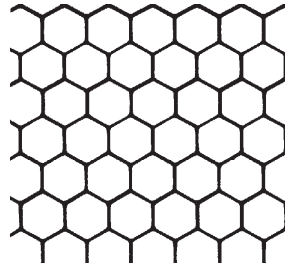
- 56% open area
 - 1/2" straight line centers
- Hot Rolled P&O Steel**
13 gauge 36" x 120"

1/2" Square



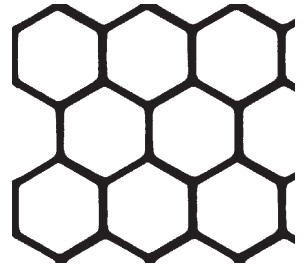
- 53% open area
 - 3/16" bar
 - 11/16" centers
- Carbon Steel**
20 gauge 48" x 120"
16 gauge 48" x 120"
- Aluminum 3003H14**
.050" thick 36" x 120"

1/4" Hexagonal



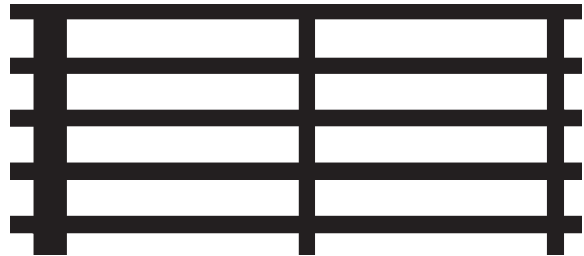
- 80% open area
 - .032" bar
 - 9/32" centers
- Special Order**

1/2" Hexagonal



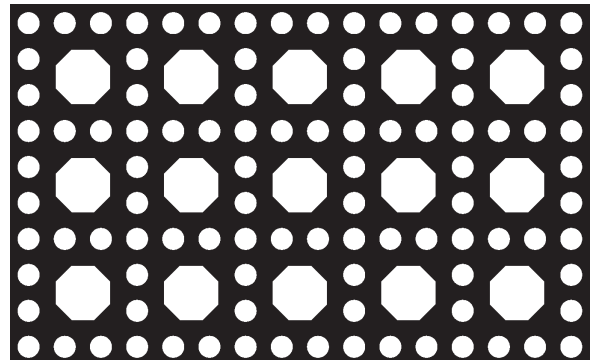
- 80% open area
 - 1/16" bar
 - 9/16" centers
- Carbon Steel**
18 gauge 48" x 96"
16 gauge 48" x 96"
- Aluminum 3003H14**
.050" thick 48" x 96"
.063" thick 48" x 96"

Airline Design



- 1/4" x 1-1/2" slots
 - 67% open
 - Every third end bar 3/16" wide as shown, all other bars 3/32"
- Special Order**

Octagon Cane



- 9/32" octagons, 7/64" rounds
 - 36% open area
- Carbon Steel**
22 gauge 36" x 120"

Customer Service



Ludwig Weber
(Sales - 29 years)



Perforated Metal

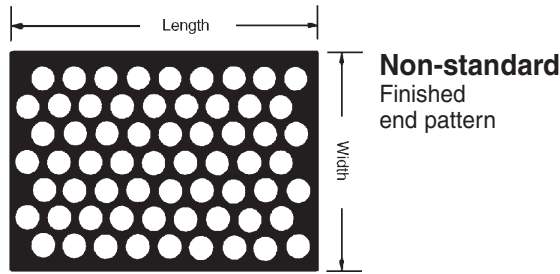
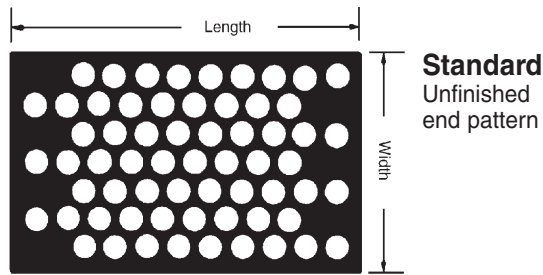
Perforated Patterns

End Patterns

On staggered pattern perforations, the end patterns will either be “finished” or “unfinished” depending on the tooling available. An unfurnished end pattern is **Standard**; however, a finished end is available as a non-standard item. Consult Ametco for details.

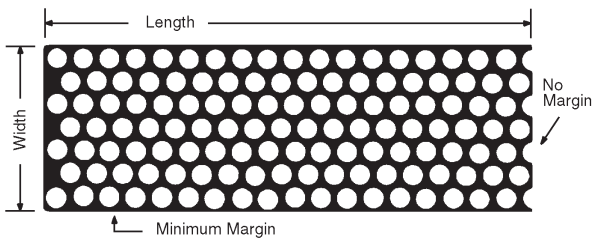
“Unfinished” end patterns are *standard* on some staggered pattern perforations, meaning the hole pattern appears incomplete at the end of the sheet.

“Finished” end patterns are *non-standard* on most staggered pattern perforations, meaning the hole pattern is complete at the end of the sheet. (Refer to page 4 for details)



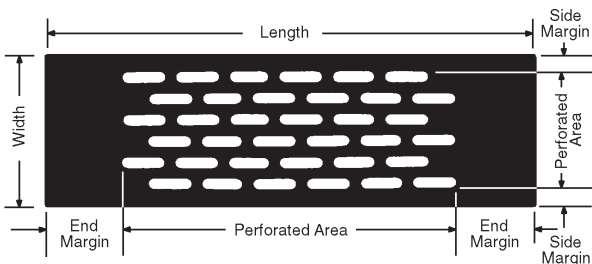
Margins

The “margin” on a perforated sheet or plate refers to the distance from the edge of the sheet to the first perforation along the same dimension. “No margin” refers to the last row or set of perforations extending off the sheet or plate.



Minimum Margins

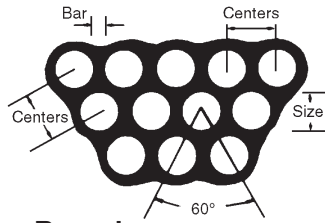
Perforated stock size sheet or plate with minimum margins



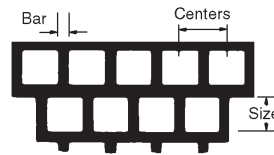
Specified Margins

Sheet or plate resheared after perforating with margins specified

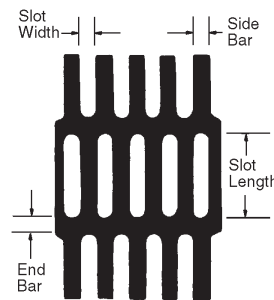
Staggered Patterns



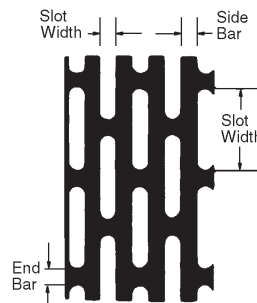
Round Standard



Square Standard

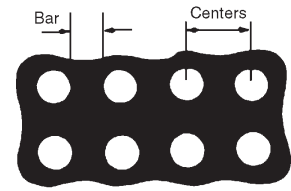


Slotted End Stagger

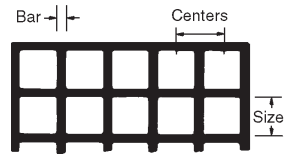


Slotted Side Stagger

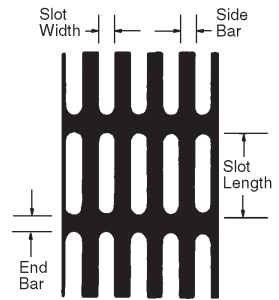
Straight Line Patterns



Round Optional

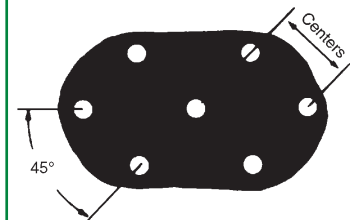


Square



Slotted

45 Degree Pattern



Round Optional

Perforated Metal

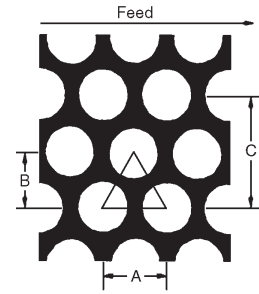
Open Area Center Data



60 degree Center data in 64ths

The 60 degree center data is the standard perforated pattern. Using the following dimensions, you can calculate the proper amount of flow or open air in a perforated sheet or plate.

- A** - Center - the distance from the center of one hole to the center of the next hole.
- B** - Height of the triangle
- C** - Layout straight line



Standard 60 Degree Center Data

Fraction	Center (A) Decimal	Holes Per Square Inch	Height of Triangle (B)	Layout Straight Line (C)
3/64	.0468	528	.04059	.0811
1/16	.0625	296	.0541	.1081
5/64	.0781	189	.0676	.1352
3/32	.0938	132	.08118	.1624
7/64	.1094	97	.09465	.1893
1/8	.125	74	.1082	.2165
9/64	.1406	59	.1217	.243
5/32	.1562	47	.1353	.2705
11/64	.1718	40	.1488	.297
3/16	.1875	33	.1624	.3248
13/64	.2031	28	.1759	.352
7/32	.2187	24	.1894	.378
15/64	.2343	21	.2029	.406
1/4	.250	18.5	.2165	.433
17/64	.2656	16.4	.2300	.4600
9/32	.2812	14.5	.2435	.486
19/64	.2968	13.1	.2570	.5140
5/16	.3125	11.8	.2706	.540
21/64	.3281	10.7	.2841	.5682
11/32	.3437	9.8	.2976	.595
23/64	.3593	9.0	.3111	.6222
3/8	.375	8.25	.3248	.650
25/64	.390	7.6	.3382	.6764
13/32	.406	7.0	.3518	.704
27/64	.4218	6.5	.3653	.7306
7/16	.4375	6.05	.378	.756
29/64	.4531	5.6	.392	.785
15/32	.4687	5.25	.406	.812
31/64	.4843	4.9	.419	.839
1/2	.500	4.6	.433	.866
17/35	.531	4.1	.460	.920
9/16	.5625	3.65	.4875	.975
19/32	.5937	3.45	.514	1.028
5/8	.625	2.95	.541	1.082
11/16	.6875	2.45	.595	1.190
3/4	.750	2.05	.650	1.300
13/16	.8125	1.75	.704	1.408
7/8	.875	1.5	.756	1.516
15/16	.9375	1.31	.812	1.625
1	1.00	1.15	.866	1.732
1-1/16	1.0625	1.0	.920	1.840
1-1/8	1.125	.91	.975	1.950
1-3/16	1.187	.82	1.030	2.060
1-1/4	1.250	.74	1.082	2.164
1-5/16	1.312	.67	1.1624	2.324
1-3/8	1.375	.61	1.190	2.380
1-7/16	1.437	.56	1.243	2.486
1-1/2	1.500	.51	1.300	2.600
1-5/8	1.625	.44	1.408	2.816
1-3/4	1.750	.38	1.516	3.032
2	2.00	.29	1.732	3.464

