



The Hendrick motto is proudly displayed in the lobby of Hendrick Manufacturing in Carbondale, PA.

The Hendrick Motto:

"Do the right thing,"
was coined by Michael L. Drake during his
tenure as president of the Hendrick
Companies. It inspires every employee to
do their best, be honest, respectful, and
to interact with others with integrity. It
embodies Hendrick's commitment to our
customers, vendors and employees
to always do the right thing.

YOUR PERFORATION AND FABRICATION EXPERTS

Since 1876, Hendrick has been innovating perforated metal solutions for a wide range of industries. Our expertise is unparalleled in the industry. The broad based knowledge that comes from working with multiple industries gives us a unique perspective on the latest manufacturing technologies and applications.

Our capabilities go way beyond perforation. We offer an array of high-tech fabrication options that can eliminate labor, time, and provide cost-savings for your completed assembly. Plus, our extensive range of services go one step further with partial to complete turn-key contract assembly operations.



With three ISO 9001 certified manufacturing locations, we can provide manufacturing flexibility to get product to you faster with minimized shipping costs. Plus, our large material inventory provides shortened lead times.

Why Hendrick



What makes Hendrick a Reliable Supplier?

Inception Date

1876

Over 140 years of perforating and fabrication experience, providing quality you can trust.

Raw Material

30_{m+}

In annual purchases. This purchasing power assures you access to metal during shortages.

Industries Served

20+

Hendrick's depth of experience assures that you get products that match your needs.

Customer Satisfaction Score

95%

Based on 503 completed surveys between 2016 and 2018.

Average Employee Tenure

10 Years

Offering you knowledge and experience for excellent quality and service.

Perforated Manufacturing Locations

2 Facilities

Localized shipping from Carbondale, PA or Elgin, IL can save you shipping costs. **Equipment Reinvestment Rate**

30%

Hendrick's commitment to maintaining the latest technology in equipment.

ISO 9000 Certification

2015

Hendrick's built-in Quality and Lean approach assures you'll get <u>satisfa</u>ction with every order.

Perforating Patterns

2000+

In addition to our existing library of options, we can work with you to design a custom pattern.

Other Benefits

Flexible Supply Chain

- Vendor managed inventory
- Kanban
- Consignment raw material or finished product
- ·JIT
- · Blanket order contracts
- Toll processing

Financial Strength

- Disciplined cost focus
- Solid operating results

Vertical Integration

- In-house tooling capabilities (design and manufacturing)
- In-house punch manufacturing

Lean Committed

- · Dedicated lean resources
- Continuous, best practice lean events company-wide

Family Owned

- · Privately held
- Nimble-quick decisions

Hendrick METAL PRODUCTS

Capabilities

Engineering and design support services

From basic projects, to those requiring complex and challenging solutions, Hendrick provides quality driven design assistance. We promote collaboration with our customers' engineers at each stage in the product life cycle.

Services include:

- Prototyping and production engineering support
- Revision control and product data management throughout the production cvcle
- Design assistance for manufacturability and cost savings



Design and value engineering assistance is offered, providing a cost-effective approach to production.

Drafting Software

Solidworks Professional 2018

- Creating 3-D Part and Assembly Models
- Part Fitment Verification
- Creating Technical Drawings for use in Production
- Outputting Flat Patterns for Punching and Laser Cutting
- Determining Weight of Raw Material and Finished Products

AutoCAD 2018

- Creating 2-D Part and Assembly Drawings
- Creating Technical Drawings for use in Production
- Creating Flat Patterns for Punching and **Laser Cutting**
- Perforation Tooling Design

All Hendrick Services

Capabilities

Hendrick METAL PRODUCTS

Material options

We maintain a large inventory of popular raw materials in stock, in both sheets and coils, providing you with buying power that leads to very competitive pricing and shortened lead times.

Plus, our no-minimum order policy offers the same fast delivery and lower pricing on small to medium volume orders.

Tooling

With hundreds of precision high-speed perforating tools available, we can readily produce most hole pattern requirements. Hendrick's in-house manufacturing of tools and punches assure that tooling can be made for custom jobs.





