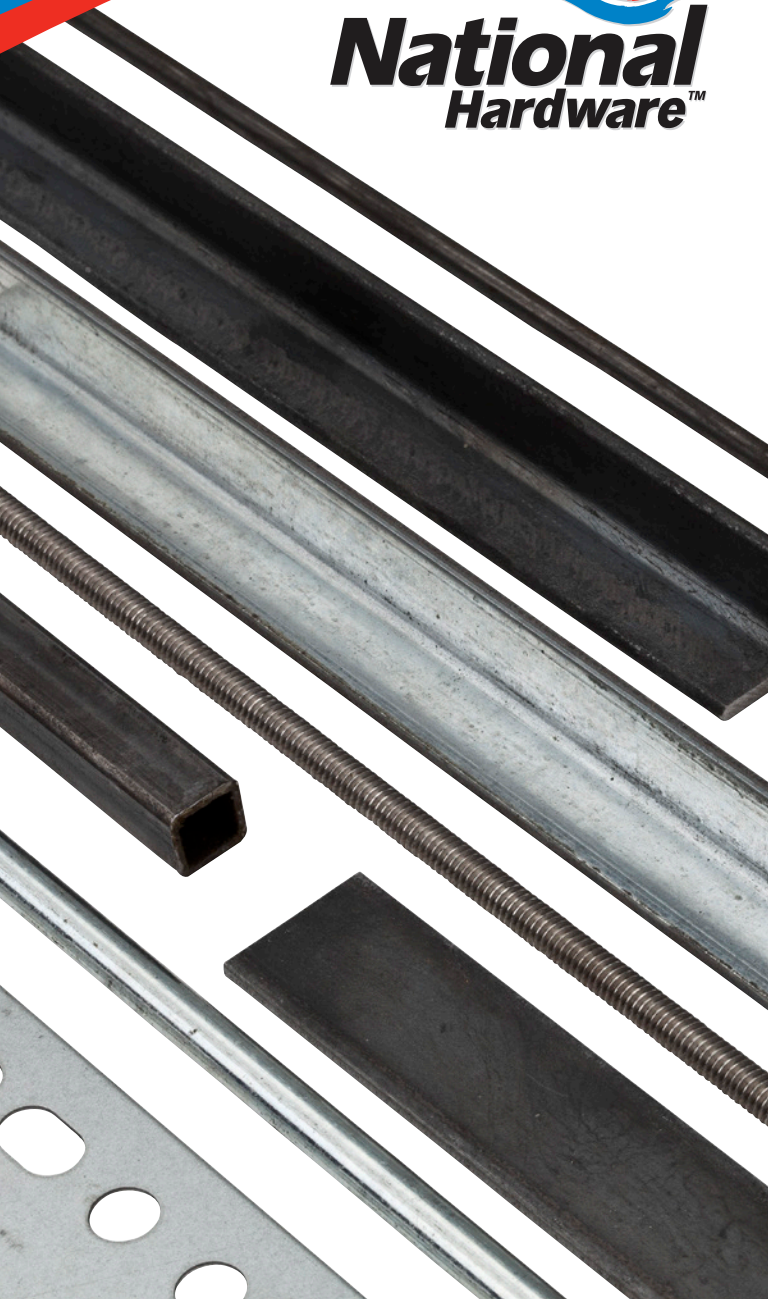




**National  
Hardware™**



**METAL SHAPES**



Since 1901

## **A Complete Line of Metal Products for Residential and Commercial Applications**

National Hardware's line of metal shapes and accessories is used in completing a wide variety of residential, commercial and industrial projects. The line of shapes includes metal bars, sheets, tubing, angles, plates, rods and channels. Available in a variety of materials, including aluminum, plain steel, galvanized steel, zinc-plated steel, oiled steel, brass and stainless steel, National Hardware's metal shapes are engineered and tested to meet or exceed industry standards for quality and safety. Whether repairing farm equipment, constructing a sky scraper or creating a work of art, National Hardware has the right components for any project you may be working on.

For additional information about specific metal shapes products, please refer to the National Hardware price book.

## METAL SHAPES

<i>Aluminum</i>	2-3
<i>Plain Steel</i>	4-7
<i>Galvanized Steel</i>	8-9
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## Aluminum

Available in mill and anodized finishes, aluminum has a wide variety of uses and benefits. It is weather resistant, light weight, easy to bend, machine, cut or drill and can be formed into a multitude of shapes. Aluminum is used in residential applications as well as in the construction, automotive, marine, and transportation industries.

