



GRATINGS

Walkways & Stairtreads



NILES EXPANDED METALS & PLASTICS

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GRATING

Stairtreads and Catwalks are heavy duty types of expanded metal made from carbon steel, aluminum, stainless steel and other alloys. They are safety oriented, lightweight and open in design which makes them ideal for use in a multitude of commercial and industrial applications. In addition to the regular grating products, we also manufacture Projection Mesh Safety Grating.



Projection Mesh, made from either carbon steel or aluminum (XL-Trac) are distinctively designed expanded metal safety grating products. They have tooth-like projections on the upper surface of the design which provide an excellent non-slip surface where a safer walking and working surface is needed.

Designed and offered for light to moderate loads, Projection Mesh and XL-Trac are great alternatives for use on industrial platforms, walkways, maintenance stands and stair treads.



ADVANTAGES OF GRATING

AVAILABILITY:

Extensive inventory of stock sizes, and we are able to produce and ship your order when you need it.

HIGH STRENGTH

The unique design makes our Grating lighter and stronger than the original material from which it was made and distributes all loads uniformly in many directions.

OPEN AREA & MAINTENANCE

The open design allows visibility, protection for people and equipment and permits an almost free passage of heat, light and air. Always neat and practically self-cleaning; snow, water and oil drain off easily due to its unique design characteristics.

SAFETY

The open diamond and network of ridges offers an excellent nonslip surface where safe and sure footing is desired under the most adverse of conditions inside and out.

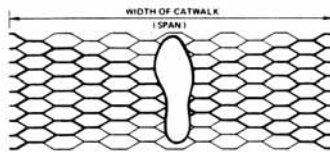
ECONOMICAL

Installation of larger sheet sizes, high strength, lightweight and a variety of styles and sizes means less cost than conventional types of gratings.

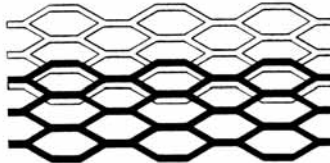
FABRICATION AND INSTALLATION

Fabricating on the job can be completed with less direct labor and common cutting tools. Installation is easy and allows you to move the finished material into structures that are almost complete.

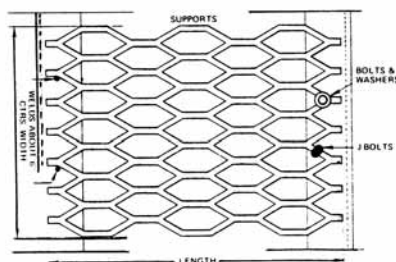
1. For maximum load, position long way of design parallel to the clear span. Diagram illustrates how load stresses are distributed through the strands of Catwalk. Note LWD must be installed parallel to span.



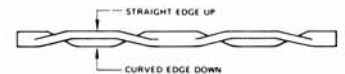
2. Butt or overlap one-half of design (no increase on overall thickness).



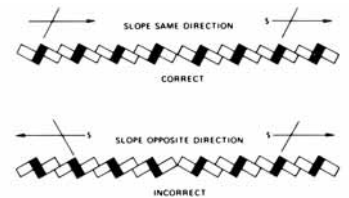
3. Bolt or weld every 6" or every fourth design to rigid supports.



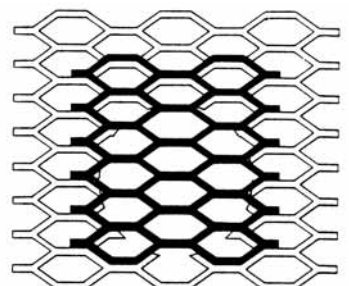
4. Install with straight edge up. The grating has a top (straight edge) and a bottom (rounded edge).



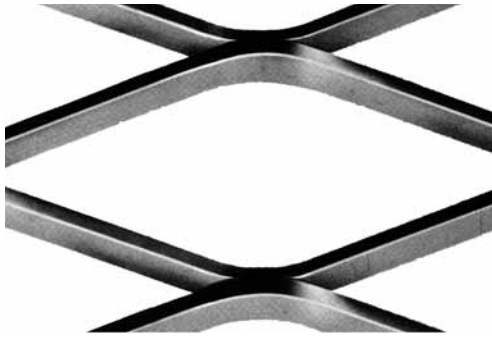
5. Bonds of adjoining sheets should slope in same direction and align adjoining pieces.