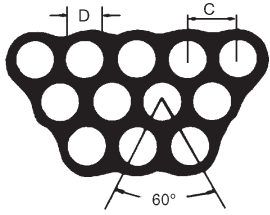


Perforated Metal

Percentage of Open Areas

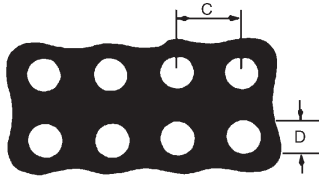
Calculate the amount of open area from the following formulas:

Staggered Round Holes



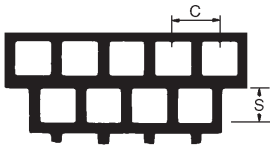
$$\frac{D^2 \times 90.69}{C^2} = \%$$

Straight Round Holes



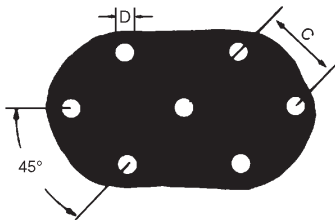
$$\frac{D^2 \times 78.54}{C^2} = \%$$

Square Holes (Straight or Staggered)



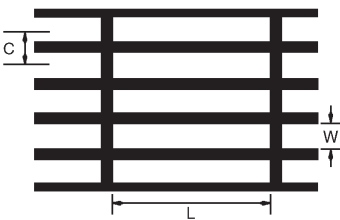
$$\frac{S^2}{C^2} = \%$$

45° Staggered Centers Pattern (Special)



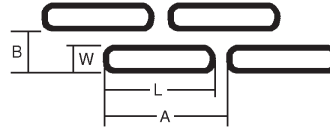
$$\frac{157.08 D^2}{S^2} = \%$$

Square End Slot



$$\frac{L \times W}{C^2} \times 100 = \%$$

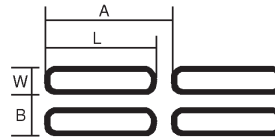
Round End Slots (Staggered)



L = Length of slot
W = Width of slot
A = End center
B = Side center

$$\text{Free Area} = \frac{W(L - .215W)}{AB} \times 100$$

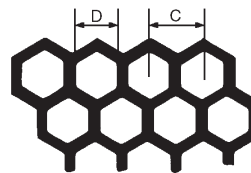
Round End Slots (Straight Line)



L = Length of slot
W = Width of slot
A = End center
B = Side center

$$\text{Free Area} = \frac{W(L - .215W)}{AB} \times 100$$

Hexagon



$$\frac{99.9 \times D^2}{C} = \%$$

For hexagon pattern use this holes per square inch calculation:

$$\text{H.P.S.I.} = \frac{\% \text{ Open Area}}{78.54 \times D^2}$$



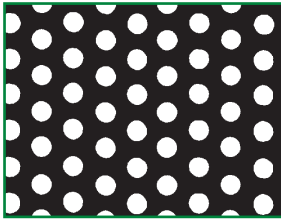
Perforated Plastic

PVC Dark Gray - type 1, class 1
(4' x 8' sheet)

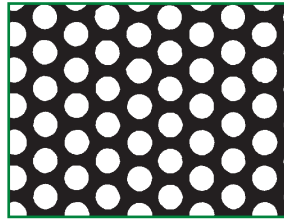
Ametco now stocks 27 standard plastic perforated sheets in inventory and ready-to-ship. Inventory includes dark gray PVC, natural color polypropylene, PETG and PTFE Teflon plastic items. Stock sheets range from 1/16" to 1/4" thick, and come in configurations ranging from 10% open air to 48% open air. Naturally, Ametco can custom perforate most any layout you need. We specialize in short run custom perforating!

Perforated Plastic is ideally suited to many of the same applications as perforated metal; however, it is lighter and is more corrosive resistant. Consider plastic on your next perforated project!

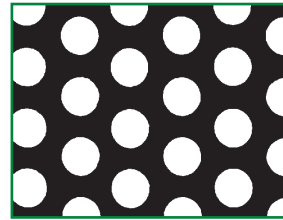
PERFORATED PLASTIC



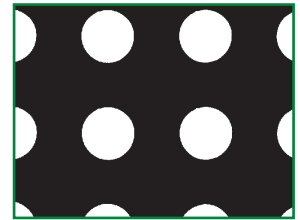
- 3/32" diameter
- 3/16" staggered centers
- 32 holes per sq. inch
- 25% open area
- 1/8" thick



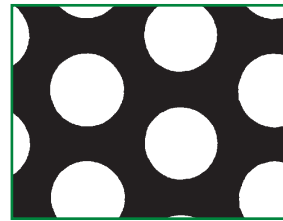
- 1/8" diameter
- 3/16" staggered centers
- 33 holes per sq. inch
- 40% open area
- 1/16" & 1/8" thick



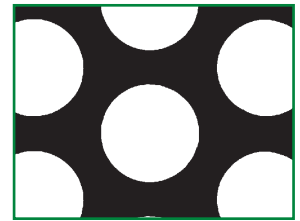
- 3/16" diameter
- 5/16" staggered centers
- 12 holes per sq. inch
- 32% open area
- 1/8" & 3/16" thick



- 1/4" diameter
- 1/2" straight line centers
- 4 holes per sq. inch
- 20% open area
- 1/8" & 1/4" thick

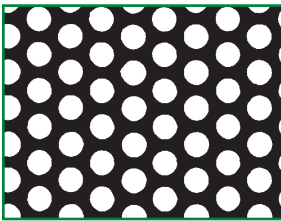


- 3/8" diameter
- 9/16" staggered centers
- 4 holes per sq. inch
- 40% open area
- 3/16" thick



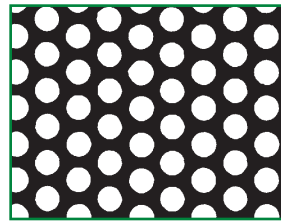
- 1/2" diameter
- 11/16" staggered centers
- 2.45 holes per sq. inch
- 48% open area
- 1/4" thick

PETG
(4' x 8' sheet)



- 1/8" diameter
- 3/16" staggered centers
- 33 holes per sq. inch
- 40% open area
- 1/16" & 1/8" thick

PTFE – Teflon
(4' x 4' sheet)



- 1/8" diameter
- 3/16" staggered centers
- 33 holes per sq. inch
- 40% open area
- 1/16" & 1/8" thick

Customer Service

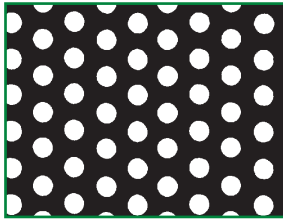


Brad Van Pelt
(Sales – 8 years)

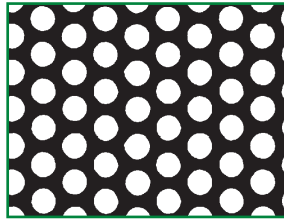


Perforated Plastic

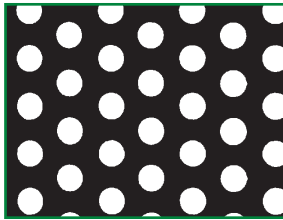
Polypropylene
(4' x 8' sheet)



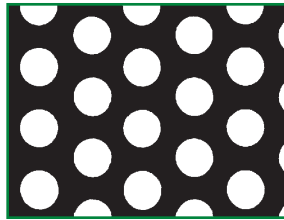
- 3/32" diameter
- 3/16" staggered centers
- 32 holes per sq. inch
- 25% open area
- 1/16" & 1/8" thick



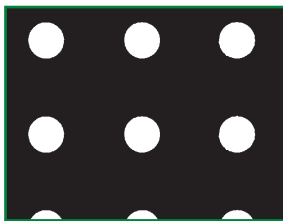
- 1/8" diameter
- 3/16" staggered centers
- 33 holes per sq. inch
- 40% open area
- 1/16" & 1/8" thick



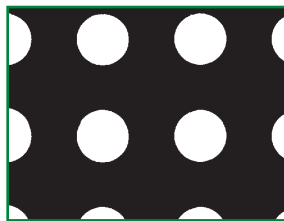
- 1/8" diameter
- 1/4" staggered centers
- 18.5 holes per sq. inch
- 23% open area
- 1/8" & 3/16" thick



- 3/16" diameter
- 5/16" staggered centers
- 12 holes per sq. inch
- 32% open area
- 1/8" & 3/16" thick



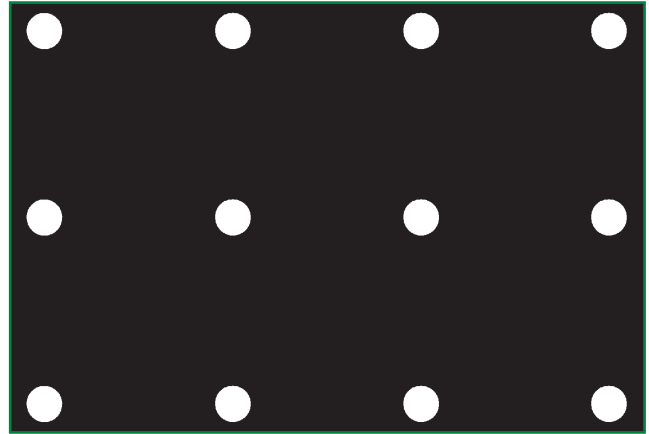
- 3/16" diameter
- 1/2" straight line centers
- 4 holes per sq. inch
- 10% open area
- 1/8" & 1/4" thick



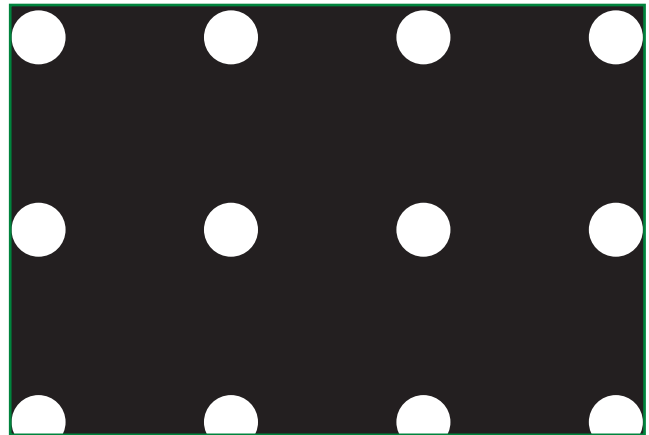
- 1/4" diameter
- 1/2" straight line centers
- 4 holes per sq. inch
- 20% open area
- 1/8" & 1/4" thick

Polypropylene Pegboard System

Available in two thicknesses and two hole diameters. Plastic is a better alternative to fiberboard . . . and lasts longer too!