Aluminum

3003, 5052, 6061, plus more **Cold Rolled Steel**

Hot Rolled Steel Galvanized Steel

G90, G60, E.G. plus more

Stainless Steel

304, 316, 430, plus more

Plus copper, brass, monel, plastic and more

Hendrick MANUFACTURING

Industries

Quality materials for diverse applications

Hendrick supplies perforated metal and fabrication to over 20 end markets across the globe, both directly and through our distribution channel partners. Whether you fit one of our major industries or a smaller, niche market, we have the manufacturing expertise and flexibility to provide quality materials for diverse and demanding applications.

Industries We Serve

- Acoustical
- Agricultural
- Architectural
- Automotive
- Commercial Lighting
- Conveyor Flights
- Distribution

- Electronic
- Environmental
- Filtration
- Food Processing
- · Hammer & Powder Mill
- . HVAC
- · Industrial Equipment

- Medical
- Mining & Aggregate
- Recycling
- Retail
- Security
- Telecommunications
- Transportation



B. Medical Incubator Trav

C. Coffee Roaster Cooling Tray

D. Speaker Grill

E. Automotive Truck Grill

F. Gondola Wall Panel













Get Industry Specific Information

Hendrick Manufacturing



7

Perforating



All-Across, High Speed Perforating Presses

The Fastest, Most Economical Perforating Method for High Volume Production All-across perforating presses provide a unique method of producing holes in metal quickly and economically. Unlike other perforating methods, Hendrick's all-across equipment can punch multiple rows of holes across the sheet, up to 60" wide, in one single stroke—and is capable of punching up to 600 strokes per minute. The equipment automatically feeds material and punches to complete a sheet extremely quickly. It's such an efficient way to perforate, other metal fabricators come to Hendrick for projects that require perforating to minimize their costs.

- Unlimited patterns in round, square, slotted, ellipse, hexagon and a variety of decorative patterns
- Perforation sizes from 0.027" in diameter and up
- Thicknesses ranging from .002" to 0.25"
- Perforate in sheet or coil

Additional In-House Perforating Services

- Shearing
- Degreasing
- Leveling
- Knotching
- Forming
- Deburring
- Polishing



Image of a perforating tool with four rows of punches. Closeup of partial tool shown for detail.



Perforated material costs can be minimized using Hendrick's high-speed, all-across perforating presses. These presses offer the fastest, most efficient method for perforating sheet or coil.



See Hendrick's All-Across Perforating in action

Perforating

Perforating for Low-Medium Volume Production or Unique Patterns

For low volume or custom patterns, Hendrick can service your needs with our state-of-the-art CNC punch equipment. With punching equipment

ranging from 20 to 50 tons, presses can produce components that are up to 60" wide and up to 3/8" thick. Meeting tight tolerances is not an issue. Plus, our punch/plasma combination machines can perform multiple operations that can reduce production costs.



"Hendrick's latest punching equipment provides amazing quality and speed—up to 1600 strokes/min.



Hendrick's COMA CNC turret punch is capable of punching heavy steel gauge—even up to 0.375



Hendrick's punch/laser equipment offers the flexibility of a laser combined with punching equipment—making it ideal for perforating unique patterns in a design cut to any shape.

Watch Hendrick's High Speed Punching in Action



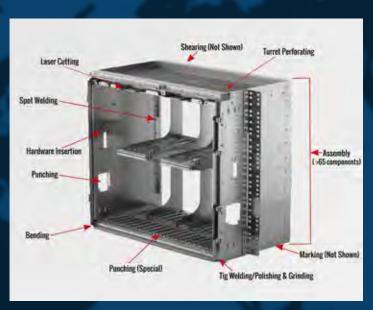
Fabricating

Hendrick

Broad range of capabilities

Hendrick offers a full-line of sheet metal fabrication capabilities with dedicated equipment and experienced staff. We specialize in low to medium volume work. whether its value-add to our perforating process or a project that uses our complete end-to-end fabricating capabilities. Regardless of size, volume or material, our fabrication options can eliminate labor, time, and provide cost-savings for your completed assembly.