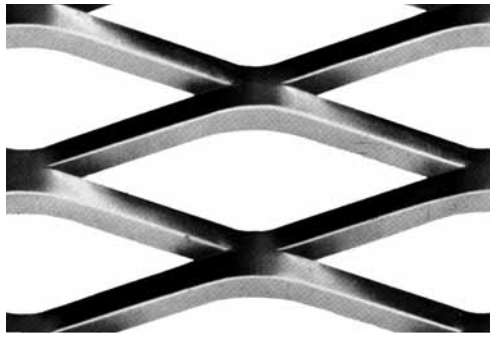
6. Grating cut-outs for access may be covered with no change in overall thickness of top surface.



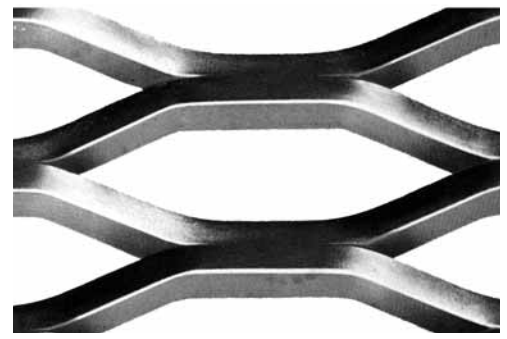
GRATING PATTERNS



3.14# GRATING
Same configuration
for 3.3#
STAINLESS GRATING



4.27# GRATING
Same configuration
for 4.5#
STAINLESS GRATING



7# GRATING
Same configuration
for 3.0#, 4.0#, 5.0#, 6.25# CARBON
and 2.0# ALUMINUM GRATINGS

CARBON STEEL GRATING

| Style | Lbs. Per 100 Sq. Ft. | | Standard Sheet Size (Feet) | | Design Size (Inches) | | Opening Size (Inches) | | Size of Strands In Inches | | Overall Thickness Inches | No. of Designs Per Foot | | Percent Open Area |
|----------|----------------------|-----------|----------------------------|------------|----------------------|-------|-----------------------|-------|---------------------------|-----------|--------------------------|-------------------------|-------|-------------------|
| | Plain | Galv. Wt. | Width SWD | Length LWD | SWD | LWD | SWO | LWO | Width | Thickness | | SWD | LWD | |
| 3 lb. | 300 | 3.15 | 4 & 6 | 8 & 10 | 1.330 | 5.330 | 0.940 | 3.440 | 0.264 | 0.183 | 0.540 | 9.0 | 2.250 | 60 |
| 3.14 lb. | 314 | 3.30 | 4 & 6 | 8 & 10 | 2.000 | 6.000 | 1.625 | 4.880 | 0.312 | 0.250 | 0.656 | 6.0 | 2.000 | 69 |
| 4 lb. | 400 | 4.18 | 4 & 6 | 8 & 10 | 1.330 | 5.330 | 0.940 | 3.440 | 0.300 | 0.215 | 0.618 | 9.0 | 2.250 | 55 |
| 4.27 lb. | 427 | 4.46 | 4 & 6 | 8 & 10 | 1.410 | 4.000 | 1.000 | 2.880 | 0.300 | 0.250 | 0.625 | 8.5 | 3.00 | 58 |
| 5 lb. | 500 | 5.20 | 4 & 6 | 8 & 10 | 1.330 | 5.330 | 0.813 | 3.380 | 0.331 | 0.250 | 0.655 | 9.0 | 2.250 | 50 |
| 6.25 lb. | 625 | 6.47 | 4 & 6 | 8 & 10 | 1.410 | 5.330 | 0.813 | 3.380 | 0.350 | 0.312 | 0.715 | 8.5 | 2.250 | 50 |
| 7 lb. | 700 | 7.25 | 4 & 6 | 8 & 10 | 1.410 | 5.330 | 0.813 | 3.380 | 0.391 | 0.312 | 0.740 | 8.5 | 2.250 | 45 |