- 3/16" diameter
- 1" straight line centers
- 1/8" thick



- 9/32" diameter
- 1" straight line centers
- 1/4" thick

PERFORATED
PLASTIC

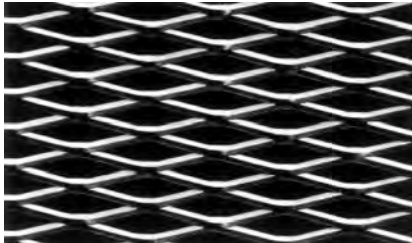
Expanded Metal



Ametco stocks Carbon steel, Stainless steel, and Aluminum expanded metal in both standard and flattened styles. We carry catwalk and structural grade grating made of carbon steel ranging from 2.5 to 7.0 lbs. per sq. ft. For more information about the structural ratings on our expanded metal grating, call Ametco's sales department and ask for our load/deflection tables.

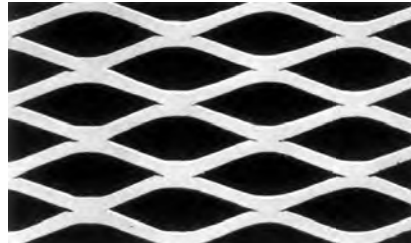
Ametco can cut or shear your expanded metal sheets to finished size, cutting down on wasted time and expense in your next project.

EXPANDED METAL



Standard

1/4" No. 20



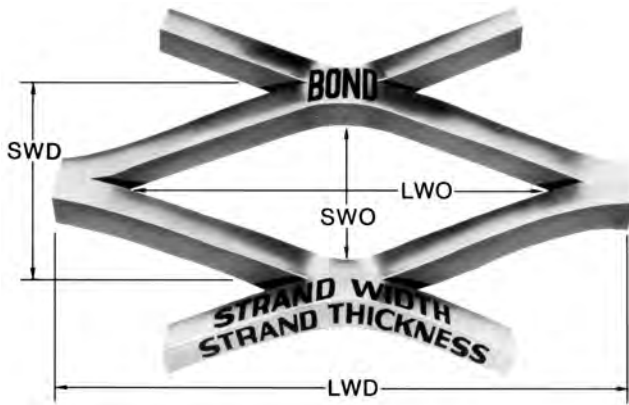
Flattened

1/2" No. 18



Standard

3/4" No. 9



Style Dimension – Nominal dimension Short Way of Design (SWD).

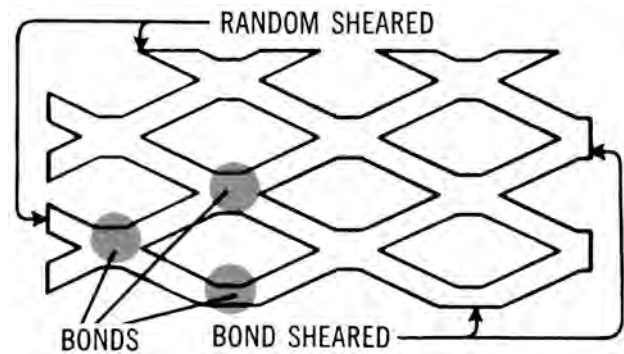
Design Size – Actual dimension SWD and LWD. Measured from a point to a corresponding point on the following design.

(SWO) Short Way of Opening. **(LWO)** Long Way of Opening.

Strands – The sides of the expanded metal design.

Strand Thickness – Gauge thickness of metal expanded.

Strand Width – Amount of metal fed under dies to produce one strand.



Shearing Tolerances

Bond: Where two strands intersect. Eliminates prongs or jagged edges.

Tolerance: Minus 0 plus 1/2 the design size, either SWD or LWD.

Special bond tolerances on meshes of 1/4" and under.

Random: This type of shearing leaves prongs or jagged edges.

Tolerance: $\pm 1/16"$. On grating $\pm 1/8"$.

Order Procedure

When specifying Expanded Metal, give complete specification to avoid possible error. SWD always given before LWD.

Example: 1/2" No. 18 Carbon Steel Diamond Pattern
4' SWD x 8' LWD.

Expanded Metal Specifications



Carbon Steel – Standard

Style	Lbs. Per 100 Sq. Ft.		Standard Sheet Size (Feet)		Design Size (Inches)		Opening Size (Inches)		Strand Size (Inches)		Overall Thickness (Inches)	No. of Designs Per Ft.		(% Open Area)
	Plain	Galv. Wt.	Width SWD	Length LWD	SWD	LWD	SWO	LWO	Width	Thick-ness		SWD	LWD	
1/4"–#20	86	...	4	8	.250	1.00	.125	.718	.072	.036	.135	48	12	45
1/4"–#18	114	...	4	8	.250	1.00	.110	.718	.072	.048	.147	48	12	43
1/2"–#20	43	...	4	8	.500	1.20	.438	.938	.072	.036	.140	24	10	80
1/2"–#18	70	88	4&6	8	.500	1.20	.438	.938	.088	.048	.172	24	10	72
1/2"–#16	86	104	4	8	.500	1.20	.375	.938	.087	.060	.175	24	10	65
1/2"–#13	147	174	4&6	8&10	.500	1.20	.312	.938	.096	.092	.204	24	10	57
3/4"–#16	54	61	4&6	8&10	.923	2.00	.813	1.750	.101	.060	.210	13	6	78
3/4"–#13	80	94	4&6	8&10	.923	2.00	.750	1.688	.096	.092	.205	13	6	76
3/4"–#10 (13 ga.)	120	134	4&6	8&10	.923	2.00	.750	1.625	.144	.092	.290	13	6	72
3/4"–#9 (10 ga.)	180	198	4&6	8,10&12	.923	2.00	.688	1.562	.150	.134	.312	13	6	68
1"–#16	44	51	4	8	1.00	2.40	.938	2.062	.087	.060	.192	12	5	82
1-1/2"–#18	20	...	4	8	1.33	3.00	1.313	2.625	.068	.048	.140	9	4	90
1-1/2"–#16	40	48	4	8	1.33	3.00	1.250	2.625	.108	.060	.230	9	4	85
1-1/2"–#13	60	68	4&6	8&10	1.33	3.00	1.188	2.500	.105	.092	.242	9	4	85
1-1/2"–#10 (13 ga.)	79	90	4&6	8&10	1.33	3.00	1.188	2.500	.138	.092	.284	9	4	80
1-1/2"–#9 (10 ga.)	120	144	4&6	8,10&12	1.33	3.00	1.125	2.375	.144	.134	.312	9	4	76
1-1/2"–#6 (6 ga.)	250	275	4&6	8&12	1.33	3.00	1.110	2.313	.203	.198	.433	9	4	69
2"–#9 (10 ga.)	90	99	4	8	1.85	4.00	1.563	3.375	.149	.134	.312	6.5	3	84

Above material conforms to Military Specification MIL-M-17194C Type1 Class 1

EXPANDED METAL

Carbon Steel – Flattened

1/4"–#20	82	...	3&4	8	.250	1.05	.084	.715	.079	.030	.030	48	11.60	35
1/4"–#18	108	...	3&4	8	.250	1.05	.075	.715	.080	.040	.040	48	11.60	35
1/2"–#20	40	51	3&4	8	.500	1.25	.375	1.00	.079	.029	.029	24	9.500	65
1/2"–#18	66	83	3&4	8&10	.500	1.25	.312	1.00	.097	.039	.039	24	9.500	60
1/2"–#16	82	98	3&4	8&10	.500	1.25	.312	1.00	.096	.050	.050	24	9.500	63
1/2"–#13	140	161	3&4	8&10	.500	1.25	.265	1.00	.107	.070	.070	24	9.500	52
3/4"–#16	51	57	3&4	8&10	.923	2.10	.750	1.750	.111	.048	.048	13	5.700	74
3/4"–#14	63	74	3&4	8&10	.500	2.10	.688	1.813	.105	.061	.061	13	5.70	74
3/4"–#13	75	88	3&4	8,10&12	.923	2.10	.688	1.781	.106	.070	.070	13	5.700	74
3/4"–#9 (10 ga.)	171	188	3&4	8,10&12	.923	2.10	.563	1.688	.165	.120	.120	13	5.700	63
1"–#16	41	50	3&4	8	1.00	2.50	.813	2.250	.098	.050	.050	12	4.684	78
1-1/2"–#16	38	46	3&4	8	1.33	3.20	1.062	2.750	.119	.048	.048	9	3.75	83
1-1/2"–#14	46	54	3&4	8	1.33	3.20	1.062	2.750	.134	.060	.060	9	3.75	80
1-1/2"–#13	57	66	3&4	8&10	1.33	3.20	1.062	2.750	.116	.070	.070	9	3.75	80
1-1/2"–#9 (10 ga.)	114	125	3&4-4	8,10&12	1.33	3.20	1.0	2.563	.158	.110	.110	9	3.75	75

Above material conforms to Military Specification MIL-M-17194C Type II Class 1

Weights, Gauges, Dimensions and Sizes listed are approximate and subject to mill tolerance.