- Significant tool library
- Large to small components
- Prototype to production
- Partial to complete turn-key contract assembly operations



Multiple fabrication services available

- Punching
- Bendina
- Notching
- Rolling
- Drilling

Punching

Welding

Water Jetting

- Laser Cutting & Etching
- Plasma Cutting
- MIG & TIG Welding
- Spot Welding
- Hardware Insertion
- Heat Treating

- Turning
- Tapping
- Grindina
- Polishing
- Assembly
- Stamping

Forming Whether you require one bend or need complex multiple bends, Hendrick can

flawlessly form your parts to your exact

drawing specifications.

punch and laser equipment, Hendrick has

the technology to deliver.

(250") Aluminum (.020" to

Stainless Steel (.020" to .250")

Aluminum (.020" to .500")

CRS (.020" to .375")

Galvinized, Aluminized, Copper, & Brass (Call for info)

From high speed punching to our combo

Stainless Steel (.020" to .250")

CRS (.020" to .375")

Galvinized, Aluminized, Copper, & Brass (Call for info)

The 8kW of fiber laser technology produces Laser

the fastest processing speeds with a high level of accuracy and unsurpassed quality with tolerances down to +/- .005.

Hendrick offers welding support for small

weldments to heavy plate welding fabrications to complete your component

assembly.

Aluminum - to 1"

Stainless steel - to 1.5"

Mild steel - to 1"

Copper - to .390"

Brass - to .390"

TIG, MIG, Spot, Stud

Heavy plate or thin gauge

Most alloys, including carbon steel, stainless steel, and

aluminum.

Fabricating

8kW fiber laser cutting

With 8kW of laser cutting power, we've removed several obstacles for precise, custom designs when cutting metal. This latest in laser technology produces the fastest processing speeds, a high level of accuracy with tolerances down to +/-.005 and unsurpassed quality. Plus, we've broken the barrier for material gauge. The maximum sheet size is 84" x 160".



Hendrick's 8kW laser produces clean, smooth edges and no material warping.



Hendrick's extensive tooling inventory allows us to keep tooling costs to our customers at a minimum.



With multiple machines of varying capabilities from 60 to 500 tons, Hendrick can form custom parts to precision.

How to order perforated material



Hendrick offers an unlimited number of pattern configurations in a wide range of materials. To assure quick and accurate quoting or delivery, please refer to these guidelines when ordering Hendrick's perforated materials.

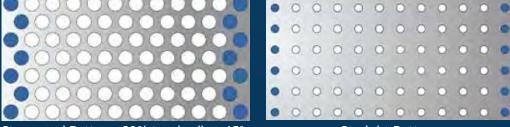
Material - Indicate the type of material required and thickness or gauge. See page 6 for a list of Hendrick's raw materials. Other metals and plastics are available.

Quantity - Indicate number of sheets or linear length of coil required.

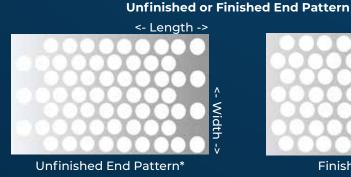
Sheet Size - Provide width and length. We can accommodate any size up to 60" wide.

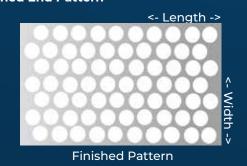
Common sheet widths: 36", 48" and 60". Common sheet lengths: 96", 120" and 144".

Specify hole specs 1. Hole shape Hexagon Round Sauare **Slotted** Specialty 2. Pattern Arrangement Staggered or Straight Pattern



Staggered Pattern, 60°(standard) or 45° Straight Pattern





* Pattern is based on a two-row tool. The end pattern for a four or eight-row tool may have a different appearance.



How to order perforated material

3. The hole size in inches**







Square



Slotted



Hexagon

Contact Hendrick for Special

Patterns

4. The hole centers (distance from the center of one hole to the center of the nearest hole in the next adjoining row) in inches.**



Round





Square

Slotted



Hexagon

Contact Hendrick for Special **Patterns**

**Note: Industry standards recommend not making the distance between holes smaller than the material thickness. If you a smaller distance, contact Hendrick to discuss your needs.