Aluminum 5052 H-32 - Grating

| Style | Lbs. Per 100 Sq. Ft. | | Standard Sheet Size (Feet) | | Design Size (Inches) | | Opening Size (Inches) | | Strand Size (Inches) | | Overall Thickness | No. of Designs Per Sq. Foot | | Percent Open Area |
|----------|----------------------|----|----------------------------|------------|----------------------|------|-----------------------|------|----------------------|-----------|-------------------|-----------------------------|------|-------------------|
| | Plain | -- | Width SWD | Length LWD | SWD | LWD | SWO | LWO | Width | Thickness | | SWD | LWD | |
| 2.0 lbs. | 2.0 | -- | 4 | 8 | 1.33 | 5.33 | .940 | 3.44 | .387 | .250 | .730 | 9 | 2.25 | 48 |
| | | | 5 | 10 & 12 | | | | | | | | | | |

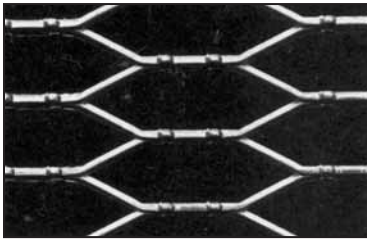
Stainless 304 - Grating

| Style | Lbs. Per 100 Sq. Ft. | | Standard Sheet Size (Feet) | | Design Size (Inches) | | Opening Size (Inches) | | Strand Size (Inches) | | Overall Thickness | No. of Designs Per Sq. Foot | | Percent Open Area |
|----------|----------------------|----|----------------------------|------------|----------------------|-----|-----------------------|------|----------------------|-----------------|-------------------|-----------------------------|-----|-------------------|
| | Plain | -- | Width SWD | Length LWD | SWD | LWD | SWO | LWO | Width | Thickness Gauge | | SWD | LWD | |
| 3.3 lbs. | 3.3 | -- | 4 | 10 | 2.00 | 6.0 | 1.625 | 4.88 | .312 | .250 | .656 | 6 | 2 | 69 |
| 4.5 lbs. | 4.5 | -- | 4 | 10 | 1.41 | 4.0 | 1.000 | 2.88 | .300 | .250 | .625 | 8.5 | 3 | 58 |

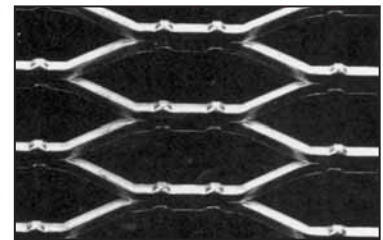
All weights, gauges and dimensions are approximate.

PROJECTION MESH - CARBON STEEL

| Projection Mesh - Carbon Steel | | | | | | | | | | | | | | |
|--------------------------------|------------------|-----------|------------------------------|------------|----------------------|------|-----------------------|------|----------------------|-----------------|-------------------|-----------------------------|-----|-------------------|
| Style | Lbs. Per Sq. Ft. | | Standard Sheet Size (Inches) | | Design Size (Inches) | | Opening Size (Inches) | | Strand Size (Inches) | | Overall Thickness | No. of Designs Per Sq. Foot | | Percent Open Area |
| | Plain | Galv. Wt. | Width SWD | Length LWD | SWD | LWD | SWO | LWO | Width | Thickness Gauge | | SWD | LWD | |
| 1.87 lbs. | 187 | 196 | 48 | 100 | 1.13 | 5.00 | .880 | 3.19 | .187 | .135 | .438 | 10.6 | 2.4 | 67 |
| 3.0 lbs. | 300 | 315 | Special Order | | 1.13 | 5.00 | .750 | 3.12 | .250 | .160 | .625 | 10.6 | 2.4 | 56 |