Expanded Metal Specifications



Stainless – Type 304 – Type 316 – Standard

Style	Lbs. Per 100 Sq. Ft.	Standard Sheet Size (Feet)		Design Size (Inches)		Opening Size (Inches)		Strand Size (Inches)		Overall Thickness (Inches)	No. of Designs Per Ft.		(% Open Area)
		Width SWD	Length LWD	SWD	LWD	SWO	LWO	Width	Thick-ness		SWD	LWD	
1/2"–#18	73	4	8	.500	1.20	.437	.937	.087	.050	.164	24	10	70
1/2"–#16	91	3&4	8	.500	1.20	.437	.937	.087	.062	.164	24	10	70
1/2"–#13	187	4	8	.500	1.20	.325	.875	.119	.093	.225	24	10	70
3/4"–#18	48	3&4	8	.923	2.00	.812	1.750	.106	.050	.202	13	6	85
3/4"–#16	60	4	8	.923	2.00	.812	1.750	.106	.062	.202	13	6	83
3/4"–#13	91	3&4	8	.923	2.00	.750	1.687	.107	.093	.202	13	6	80
3/4"–#9 (10 ga.)	205	4	8	.923	2.00	.687	1.562	.160	.140	.300	13	6	67
1-1/2"–#16	45	4	8	1.33	3.00	1.250	2.750	.115	.062	.222	9	4	85
1-1/2"–#13	68	4	8	1.33	3.00	1.250	2.625	.115	.093	.222	9	4	83
1-1/2"–#9 (10 ga.)	137	4	8	1.33	3.00	1.125	2.500	.155	.140	.280	9	4	77

Above material conforms to Military-S-46044A (MR) Type I

Stainless – Type 304 – Type 316 – Flattened

1/2"–#18	69	4	8	.500	1.26	.312	1.000	.098	.040	.040	24	9.5	60
1/2"–#16	86	3&4	8	.500	1.26	.312	1.000	.099	.050	.050	24	9.5	60
1/2"–#13	178	3&4	8	.500	1.26	.240	.915	.132	.080	.080	24	9.5	57
3/4"–#18	46	3&4	8	.923	2.10	.750	1.812	.118	.040	.040	13	5.70	75
3/4"–#16	57	3&4	8	.923	2.10	.750	1.812	.118	.050	.050	13	5.70	75
3/4"–#13	86	3&4	8	.923	2.10	.625	1.750	.120	.070	.070	13	5.70	75
3/4"–#9 (10 ga.)	195	3&4	8	.923	2.10	.562	1.687	.165	.119	.119	13	5.70	61
1-1/2"–#16	43	4	8	1.33	3.15	1.062	2.75	.128	.050	.050	9	3.80	80
1-1/2"–#13	65	4	8	1.33	3.15	1.000	2.625	.130	.079	.079	9	3.80	80
1-1/2"–#9 (10 ga.)	131	3&4	8	1.33	3.15	.937	2.625	.165	.119	.119	9	3.8	75

Above material conforms to Military Specification MIL-S-46044A (MR) Type II

Aluminum – Type 5005 - H34 – Standard

1/2"–.051	27	4	8	.500	1.20	.375	.937	.093	.051	.158	24	10	65
1/2"–.081	44	3&4	8	.500	1.20	.375	.937	.096	.081	.186	24	10	60
3/4"–.051	17	4	8	.923	2.00	.812	1.75	.109	.051	.200	13	6	78
3/4"–.081 (Lt.)	32	3&4	8	.923	2.00	.750	1.68	.129	.081	.220	13	6	76
3/4"–.081 (Hvy.)	41	4	8	.923	2.00	.750	1.68	.165	.081	.300	13	6	69
3/4"–.125	65	4	8	.923	2.00	.687	1.68	.169	.125	.305	13	6	68
1-1/2"–.081	22	4	8	1.33	3.00	1.187	2.50	.128	.081	.240	9	4	85
1-1/2"–.125	43	3&4	8	1.33	3.00	1.187	2.50	.162	.125	.300	9	4	79

Above material conforms to Military Specification MIL-M-17999B (MR) Class 1

Aluminum – Type 5005 - H34 – Flattened

1/2"–.051	26	3&4	8	.500	1.27	.312	1.00	.104	.040	.040	24	9.5	61
1/2"–.081	42	3&4	8	.500	1.27	.312	1.00	.105	.060	.060	24	9.5	58
3/4"–.051	16	3&4	8	.923	2.125	.750	1.812	.122	.040	.040	13	5.66	72
3/4"–.081 (Lt.)	30	3&4	8	.923	2.125	.687	1.75	.143	.070	.070	13	5.66	70
3/4"–.081 (Hvy.)	39	3&4	8	.923	2.125	.687	1.75	.181	.070	.070	13	5.66	63
3/4"–.125	62	3&4	8	.923	2.125	.625	1.75	.187	.095	.095	13	5.66	62
1-1/2"–.081	21	3&4	8	1.33	3.15	1.062	2.75	.143	.055	.055	9	3.8	77
1-1/2"–.125	41	4	8	1.33	3.15	1.000	2.75	.181	.080	.080	9	3.8	70

Above material conforms to Military Specification MIL-M-17999B (MR) Class 1

Expanded Metal Grating Specifications



Catwalk and Structural Gratings Carbon Steel

Style	Wt. per Sq. Ft. (lbs.)	Standard Sheet Size (Feet)		Design Size (Inches)		Opening Size (Inches)		Strand Size (Inches)		Overall Thickness (Inches)	No. of Designs Per Ft.		(% Open Area)
		Width SWD	Length LWD	SWD	LWD	SWO	LWO	Width	Thick-ness		SWD	LWD	
1-1/2" 6 ga.	2.5	4&6	8&12	1.33	3.00	1.110	2.313	.203	.198	.433	9	4	69
3.0 lb.	3	4&6	8,10&12	1.33	5.33	.940	3.44	.264	.183	.540	9	2.25	60
3.14 lb.	3.14	4&6	10	2.00	6.00	1.625	4.88	.312	.250	.656	6	2	69
4.0 lb.	4	4,5&6	8&10	1.33	5.33	.940	3.44	.300	.215	.618	9	2.25	55
4.27 lb.	4.27	4&6	8&10	1.41	4.00	1.00	2.88	.300	.250	.625	8.5	3	58
5.0 lb.	5.0	4&5	8&10	1.33	5.33	.813	3.38	.331	.250	.655	9	2.25	50
6.25 lb.	6.25	4&6	8&12	1.41	5.33	.813	3.38	.350	.312	.715	8.5	2.25	50
7.0 lb.	7.0	4	8	1.41	5.33	.813	3.38	.391	.312	.740	8.5	2.25	45

EXPANDED METAL

Carbon Steel Flattened Grating

2.80 lb.	2.80	4	8	1.333	5.667	.813	4.00	.285	.160	.160	9	2.125	60
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Aluminum Grating – Type 5052-H-32

2.0 lb.	2.0	4	8	1.33	5.33	.940	3.44	.387	.250	.730	9	2.25	48
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New Catwalk and Structural Gratings (Carbon Steel) Selection Chart

Concentrated Load (Lbs. Per Foot of Length of Catwalk or Platform)	Clear Span (Distance between supports, measured from the inside edge of one support to the inside edge of the next support)						
	23"	30"	35"	42"	47"	54"	60"
50# Light or Occasional Pedestrian Traffic	3.0 3.14	3.0 3.14	3.0 3.14	3.0 3.14	3.0 3.14	4.0 4.27	5.0 6.25
100# Normal or Frequent Pedestrian Traffic	3.0 3.14	3.0 3.14	3.0 3.14	4.0 4.27	5.0 6.25	7.0	7.0
150# Heavy or Constant Pedestrian Traffic	3.0 3.14	4.0 4.27	4.0 4.27	5.0 6.25	6.25	7.0	
200#	3.0 3.14	4.0 4.27	4.27 5.0	6.25	7.0	7.0	
250#	4.0 4.27	5.0	5.0 6.25	7.0			
300#	4.0 4.27	5.0 6.25	6.25				
350#	4.0 4.27	6.25	7.0				

The concentrated load deflections for the above selection chart do not exceed the 1/4" maximum deflection as stated by Federal Specification RR-G-661b and the generally accepted recommendation for normal pedestrian comfort.

Metal Fabrication



Ametco Manufacturing is home to a sophisticated metalworking and fabricating shop designed to deliver high precision products. All Ametco welders are AWS certified. Whether you're looking for a prototype part or to setup for a production run of thousands, we'll manufacture your product professionally and economically.

A constant investment in state-of-the-art equipment positions Ametco perfectly as a long term manufacturing partner, and as a source for over flow work. Our 50,000 square foot Willoughby, Ohio plant is designed to handle a wide variety of metalworking tasks, and to track those jobs all the way through the plant. You get quality craftsmanship with on-time delivery...all at a great price!

We feature all the latest fabrication equipment:

- Plasma cutting
- N/C Shearing
- Rolling
- N/C Forming
- N/C Punching
- Perforating
- Drilling
- Nibbling
- Flame cutting
- Sawing
- Threading
- Robotic Welding
- Spot welding
- Manual welding
- Tungsten & metal inert gas welding

METAL
FABRICATION



Punch/Plasma Fabricating Center combines punching/cutting into a single operation.

Metal Fabrication

Adding Value to Straight Orders

Do you find yourself turning away orders because you don't have the facilities to complete the job? Or would you like to sell more than just raw stock sheets? Ametco can help you get those orders. We employ a myriad of operations to deliver just what you're after. We'll perforate your specific metal sheet and then fabricate it into just about anything you need to capture that order . . . all at one low price.

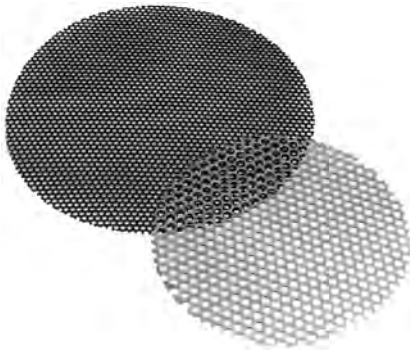
Don't just fill orders, fill needs!



Customer Service



Bob Knaus
(Sales – 35 years)



Screens

- Circle Shearing



Heater Guard

- Shear
- NC Punching & Forming



Step

- Shear
- NC Punching
- Notching & Forming



Guard

- Shear
- Punch & Form



Guard

- Circle Shearing
- NC Punching & Forming



Tube Tray

- NC Punching
- Forming & Spot Welding



Stainless Basket

- Shearing
- Forming NC Notching
- Degreasing
- Assembly
- Spot Welding



Basket

- Circle Shearing
- Rolling & Welding



Filter Center Tube

- Shearing, Rolling & Welding

METAL FABRICATION



Cabinets

- Shearing
- Forming
- NC Punching
- Assembly & Welding



NC Turret Punch Press



Large Scale Projects

On the floor of our plant is open area to construct and build very large structures. Producing custom underground tanks, huge metal structures, cabinets, and the alike can be designed, built and disassembled for shipment to the final destination.

Call Ametco to manufacture those out of the ordinary projects.



NC Punch/Plasma Machine



Fabricating Equipment List



Are there opportunities for orders that you are passing because of secondary fabrication? Then consider utilizing Ametco's fabricating abilities. Please review the following list of our in-house equipment to better understand range of processing we can offer.