Provide open area

Provide the open area (total hole area, compared to sheet size) on the perforated sheet, indicated by percent. Typical open areas range from 2 to 80%, however 70% and higher can distort the material

Round - 60° Staggered Center

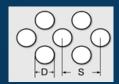


D²x90.69

Hexagon

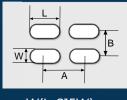


Round - 45° Staggered Center



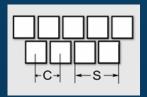
157.08x D²

Round End Slot - Staggered Center



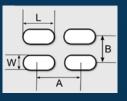
W(L-.215W) AB

Square - Straight or 45° Staggered Center



157.08x D²

Round End Slot - Straight Center

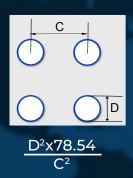


W(L-.215W) x100 AB

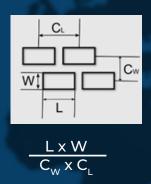
How to order perforated material



Round – Straight Center



Square End Slot – Staggered or Straight Centers



Make it Easy!



Visit Hendrick's Online Open Area Calculator Page

Specify margins

Indicate the areas around the sheet which are un-perforated. Specify "Minimum" or "No Margins" when it's not important. When margins are required, state the margins for each side of the sheet. Wider margins can lead to distortion and may require additional leveling, increasing costs.

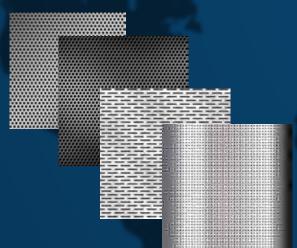
Provide additional information

- 1. Forming Provide forming operations that will be required to assure formability of the sheet.
- 2. Finishing If additional finishing is required to achieve a decorative appearance, durability or protection.
- 3. End use Our experienced engineering staff will review your design to assure all your end requirements are met.

Regardless of order size, small to large, Hendrick partners with our customers to optimize designs for improved quality, functionality and cost–savings.



A wide selection of perforated patterns are available in a variety of shapes, sizes and materials. The following pages provide a quick reference of Hendrick's popular perforated pattern options. If you don't see what you need, contact a sales representative to discuss your requirements at 800.225.7373.



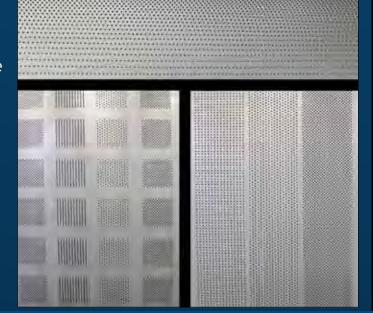
Visit Hendrick's Searchable Database of 100+ Popular Patterns & Download PDF/CAD Files of Any Pattern



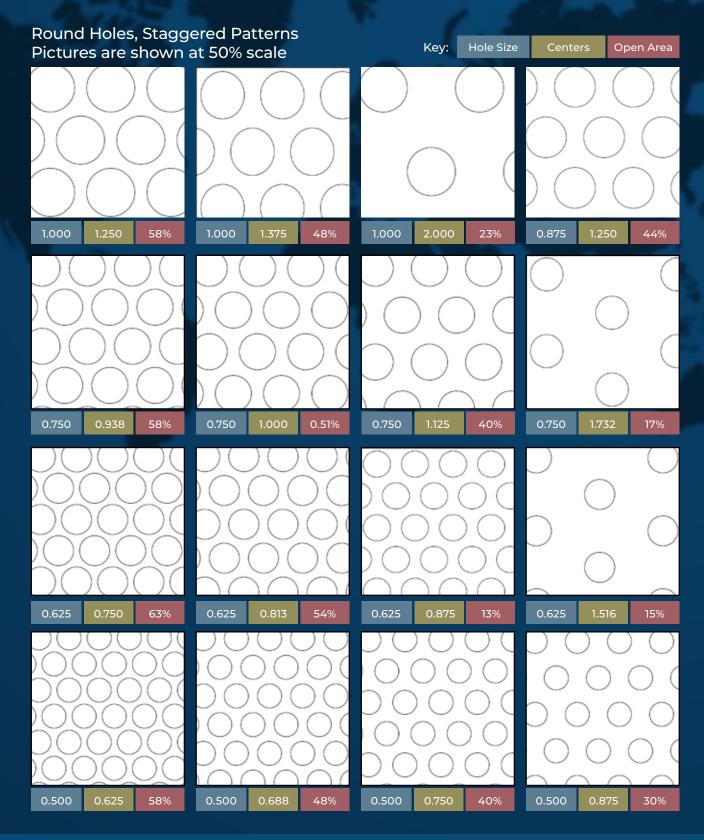
UNIQUE PATTERNS AVAILABLE

Hendrick is now capable of providing unique patterns on our high-speed, multi-punch Perforating Presses. No special tooling is required to punch these distinct patterns. Our software control systems and multi-stage gagging produces the custom patterns, all in the same set up for a truly distinctive look.