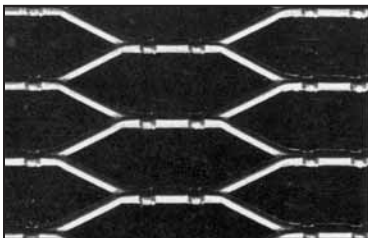
1.87 LB. PROJECTION MESH



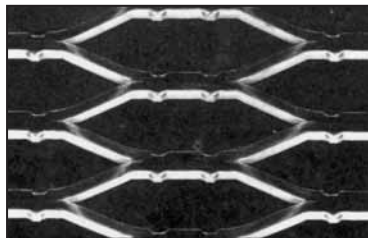
3.0 LB. PROJECTION MESH

PROJECTION MESH - ALUMINUM

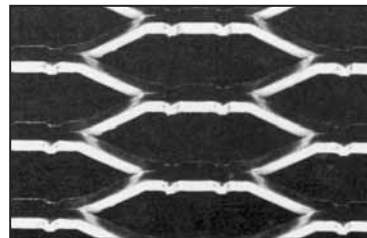
| Projection Mesh - Aluminum | | | | | | | | | | | | | |
|----------------------------|------------------|----------------------------|----------------------|------|-----------------------|------|--------------------------|-----------|----------------------------|-------------------------|-----|-------------------|--|
| Style | Lbs. Per Sq. Ft. | Standard Sheet Size (Feet) | Design Size (Inches) | | Opening Size (Inches) | | Size of Strands (Inches) | | Overall Thickness (Inches) | No. of Designs Per Foot | | Percent Open Area | |
| | | | SWD | LWD | SWO | LWO | Width | Thickness | | SWD | LWD | | |
| | Aluminum | | | | | | | | | | | | |
| XL-100-A | 100 | Special Order | 1.13 | 5.00 | .855 | 3.12 | .250 | .160 | .550 | 10.6 | 2.4 | 54 | |
| XL-125-A | 125 | Special Order | 1.13 | 5.00 | .825 | 3.12 | .270 | .190 | .562 | 10.6 | 2.4 | 50 | |
| XL-150-A | 150 | Special Order | 1.30 | 5.00 | .760 | 3.12 | .270 | .250 | .650 | 10.6 | 2.4 | 60 | |
| XL-190-A | 190 | Special Order | 1.35 | 5.00 | .770 | 3.12 | .360 | .250 | .810 | 8.5 | 2.4 | 46 | |



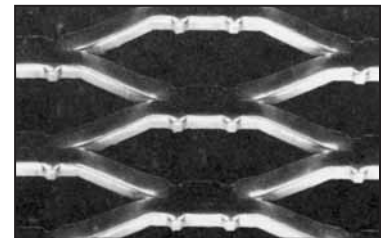
XL-100-A



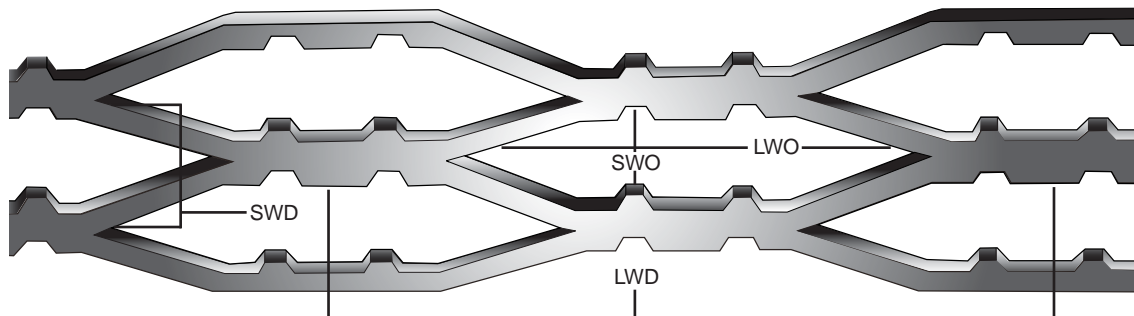
XL-125-A



XL-150-A



XL-190-A



CARBON STEEL PROJECTION MESH LOAD TABLES

| Style | Load Condition | Span (inches) | Load Pounds - Deflection in inches | | | | | | | |
|-------|----------------|---------------|------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | | | 50 lbs. | 100 lbs. | 150 lbs. | 200 lbs. | 250 lbs. | 300 lbs. | 350 lbs. | 400 lbs. |
| 1.87 | U | 12 | .01 | .02 | .03 | .04 | .05 | .06 | .09 | .11 |
| | C | | .01 | .02 | .03 | .04 | .05 | .07 | | |
| | U | 18 | .04 | .08 | .12 | .16 | .20 | .24 | .30 | |
| | C | | .04 | .09 | .14 | .20 | .24 | .29 | | |
| | U | 24 | .10 | .22 | .35 | | | | | |
| | C | | .12 | .25 | .37 | | | | | |
| U | 30 | .22 | .40 | | | | | | | |
| C | | .29 | | | | | | | | |