Numerical Controlled Punching & Plasma Burning

- 40 ton Whitney NC Punch with plasma
- 33 ton Amada Turret
- 40 ton Whitney 848 NC Punch 10' wide capacity x any length up to 1,000#'s 60" x 120" + repositioning
- 55 ton Amada Turret Punch with high definition plasma
- Whitney 40 ton 3700 NC Punch with high definition plasma & automatic tool changer 60" x 120"

High Speed Perforating Press

- 250 ton Wagner all across high speed perforating press up to 60" wide x 1/4" thick
- 250 ton Soenen all across high speed perforating press up to 60" wide x 1/4" thick

Miscellaneous Punch Presses

- 55 ton hydraulic iron worker 4 x 4 x 1/2" angle
- 30 ton Whitney Duplicator Punch

Welding

- Panasonic Robotic Welder
- MIG, TIG & manual electrode welding machines
- 60" throat 250 KVA Sciaky spot welder (3 phase)
- 24" throat 50 KVA spot welder

Drills

- 42" radial drill (10 HP) numerically controlled
- 15" drill presses
- 36" radial drill 5 HP

Saws

- 24" friction saw x 7'0
- 144" cut width abrasive saw
- 20" band saw
- 15" band saw cutoff
- 3 - 18" x 21" Marvel cutoff saws
- 36" cold saw
- milling cutoff saws

Shears

- 1/4" X 10' mechanical shear with sheet stacker
- 3/8" X 12' mechanical shear
- 1/4" X 10' mechanical shear with NC front gauging
- Pulmac circle shear - any diameter
- 3/16" x 48" hydraulic Wysong

Sheets & Plate Cylinder Rolls

- 1/4" X 5' plate roll
- 11 gauge x 3' sheet roll

Press Brakes

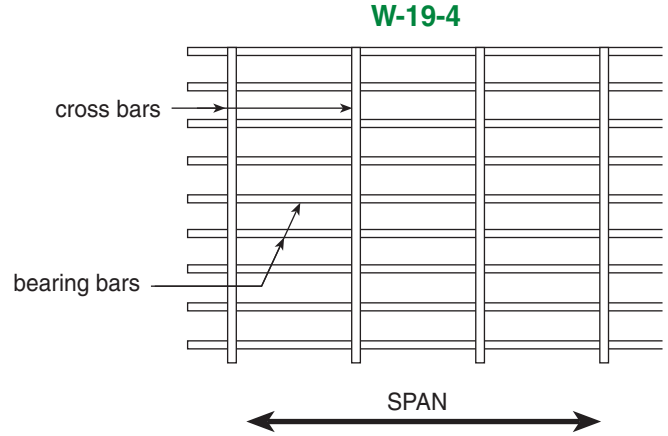
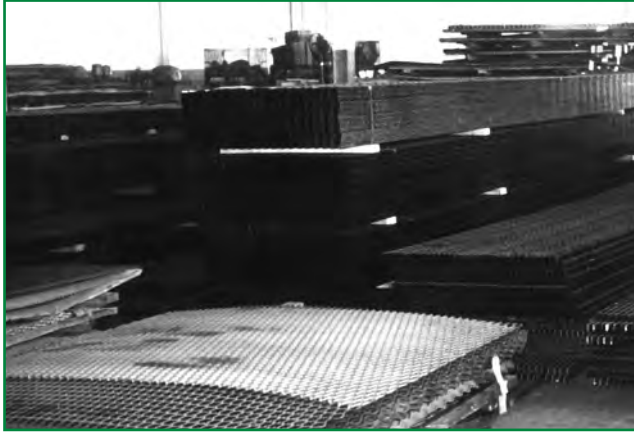
- 8'0" box & pan brake
- 150 ton 14' hydro-mechanical press brake with automatic back gauge
- 50 ton x 8' mechanical press brake
- 200 ton x 16' hydraulic press brake
- 170 ton 12'0" accurpress hydraulic press brake with auto gauge

Please contact Ametco for complete listing of fabricating capabilities.

Bar Grating



Bar grating is still the best choice for most heavy traffic, platforms and stair applications. Ametco stocks a wide assortment of “close” mesh and “square” mesh grating ready for immediate delivery. We can even take your plan’s dimensions and cut the grating to meet your exact requirements.



Stock Panels

Our ready-to-ship inventory includes standard panel sizes of 36" x 288" and 24" x 288". Standard bar sizes are 3/4" to 2-1/2" by 1/8" and 3/16" wide. See the following page for extra details on our bar grating.

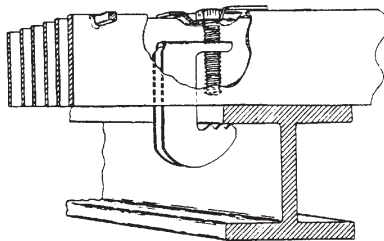


Fabricating Services

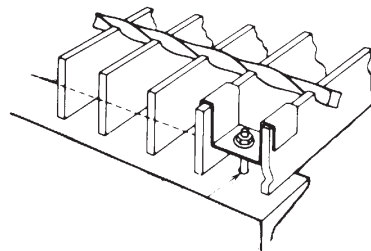
Manufacturing your custom designed bar grate platform is no problem. Simply submit an approved dimensional drawing to our sales department for a free estimate. Once fabricated, we lay out the entire platform on our plant floor and check the dimensions and obstructions against the original drawings for accuracy.

Fasteners

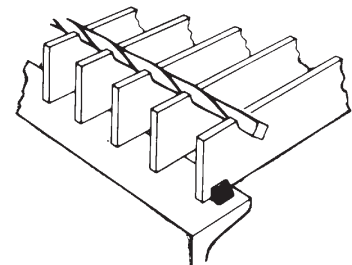
(Zinc Coated Steel)



Model GG – For Grating
Attachment to structural shapes. Available in galvanized or stainless steel.



DF-2 Special 10-11GA
For removable panels. Clips for 19-W bearing bar spacing in stock.
(Stud bolt, washer & nut supplied by others)



Track-Weld
Positive fastening method – grating is welded to supporting steel.

Bar Grating

Steel/Tru-Weld Grating Types



How Tru-Weld Grating is designated:

Example: **TYPE 19 - W - 4**

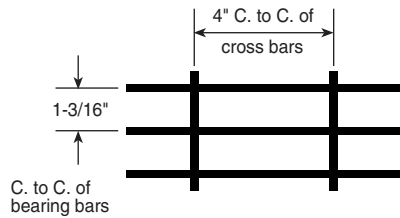
The first numerals designate number of sixteenths of an inch center to center of bearing bars.

The letter shows type of grating: W – Welded (Tru-Weld).

The second numeral designates center to center of cross bars in inches.

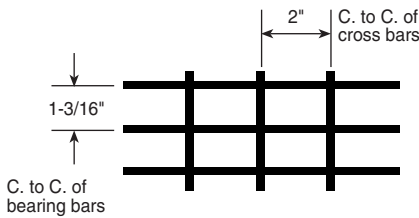
TYPE 19-W-4

Standard spacing recommended for all general flooring.



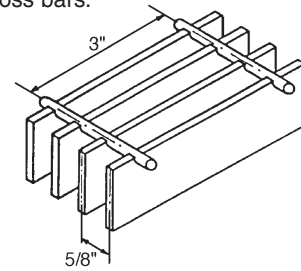
TYPE 19-W-2

Used where smaller openings are desired.



Close Mesh Grating

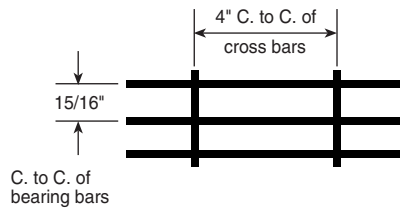
5/8" x 3" mesh of 3/4" by .079" deep main bars with electro-forge welded cross bars.



Stock panels: 34.9" x 157.5", 41.63" x 166"

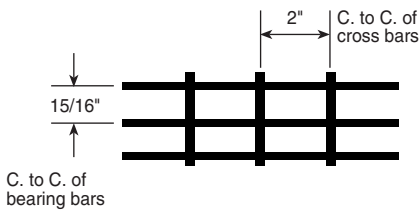
TYPE 15-W-4

Used where heavy loads are required



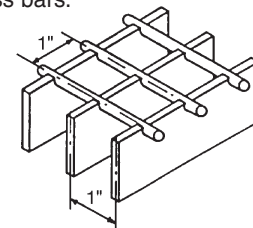
TYPE 15-W-2

Used where heavy loads and small openings are required.



Square Mesh Grating

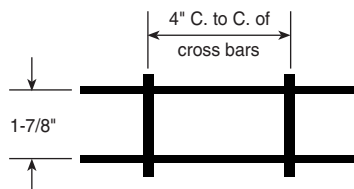
1" square mesh of 3/4" by .079" deep main bars with electro-forge welded cross bars.



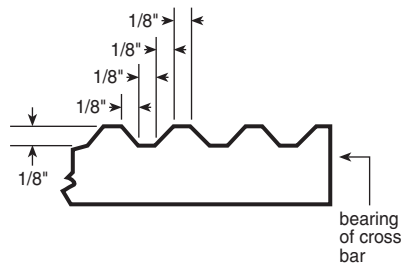
Stock panels: 46.25" x 167"

TYPE 30-W-4

Used where larger openings are desired.



Detail of Serration



BAR GRATING

Bar Grating

Load Table



This table is based on non-serrated rectangular grating with bearing bars on 1-3/16" centers. To determine safe loads for other types multiply by the following factor:

Type	15-W-4 & 15-W-2
Factor	1.25

Loads and deflections are based on a maximum allowable fiber stress of 18,000 P.S.I.