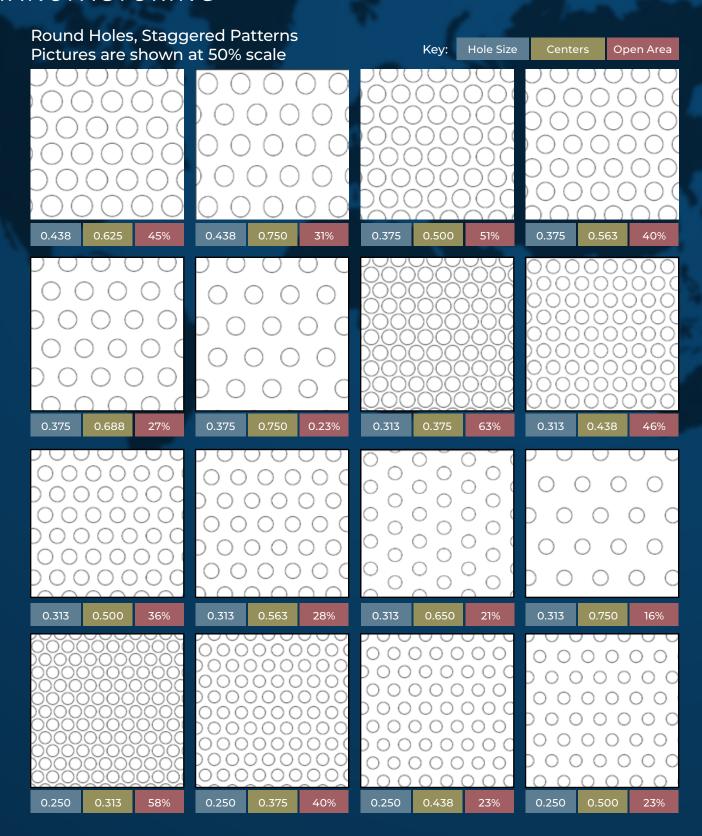
Hendrick is the only perforator in North America who has the capabilities of producing these unique patterns using a high-speed press.