| Style | Load Condition | Span (inches) | Load Pounds - Deflection in inches | | | | | | | |
|-------|----------------|---------------|------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | | | 50 lbs. | 100 lbs. | 150 lbs. | 200 lbs. | 250 lbs. | 300 lbs. | 350 lbs. | 400 lbs. |
| 3.0 | U | 18 | .01 | .03 | .05 | .07 | .09 | .12 | .16 | .19 |
| | C | | .02 | .03 | .05 | .07 | .10 | .13 | .16 | .20 |
| | U | 24 | .04 | .09 | .14 | .20 | .27 | .34 | | |
| | C | | .05 | .10 | .16 | .25 | | | | |
| | U | 30 | .08 | .17 | .30 | | | | | |
| | C | | .12 | .25 | | | | | | |
| U | 36 | .16 | .32 | | | | | | | |
| C | | | | | | | | | | |

ALUMINUM PROJECTION MESH LOAD TABLES

| Style | Load Condition | Span (inches) | Load Pounds - Deflection in inches | | | | | | | |
|----------|----------------|---------------|------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | | | 50 lbs. | 100 lbs. | 150 lbs. | 200 lbs. | 250 lbs. | 300 lbs. | 350 lbs. | 400 lbs. |
| XL-100-A | U | 12 | .008 | .019 | .030 | .043 | .054 | .066 | | |
| | C | | .041 | .064 | .085 | .105 | .126 | .141 | | |
| | U | 18 | .011 | .025 | .040 | .061 | .089 | .180 | .135 | |
| | C | | .128 | .166 | .227 | .273 | .306 | .365 | .406 | |
| | U | 24 | .025 | .075 | .140 | .213 | | | | |
| | C | | .180 | .342 | .495 | .694 | | | | |
| U | 30 | .037 | .210 | .460 | | | | | | |
| C | | .295 | .566 | .787 | | | | | | |

| Style | Load Condition | Span (inches) | Load Pounds - Deflection in inches | | | | | | | |
|----------|----------------|---------------|------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | | | 50 lbs. | 100 lbs. | 150 lbs. | 200 lbs. | 250 lbs. | 300 lbs. | 350 lbs. | 400 lbs. |
| XL-125-A | U | 12 | .005 | .007 | .009 | .012 | .015 | .018 | | |
| | C | | .050 | .075 | .095 | .108 | .124 | .134 | | |
| | U | 18 | .009 | .022 | .038 | .055 | .081 | .103 | .124 | |
| | C | | .052 | .093 | .123 | .154 | .186 | .211 | .246 | |
| | U | 24 | .020 | .071 | .131 | .209 | .315 | | | |
| | C | | .124 | .249 | .345 | .474 | .592 | | | |
| U | 31 | .020 | .045 | .080 | .200 | | | | | |
| C | | .220 | .416 | .615 | .715 | | | | | |

| Style | Load Condition | Span (inches) | Load Pounds - Deflection in inches | | | | | | | |
|----------|----------------|---------------|------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | | | 50 lbs. | 100 lbs. | 150 lbs. | 200 lbs. | 250 lbs. | 300 lbs. | 350 lbs. | 400 lbs. |
| XL-150-A | U | 18 | .019 | .041 | .057 | .081 | .090 | .102 | .114 | |
| | C | | .080 | .127 | .167 | .209 | .246 | .282 | .282 | .302 |
| | U | 24 | .025 | .060 | .092 | .140 | .191 | .290 | | |
| | C | | .236 | .332 | .435 | .503 | .593 | .681 | | |
| | U | 30 | .028 | .071 | .104 | .182 | .210 | .334 | | |
| | C | | .255 | .359 | .511 | .654 | .790 | .939 | | |
| U | 36 | .030 | .190 | .400 | | | | | | |
| C | | .350 | .626 | .946 | | | | | | |