Bearing Bar Size	Load & Deflections	Span										
		2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	Span				
3/4" x 1/8"	U	386	247	172	126	96	76					
	D	.095	.151	.216	.295	.374	.486					
3/4" x 3/16"	C	386	308	258	220	194	171					
	D	.076	.119	.173	.234	.308	.389					
3/4" x 3/16"	U	578	370	258	188	144	115					
	D	.095	.151	.216	.295	.374	.486					
3/4" x 3/16"	C	578	462	386	331	289	257					
	D	.076	.119	.173	.234	.308	.389	5'-0"	5'-6"	6'-0"		
1" x 1/8"	U	686	439	304	224	171	135	109	91	76		
	D	.072	.111	.159	.219	.288	.366	.451	.547	.673		
1" x 1/8"	C	686	549	457	392	343	305	275	250	228		
	D	.057	.090	.129	.176	.231	.293	.360	.434	.518		
1" x 3/16"	U	1029	659	459	338	257	203	164	135	114		
	D	.072	.111	.159	.219	.288	.366	.451	.547	.673		
1" x 3/16"	C	1029	824	686	587	514	458	412	375	343		
	D	.057	.090	.129	.176	.231	.293	.360	.434	.518		
1" x 3/16"	U	1027	686	476	350	268	212	172	142	119	101	87
	D	.057	.090	.129	.176	.231	.291	.358	.433	.520	.608	.704
1" x 3/16"	C	1027	8-8	716	613	536	477	430	390	368	330	306
	D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487	.565
1-1/4" x 1/8"	U	1608	1028	716	526	403	318	258	213	179	152	131
	D	.057	.090	.129	.176	.231	.291	.358	.433	.520	.608	.704
1-1/4" x 1/8"	C	1608	1285	1073	918	803	716	644	585	536	495	459
	D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487	.565
1-1/4" x 1/8"	U	1608	1285	1073	918	803	716	644	585	536	495	459
	D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487	.565
1-1/4" x 3/16"	U	1608	1285	1073	918	803	716	644	585	536	495	459
	D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487	.565
1-1/4" x 3/16"	U	1608	1285	1073	918	803	716	644	585	536	495	459
	D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487	.565
1-1/2" x 1/8"	U	1544	987	686	505	387	306	248	205	172	149	128
	D	.047	.075	.106	.147	.192	.243	.300	.365	.433	.506	.587
1-1/2" x 1/8"	C	1544	1235	1029	883	772	687	619	563	515	475	441
	D	.038	.059	.087	.117	.154	.195	.241	.289	.347	.406	.470
1-1/2" x 1/8"	U	1544	1235	1029	883	772	687	619	563	515	475	441
	D	.038	.059	.087	.117	.154	.195	.241	.289	.347	.406	.470
1-1/2" x 3/16"	U	2321	1485	1031	758	581	458	371	307	260	222	191
	D	.047	.075	.106	.147	.192	.243	.300	.365	.433	.506	.587
1-1/2" x 3/16"	C	2321	1856	1547	1325	1159	1031	928	844	773	714	663
	D	.038	.059	.087	.117	.154	.195	.241	.289	.347	.406	.470
1-1/2" x 3/16"	U	2321	1856	1547	1325	1159	1031	928	844	773	714	663
	D	.038	.059	.087	.117	.154	.195	.241	.289	.347	.406	.470
1-3/4" x 1/8"	U	3151	2016	1401	1029	788	622	505	416	351	299	259
	D	.042	.064	.092	.126	.165	.208	.258	.310	.371	.435	.506
1-3/4" x 1/8"	C	3151	2521	2100	1800	1575	1400	1260	1145	1049	969	899
	D	.033	.052	.074	.101	.132	.167	.206	.249	.297	.347	.403
1-3/4" x 1/8"	U	3151	2521	2100	1800	1575	1400	1260	1145	1049	969	899
	D	.033	.052	.074	.101	.132	.167	.206	.249	.297	.347	.403
2" x 3/16"	U	4116	2633	1829	1344	1029	813	659	546	460	393	339
	D	.036	.056	.081	.111	.144	.183	.226	.273	.325	.384	.447
2" x 3/16"	C	4116	3292	2745	2351	2058	1828	1646	1496	1370	1266	1175
	D	.029	.045	.064	.088	.115	.145	.180	.217	.259	.303	.353
2-1/4" x 3/16"	U	5209	3332	2314	1670	1302	1028	835	689	583	496	428
	D	.032	.050	.072	.098	.127	.162	.199	.241	.287	.338	.393
2-1/4" x 3/16"	C	5209	4167	3473	2916	2604	2314	2082	1892	1733	1601	1487
	D	.026	.039	.057	.079	.102	.129	.160	.194	.230	.270	.314
2-1/2" x 3/16"	U	6432	4115	2858	2099	1609	1271	1029	850	720	613	529
	D	.028	.044	.064	.088	.116	.145	.180	.217	.260	.305	.354
2-1/2" x 3/16"	C	6432	5147	4286	3673	3214	2858	2571	2338	2141	1977	1836
	D	.023	.036	.051	.071	.092	.116	.144	.173	.207	.242	.282
2-1/2" x 3/16"	U	6432	5147	4286	3673	3214	2858	2571	2338	2141	1977	1836
	D	.023	.036	.051	.071	.092	.116	.144	.173	.207	.242	.282

- U** – safe uniform load in pounds per square foot
- C** – safe concentrated load in pounds per foot of width
- D** – deflection in inches

Spans in the shaded area are NOT RECOMMENDED.



Bar Grating

Stair Treads

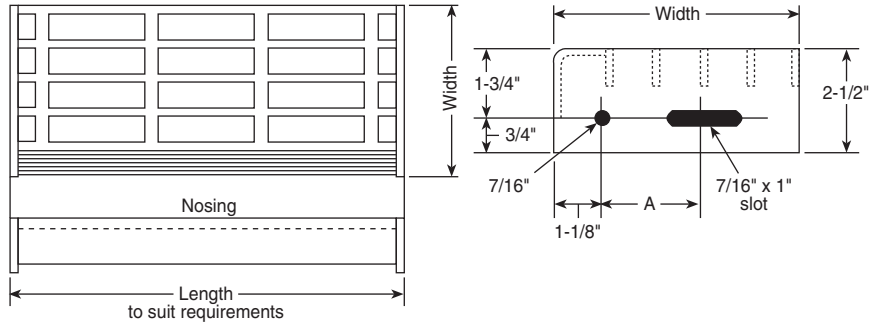
Our bar grate stair treads are designed with “nosings” on the face of each tread. This adds strength to the area of the stair with the highest concentration of load. The nosings, shown below, make each stair tread appear as an individual unit . . . an absolute must for safety.

Corrugated Nosing

Standard on aluminum grating tread.



Dimensions



Checked Plate Nosing

Standard with steel grating treads.



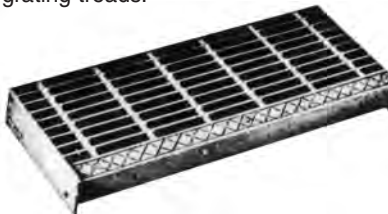
Recommended Bearing Bar Sizes

Maximum Length of Tread	Bearing Bar Size	
	Steel	Aluminum
2'-2"	3/4" x 3/16"	1" x 3/16" or 1" I-bar
2'-9"	1" x 3/16"	1-1/4" x 3/16" or 1-1/4" I-bar
3'-3"	1-1/4" x 3/16"	1-1/2" x 3/16" or 1-1/2" I-bar
4'-7"	1-1/2" x 3/16"	1-3/4" x 3/16" or 1-3/4" I-bar

TYPE W-19-4	
Width	A
5"	2-1/2"
6-3/16"	2-1/2"
7-3/8"	4-1/2"
8-9/16"	4-1/2"
9-3/4"	7"
10-15/16"	7"
12-1/8"	7"

Abrasive Nosing

Available with either steel or aluminum grating treads.



Eric Mitchell

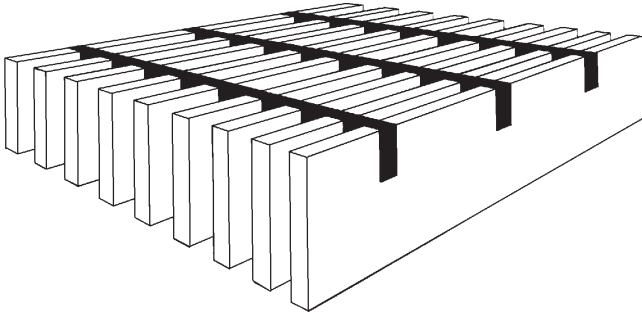
BAR GRATING

Bar Grating

Heavy-weld Bar Grating

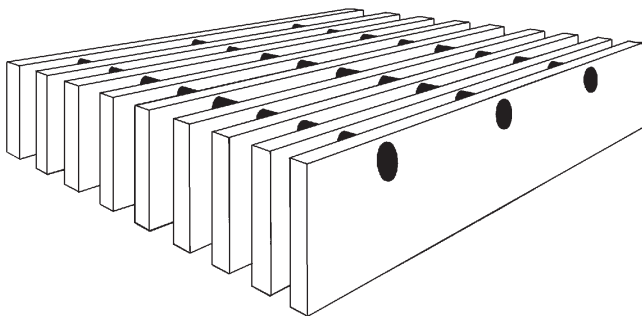


This heavy-weld grating can withstand almost anything you can throw at it. Standard and special types of heavy weld grating are capable of handling cars, trucks, lift trucks, and more. Be sure to specify the type of grating you need.



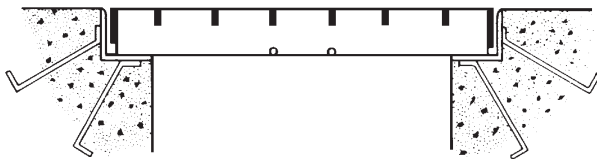
Standard Heavy-weld Grating

Designed with rectangular cross bars to give best possible surface for cars, trucks and lift trucks.

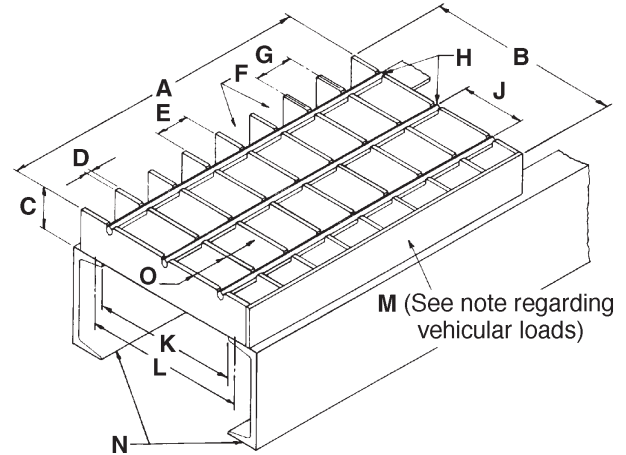


Special Heavy-weld Grating

Designed with round cross bars located below top surface of grating to make it impossible for cross bar to pull out even under high impact situations.



Trench Covers showing Heavy-Duty Grating with supplementary lower cross bars and end bending bars.



A = Panel Width. The dimension perpendicular to the Main Bars taken from the outside face of the first Main Bar to the outside face of the last Main Bar. Standard widths are derived from multiples of a standard center to center spacing of Main Bars (G) plus the thickness of one Main Bar (D). Maximum standard width in accordance with tables.

B = Panel Length. The dimension parallel to the span direction of the Main Bars including the thickness of the End-Banding (M) where applicable. This dimension can be satisfied without restriction as to standard length increments.

C = Main Bar Depth. Standard Main Bar depths available are 1-12", 1-3/4", 2", 2-1/4", 2-1/2", 3", 3-1/2", 4", 4-1/2", 5", 5-1/2", 6" and 7".

D = Main Bar Thickness. Standard Main Bar thicknesses are 1/4", 5/16", 1/2".

E = Clear Opening. The face to face dimension between Main Bars.

F = Open End. When the end of the panel is not closed by End-Banding.

G = Center to Center of Main Bars. Dimension varies with grating type.

H = Cross Bars. Standard cross bars are rectangular and in the special design, round.

J = Center to Center of Cross Bars. The standard dimension is 4".

K = Clear Span. The dimension toe to toe of supporting beam flanges or face to face opening between bearing surfaces.

L = Effective Span. This is the dimension used in design and referred to when specific grating Type and Main Bar size are recommended to sustain a given load on a particular Span. Center to center of support beams equals Effective Span plus 1/2 of one supporting flange width. Permissible Clear Span equals Effective Span minus 1/2 of one supporting flange width.