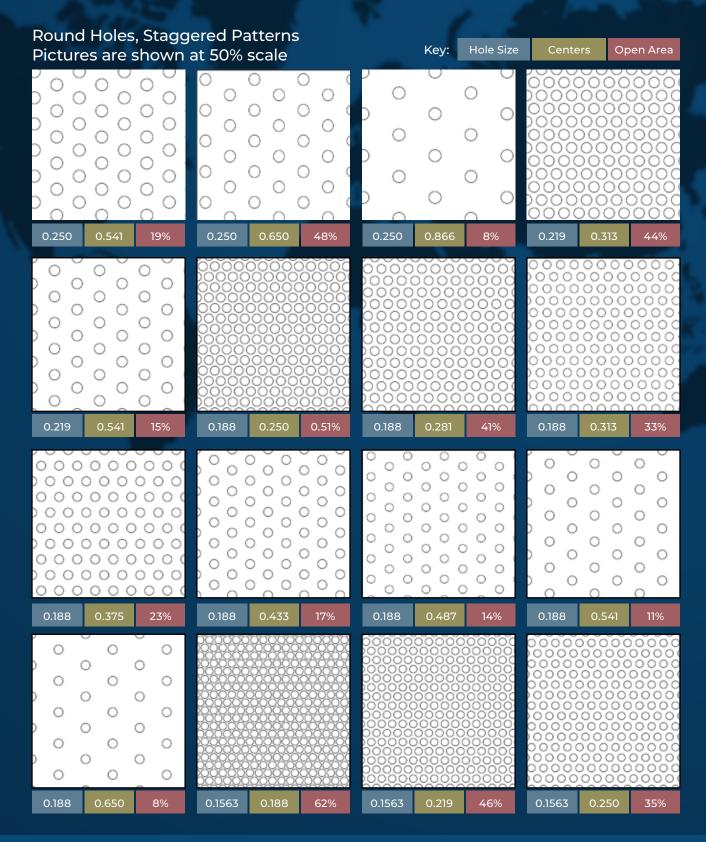
Hendrick METAL PRODUCTS



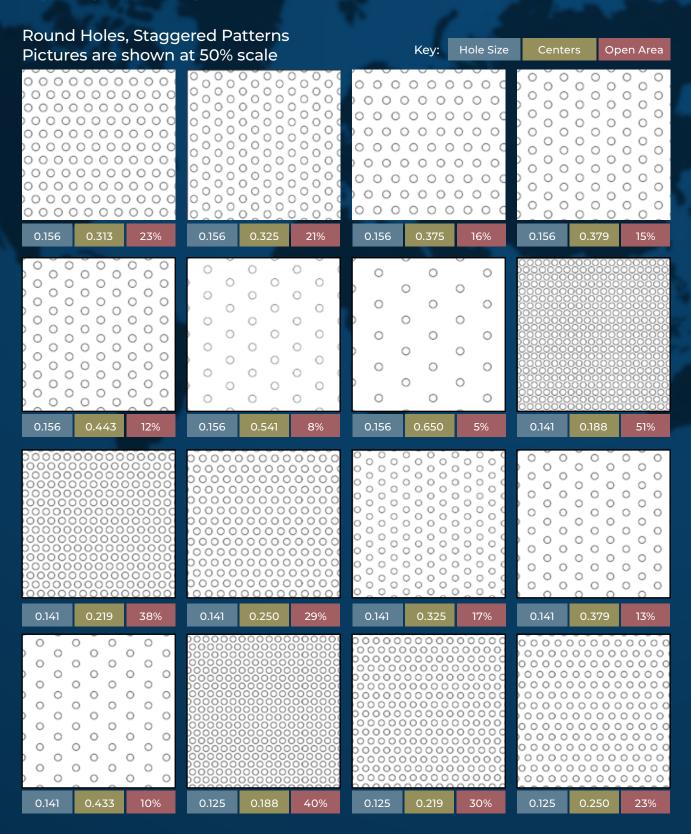
Pattern Samples



Hendrick METAL PRODUCTS



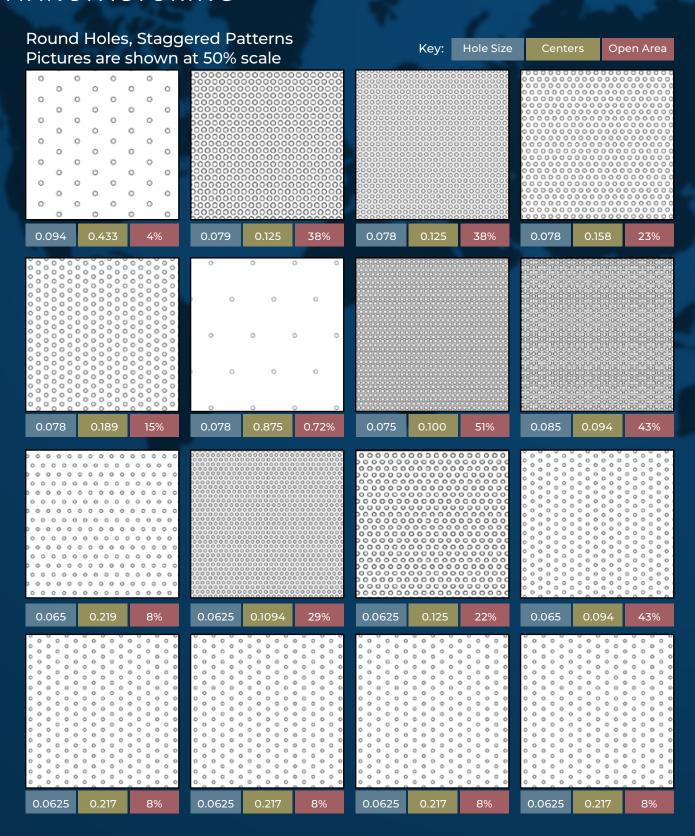
Pattern Samples



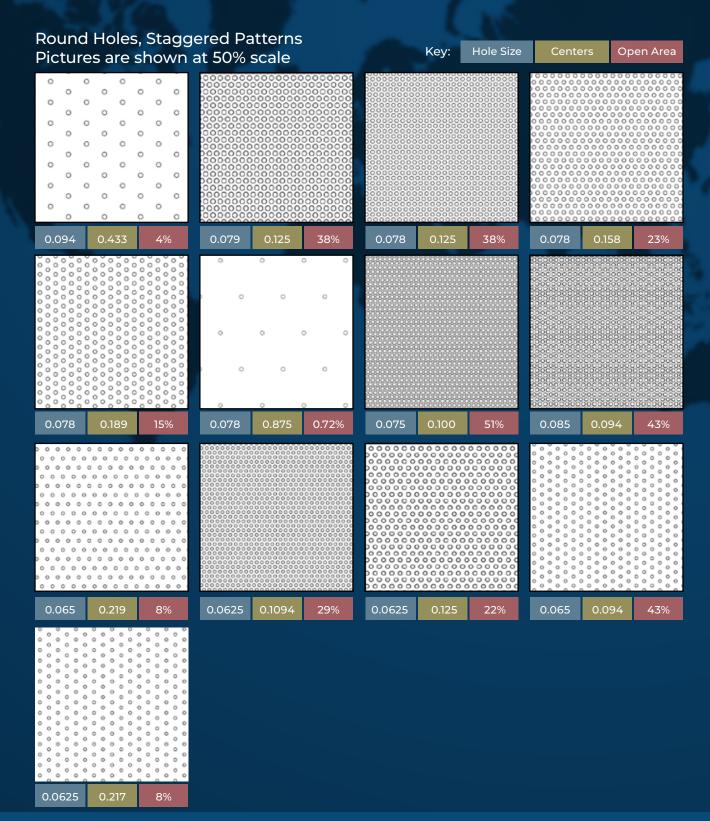
Hendrick METAL PRODUCTS

		, Stagg shown a					Key:	Hole Size	Cente	ers Op	en Area
0 0	0 0										
0.125	0.325	13%	0.125	0.375	10%	0.125	0.379	10%	0.125	0.433	8%
0.117	0.156	51%	0.117	0.271	17%	0.109	0.156	44%	0.109	0.172	36%
000000	000000	00000									
0.109	0.188	30%	0.109	0.219	22%	0.109	0.271	15%	0.094	0.156	33%
0.094	0.1875	22%	0.094	0.250	13%	0.094	0.271	11%	0.094	0.325	8%