| Style | Load Condition | Span (inches) | Load Pounds - Deflection in inches | | | | | | | |
|----------|----------------|---------------|------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | | | 50 lbs. | 100 lbs. | 150 lbs. | 200 lbs. | 250 lbs. | 300 lbs. | 350 lbs. | 400 lbs. |
| XL-190-A | U | 18 | .011 | .028 | .045 | .062 | .077 | .089 | .098 | |
| | C | | .046 | .081 | .112 | .133 | .160 | .180 | .206 | |
| | U | 24 | .015 | .049 | .084 | .121 | .148 | .162 | .185 | |
| | C | | .052 | .117 | .167 | .217 | .267 | .315 | .380 | |
| | U | 30 | .019 | .055 | .098 | .161 | .189 | .210 | | |
| | C | | .096 | .181 | .260 | .342 | .429 | .505 | | |
| U | 36 | .022 | .133 | .260 | .390 | .520 | | | | |
| C | | .240 | .392 | .562 | .712 | .885 | | | | |

CARBON STEEL

| STYLE (LB. PER SQ. FT) | FIXED SPAN | | | |
|---------------------------|------------|------|------|------|
| | | 24" | 36" | 48" |
| 3 | U | .275 | .100 | |
| | D | .250 | .220 | |
| | C | .275 | .165 | .075 |
| | D | .250 | .250 | .250 |
| 3.14 | U | .375 | .150 | .050 |
| | D | .250 | .240 | .250 |
| | C | .375 | .155 | .075 |
| | D | .250 | .250 | .250 |
| 4 | U | .350 | .150 | .050 |
| | D | .240 | .245 | .250 |
| | C | .440 | .220 | .100 |
| | D | .250 | .250 | .250 |
| 4.27 | U | .500 | .165 | .060 |
| | D | .245 | .245 | .250 |
| | C | .400 | .225 | .100 |
| | D | .250 | .240 | .250 |
| 5 | U | .600 | .175 | .100 |
| | D | .240 | .240 | .250 |
| | C | .540 | .310 | .140 |
| | D | .245 | .250 | .250 |
| 6.25 | U | .800 | .300 | .115 |
| | D | .220 | .250 | .240 |
| | C | .800 | .300 | .150 |
| | D | .220 | .240 | .240 |
| 7 | U | .800 | .400 | .165 |
| | D | .210 | .250 | .240 |
| | C | .800 | .350 | .175 |
| | D | .220 | .240 | .250 |

ALUMINUM

| | | | | |
|-----|---|------|------|------|
| 2.0 | C | .250 | .100 | .050 |
| | D | .250 | .250 | .250 |

STAINLESS STEEL

| | | | | |
|------|---|------|------|------|
| 3.30 | C | -- | .150 | .050 |
| | D | -- | .197 | .135 |
| 4.50 | C | .300 | .150 | .100 |
| | D | .217 | .192 | .212 |

CARBON STEEL

| STYLE (LB. PER SQ. FT) | FREE SPAN | | | |
|---------------------------|-----------|------|------|------|
| | | 24" | 36" | 48" |
| 3 | C | .100 | .050 | .050 |
| | D | .177 | .402 | .515 |
| 3.14 | C | .200 | .100 | .050 |
| | D | .255 | .583 | .275 |
| 4 | C | .200 | .100 | .050 |
| | D | .237 | .491 | .615 |
| 4.27 | C | .200 | .100 | .050 |
| | D | .223 | .217 | .330 |
| 5 | C | .350 | .100 | .050 |
| | D | .240 | .408 | .372 |
| 6.25 | C | .400 | .100 | .050 |
| | D | .249 | .247 | .270 |
| 7 | C | .400 | .100 | .075 |
| | D | .245 | .260 | .250 |

ALUMINUM

| | | | | |
|---|---|------|------|----|
| 2 | C | .150 | .050 | -- |
| | D | .231 | .257 | -- |

STAINLESS STEEL

| | | | | |
|------|---|------|------|------|
| 3.30 | C | .150 | .050 | -- |
| | D | .248 | .300 | -- |
| 4.50 | C | .150 | .050 | .050 |
| | D | .210 | .244 | .600 |