M = End-Banding. A flat bar welded to the ends of the Main Bars and furnished only when specified. End-Banding is recommended on any grating carrying vehicular loads but is mandatory only on grating panels carrying vehicular loads on short spans.

N = Grating Support Members. Provide others.

O = Main Bars. Load carrying members of the grating which govern the direction of panel strength and stiffness.

Aluminum Bar Grating

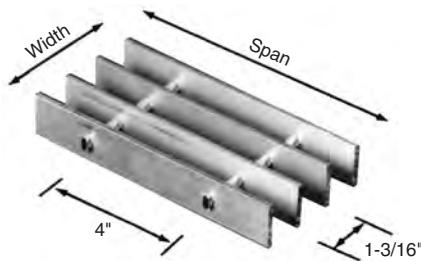
Rectangular Bar AG & I-Bar AGI Series



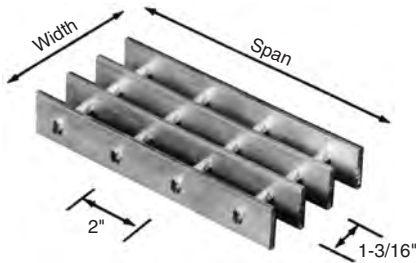
Rectangular Bar AG Series

The most widely used aluminum pressure locked grating is the Rectangular Bar AG Series. The square cross bars are assembled through punched diamond shaped holes in rectangular bearing bars, and are permanently locked in place by swaging. Bearing bar sizes range from 1" x 1/8" through 2-1/2" x 3/16" in 1/4" increments. A serrated surface can be specified for areas requiring slip resistance due to the presence of moisture. All popular bearing bar spacings, as well as cross bar spacings of 4" or 2" are available.

Plain Surface

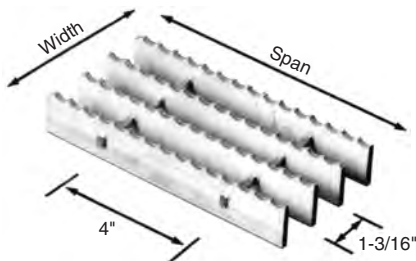


19AG4

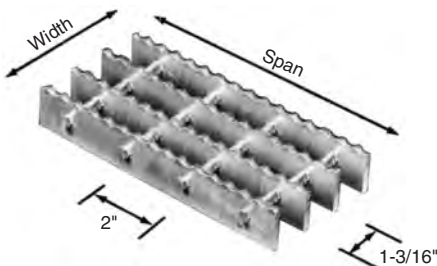


19AG2

Serrated Surface



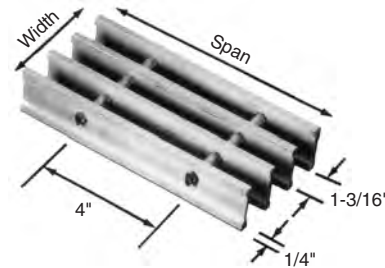
19AG4



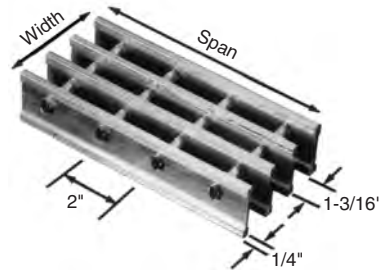
19AG2

I-Bar AGI Series

The I-Bar Series uses an extruded "I" shape as the main load bearing member. Square cross bars are assembled through punched diamond shaped holes in the web section of the I-Bar, and then permanently locked in place by swaging. Bearing bars range from 1" x 1/4" through 2-1/2" x 1/4" in 1/4" increments. Bearing bar spacings of 1-3/16" and 15/16" c.c. and cross bar spacings of 4" or 2" are available.



19AGI4



19AGI2

Where economy is a major consideration, the I-Bar AGI Series offers a popular and reasonably priced alternative to the Rectangular Bar Series of products. The I-Bar design takes advantage of the aluminum extrusion process by placing the metal where it is most effective – at the outermost fiber – while reducing the thickness of the neutral axis web. Extruded I-Bar sections have the same load carrying capacity with less weight per square foot than rectangular bars, thus resulting in a cost savings.

The striated top and bottom flanges provide a "built-in" skid resistance feature without the added cost of serrating.

Customer Service



Tena Martin
(Sales – 16 years)

ALUMINUM
BAR GRATING

Aluminum Bar Grating

Load Table



Bearing Bar Size	Wt., Lbs., SF*		Load & Deflections	Span											
	AG Series	AGI Series		2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"					
				U	D	C	D	U	D	C	D	U	D	C	D
1" x 1/8"	1.85	—	U	.458	.293	.203	.149	.114	.90	.73					
			D	.144	.225	.324	.441	.576	.728	.899					
1" x 3/16" or 1" I-Bar	2.65	2.13	U	.686	.439	.305	.224	.172	.136	.110					
			D	.144	.225	.324	.441	.576	.728	.899					
1-1/4" x 1/8"	2.25	—	U	.715	.458	.318	.233	.179	.141	.114	.94				
			D	.115	.180	.259	.351	.460	.581	.717	.866				
1-1/4" x 3/16" or 1-1/4" I-Bar	3.25	2.51	U	.1074	.687	.477	.350	.268	.212	.172	.142	.119			
			D	.115	.180	.259	.351	.460	.581	.717	.866	.695	.695		
1-1/2" x 1/8"	2.65	—	U	.1030	.659	.458	.336	.257	.203	.165	.136				
			D	.096	.150	.216	.294	.383	.485	.599	.724				
1-1/2" x 3/16" or 1-1/2" I-Bar	3.86	2.91	U	.1547	.990	.687	.505	.387	.306	.247	.204	.172	.146	.126	.97
			D	.096	.150	.216	.294	.383	.485	.599	.724	.861	1.012	1.174	1.542
1-3/4" x 3/16" or 1-3/4" I-Bar	4.48	3.29	U	.2105	1.347	.936	.687	.526	.416	.337	.278	.234	.199	.172	.132
			D	.082	.128	.185	.252	.329	.417	.515	.622	.741	.868	1.009	1.321
2" x 3/16" or 2" I-Bar	5.08	3.71	U	.2750	1.760	1.222	.898	.688	.543	.440	.364	.306	.260	.224	.172
			D	.072	.112	.162	.220	.288	.364	.450	.545	.649	.759	.880	1.153
2-1/4" x 3/16" or 2-1/4" I-Bar	5.69	4.06	U	.3480	2.227	1.547	1.136	.870	.687	.557	.460	.387	.330	.284	.218
			D	.064	.100	.144	.196	.256	.324	.400	.484	.577	.677	.784	1.027
2-1/2" x 3/16" or 2-1/2" I-Bar	6.29	4.49	U	.4297	2.750	1.910	1.403	1.074	.849	.687	.568	.477	.407	.351	.268
			D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.609	.706	.819
			C	.4297	3.437	2.684	2.455	2.148	1.910	1.719	1.562	1.432	1.322	1.228	1.074
			D	.046	.072	.104	.141	.184	.233	.288	.348	.415	.487	.565	.655

U – safe uniform load in pounds per square foot

C – safe concentrated load in pounds per foot of width

D – deflection in inches

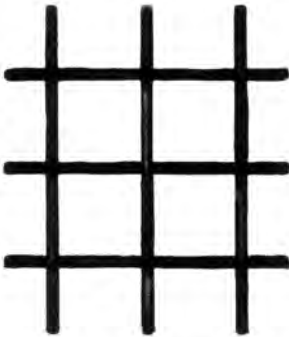
Loads and deflections given in this table are theoretical, and are based on a unit stress of 12,000 psi.

Spans in the shaded area are NOT RECOMMENDED.

Wire Cloth



We stock literally hundreds of items of wire mesh. Mesh is available in plain steel, coated steel, brass, bronze, aluminum, stainless steel, phosphor bronze, copper, monel, and nickel. Give us a call, we have the right type of wire mesh you looking for.