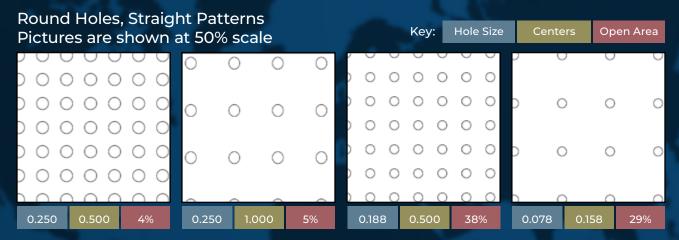
Pattern Samples







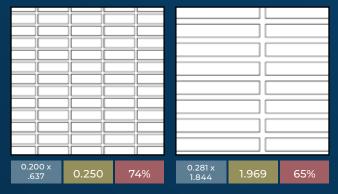




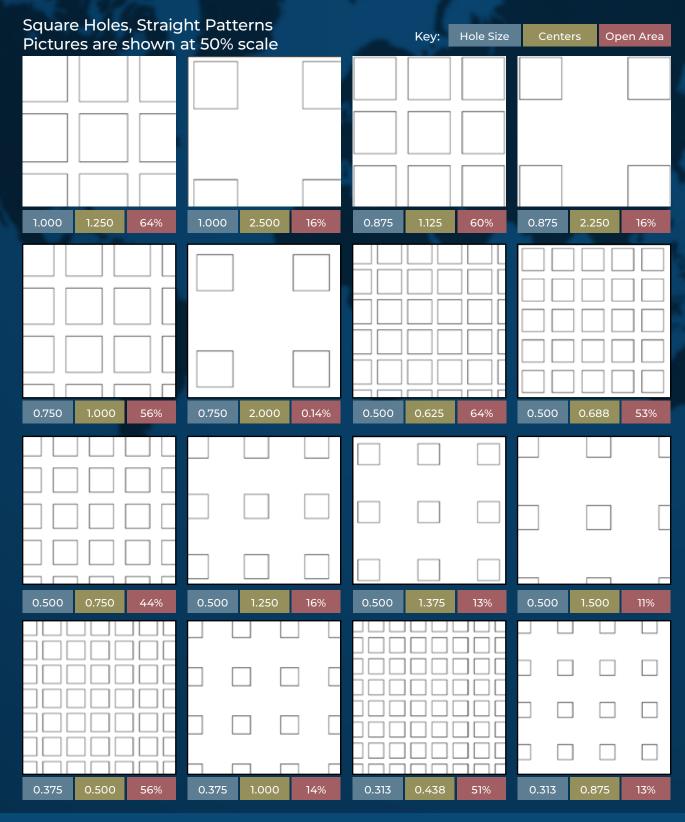
Slotted Holes, Stagggered Patterns



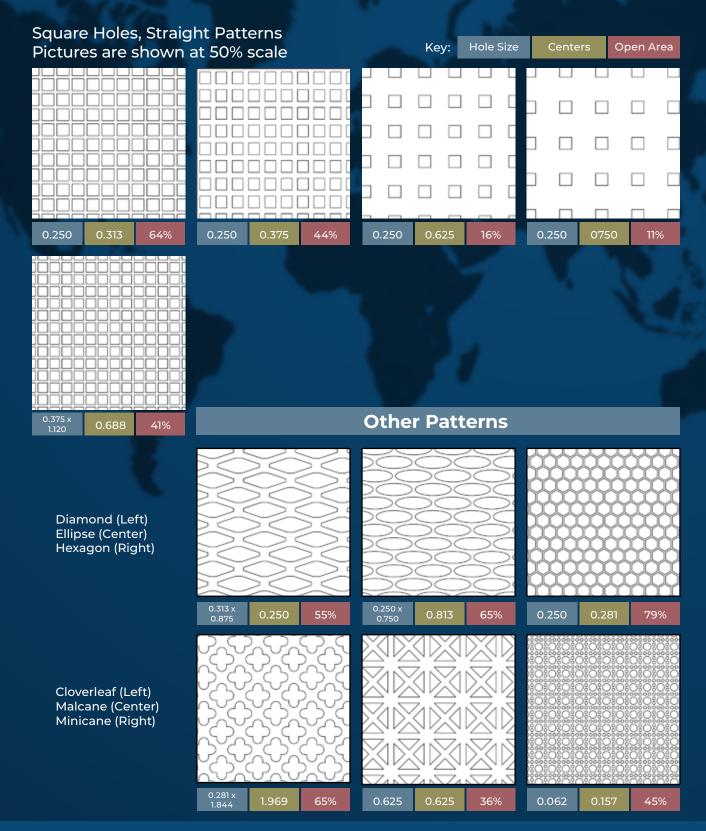
Slotted Holes, Straight Patterns



Hendrick METAL PRODUCTS



Pattern Samples



Hendrick delivers solutions that give you the competitive edge.

DON'T SEE WHAT YOU NEED?

Hendrick has hundreds of perforation tools in stock or we can build a tool to suit your needs.

Contact a sales representative to discuss your application at **800-225-7373.**

Bring us your ideas. We can make it!





Perforating & Fabrication

Hendrick Manufacturing

1 Seventh Avenue Carbondale, PA 18407 Phone: 800-225-7373 Fax: 570-282-1506

Hendrick Metal Products

1320 Gateway Drive Elgin, IL 60124 Phone: 847-742-7002 Fax: 847-742-7448 www.hendrick-perf-fab.com perf@hendrickcorp.com





Screen Solutions

Hendrick Screen Company

3047 Medley Road Owensboro, KY 42301 Phone: 270-685-5138 www.hendrickscreen.com screen@hendrickcorp.com

Hendrick Architectural

1 Seventh Avenue Carbondale, PA 18407 Phone: 877-840-0881 www.hendrickarch.com arch@hendrickcorp.com