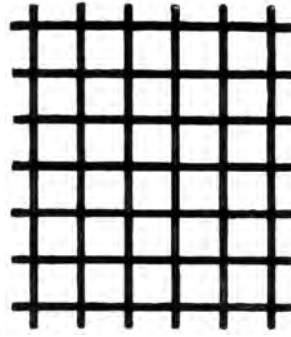
2 mesh

- opening .4375 in.
- .0625 in. dia. wire



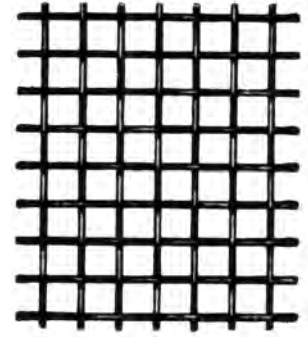
3 mesh

- opening .2793 in.
- .0540 in. dia. wire



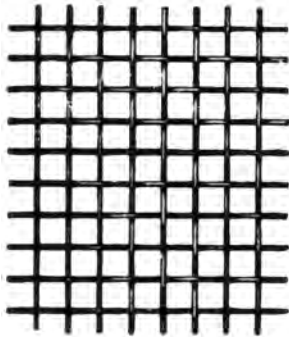
4 mesh

- opening .2025 in.
- .0475 in. dia. wire



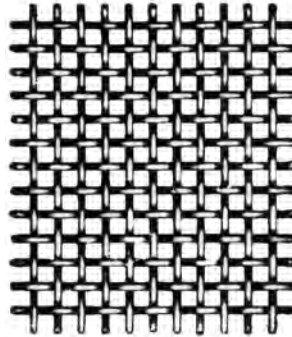
5 mesh

- opening .1590 in.
- .0410 in. dia. wire



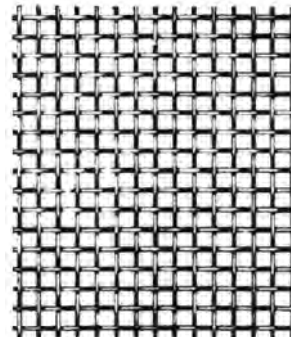
6 mesh

- opening .1318 in.
- .0348 in. dia. wire



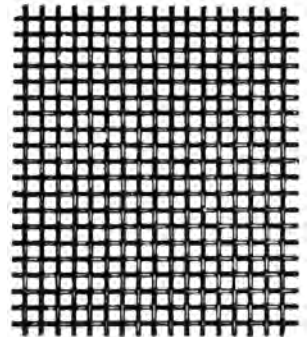
8 mesh

- opening .0775 in.
- .0475 in. dia. wire



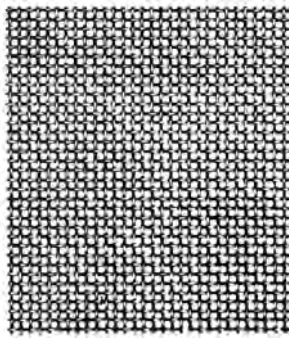
10 mesh

- opening .0742 in.
- .0258 in. dia. wire



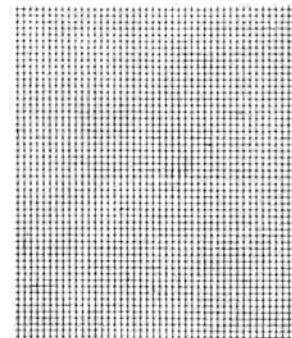
12 mesh

- opening .060 in.
- .0230 in. dia. wire



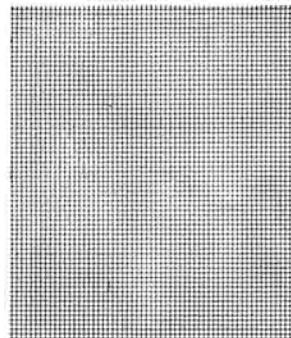
20 mesh

- opening .0338 in.
- .0162 in. dia. wire



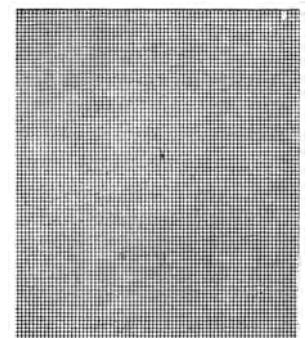
30 mesh

- opening .0229 in.
- .0104 in. dia. wire



40 mesh

- opening .0146 in.
- .0104 in. dia. wire



50 mesh

- opening .0120 in.
- .0080 in. dia. wire

WIRE CLOTH



Safety Grating

Safety-Grip and Diamond-Grip

We offer two types of safety grating products, Safety-Grip and Diamond-Grip. These safety grates are designed to provide a safe work environment under almost any industrial conditions. The different patterns offered allow you a choose the amount of open area for your specific needs.

Safety-Grip (Channel)



Pre-galvanized Steel

13 and 11 gauge

Aluminum 5052-H32

.125" thick to 18" wide

Stainless Type 316 2B

14 gauge to 12" wide

Hot Rolled P&O Steel

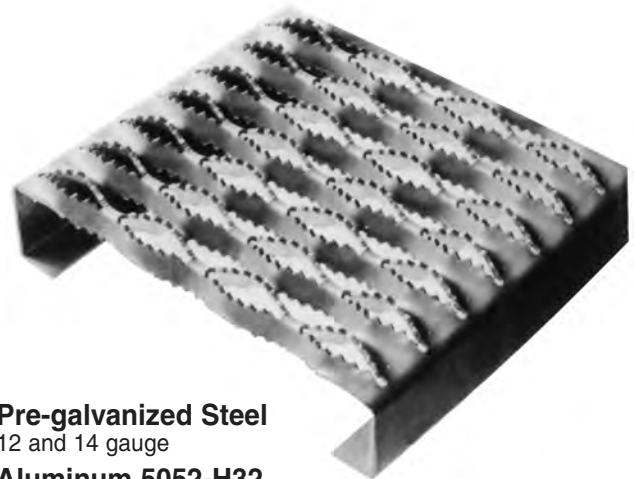
11 and 13 gauge available on special order.

Safety-Grip		
Width	Stock Length	Channel Height
5"	144"	1-1/2", 2"
7"	144"	1-1/2", 2"
10"	144"	1-1/2", 2"
12"	144"	1-1/2", 2"
18"	144"	1-1/2", 2"
24"	144"	2"
30"	144"	2"

Dimensional tolerances for Safety-Grip channels:

Width: $\pm 1/16"$ Length: $+1/2"$, $-1/4"$ Height: $\pm 1/16"$

Diamond-Grip (Channel)



Pre-galvanized Steel

12 and 14 gauge

Aluminum 5052-H32

.080" thick to 18-3/4" wide

Stainless Type 304 2B

16 gauge to 12" wide on special order

Hot Rolled P&O Steel

12 and 14 gauge available on special order.

Diamond-Grip		
Width	Stock Length	Channel Height
4-3/4"	144"	1-1/2", 2"
7"	144"	1-1/2", 2"
9-1/2"	144"	1-1/2", 2"
11-3/4"	144"	1-1/2", 2"
18-3/4"	144"	1-1/2", 2"
24"	144"	1-1/2", 2"

Dimensional tolerances for Diamond-Grip channels:

Width: $\pm 1/16"$ Height: $\pm 1/16"$
 Length: 8 & 10 ft.: $+1-1/2"$, $-1/4"$; 12 ft.: $+1/2"$, $-1/4"$

For our detailed Load / Deflection Tables booklet, call our sales department at 1-800-321-7042.



Safety Grating

Safety-Tread, Safety Rungs, Safety Stairs



Safety-Tread

This is the ideal safety surface for pedestrian traffic. Safety-Tread's raised perforated surface is equally suited for women in heels as it is for men in work boots. The perforations drain spillage, and break oil film from forming on the gripping edges.

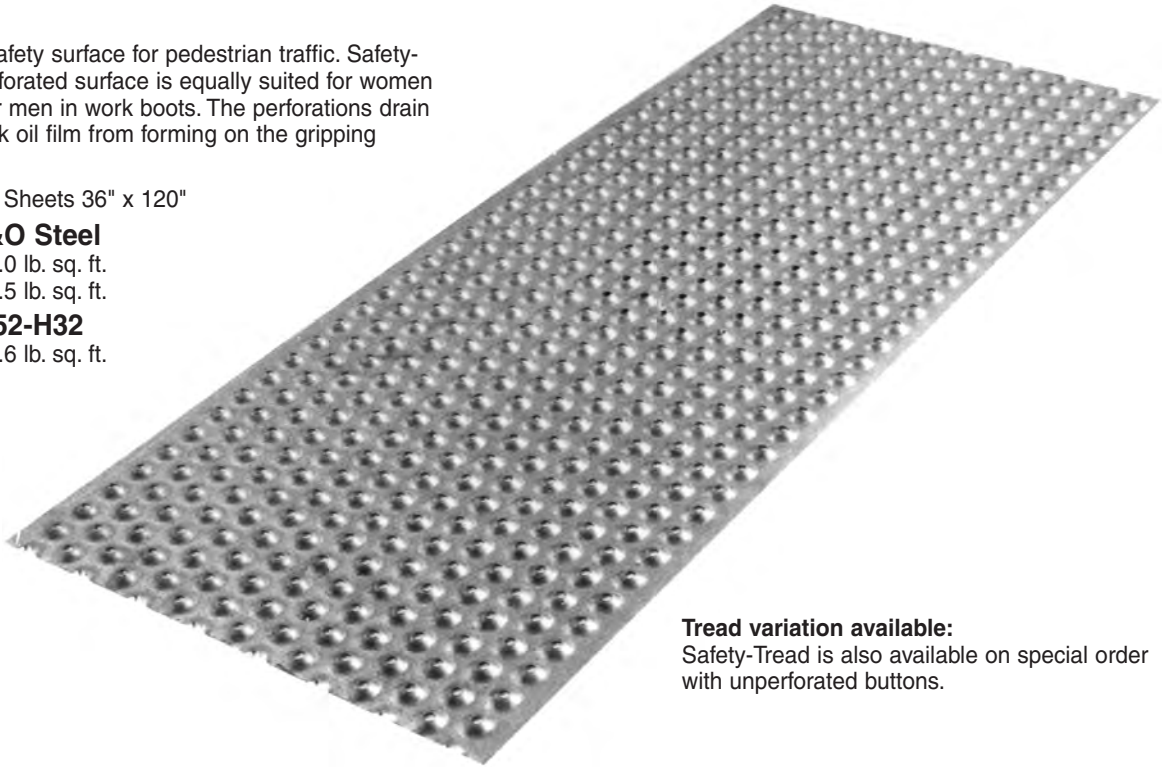
■ Standard Stock Sheets 36" x 120"

Hot Rolled P&O Steel

11 gauge 5.0 lb. sq. ft.
16 gauge 2.5 lb. sq. ft.

Aluminum 5052-H32

.125" thick 1.6 lb. sq. ft.



Tread variation available:

Safety-Tread is also available on special order with unperforated buttons.

Safety Rungs

Safety rungs use the same raised perforations as in the safety-tread product, only it is specifically designed for ladder rungs. The rungs can be ordered in two, three, and four hole patterns. Ideal for industrial environments.

Hot Rolled P&O Steel

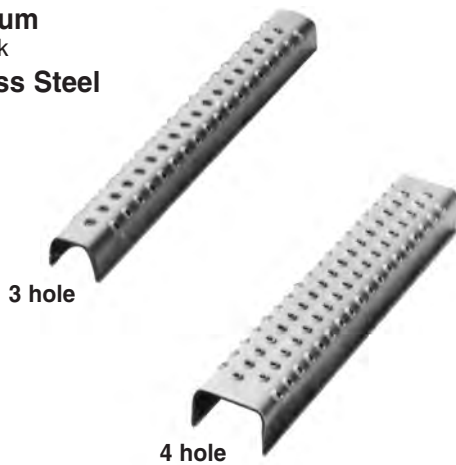
13 gauge

Aluminum

.125" thick

Stainless Steel

14 gauge



Safety Stairs

These pre-galvanized safety-grip and diamond-grip stair treads ship complete with end caps. These treads are ready to install upon delivery.



Diamond-Grip

(Standard Stock Stair Treads)
Pre-galvanized 14 or 12 gauge steel



Safety-Grip

(Standard Stock Stair Treads)
Pre-galvanized 13 or 11 gauge steel

Type	Width	Height	Weight Per Foot		
			H. R. P&O	Alum.	S. S.
3 hole	1-5/8"	1-1/8"	1.3#	.5#	.6#
4 hole	2-1/4"	1-1/2"	1.5#	.7#	1.0#

• Quantity orders – special length available.

SAFETY GRATING



The Manufacturer

Flexible manufacturing of perforated metals and plastics is the hallmark of Ametco's business. We stock all types of metal sheets, gauges, and hole patterns for immediate delivery. Our sophisticated presses knock out short run custom design patterns to meet most any need. We've been producing different forms of bar grating and steel mesh for over 30 years.

The Fabricator

Our fabricating shop builds finished products and parts to meet your needs. Starting with a perforated metal and plastic, expanded metal, grating or plain sheet metal, Ametco employs a myriad of different operations to complete your project.

The Distributor

A full service stocking program on a wide range of metal, plastic, and fiberglass products, positions us to provide immediate delivery from our warehouse. Our ready-to-ship program keeps your projects on time! Give us a call on your next order . . . you'll be glad you did.

Call toll free: 1-800-321-7042 ■ In Ohio: 1-800-362-1360

Ametco Manufacturing Corp.

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