## Features & Benefits

- Aluminum is light weight, yet extremely strong, withstanding heavy pressure and loads.
- Anodized aluminum is weather resistant - great for construction or other structures that are exposed to the elements.
- Aluminum can be bent or formed into a multitude of shapes.



## RECTANGULAR BARS

Reinforcement, base plates, and repair projects.

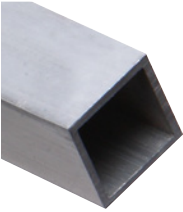
Thickness	Width Range	Length Range
1/16" - 1/4"	1/2" - 2"	36" - 96"



## ALUMINUM SHEETS

Duct work, flashing, gutters and repair projects.

Thickness	Width Range	Length Range
.020 - .100	18" - 48"	6" - 36"



## ALUMINUM SQUARE TUBES

Fencing, handrails, frame work and gates.

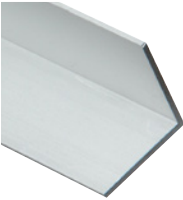
Thickness	Width Range	Length Range
1/16"	3/4" - 1"	36" - 96"



## ALUMINUM ROUND TUBES

Fencing, handrails, frame work and gates.

Thickness	Diameter Range	Length Range
1/16"	1/2" - 1 1/4"	36" - 96"



## ALUMINUM ANGLES

Trim work, frame work and reinforcement projects.

Thickness	Width Range	Length Range
1/16" - 1/6"	3/4" - 2"	36" - 96"



## ALUMINUM ROUND RODS

Axles, hanging, and hobby projects.

Thickness	Diameter Range	Length Range
-	1/4" - 1/2"	36" - 96"



## ALUMINUM CHANNELS

Trim work, frame work and reinforcement projects.

Thickness	Width Range	Length Range
1/16"	1/4" - 3/4"	48" - 96"

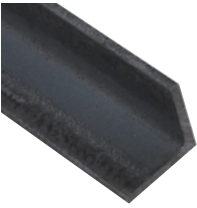


### Plain Steel

Plain steel is used for forming and welding in industrial and commercial applications, including construction of buildings, appliances, cars, roads, railways and other infrastructure. We offer hot- or cold-rolled steel depending on the application. Cold-rolled steel is used widely in the art community and is considered the metal of choice for many modern sculptors. Cold rolled products have a higher yield strength, hardness and tighter specification than hot rolled steel.

### Features & Benefits

- Considered one of the strongest metals in terms of application.
- Smooth finish must be protected by a coating to prevent rusting.
- Used often in metal sculpture and other creative projects.



### HOT-ROLLED STEEL ANGLES

Building tables, workbenches, support frames, equipment stands, repair work, and construction applications where strong support is needed. Meets ASTM A36.

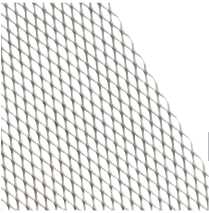
Thickness	Width Range	Length Range
1/8" - 1/4"	1/2" - 2"	36" - 72"



### HOT-ROLLED STEEL CHANNELS

Building tables, workbenches, support frames, equipment stands, repair work, and construction applications where strong support is needed.

Thickness	Width Range	Length Range
1/8"	1" - 2"	36"



### HOT-ROLLED EXPANDED STEEL SHEETS

Used for machinery guards, screen door protectors, as well as ventilated motor housings.

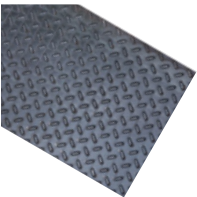
Thickness	Width Range	Length Range
13 - 18 Gauge	12" - 32"	12" - 24"



### COLD-ROLLED STEEL SHEETS

General purpose steel sheet for commercial and industrial applications. Easily formed and welded and suitable for painting and plating. Meets ASTM A1008.

Thickness	Width Range	Length Range
16 - 22 Gauge	18" - 24"	6" - 24"



### TREAD PLATE SHEET

Steel plate for use in building steps, cargo boxes, running boards, etc.

Thickness	Width Range	Length Range
14 Gauge	12" - 24"	24"

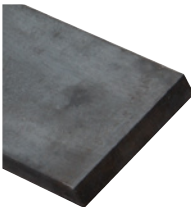
18 Gauge flat plate



### HOT-ROLLED STEEL SQUARE STOCK

General purpose steel product. Not intended for structural applications. Meets ASTM A36.

Thickness	Width Range	Length Range
1/2"	1/2"	48"



### HOT-ROLLED RECTANGULAR FLATS

Designed as supports for construction or industrial applications. Product families 4062 and 4063 meet ASTM A1011. Product Family 4064 meets ASTM A36.

Thickness	Width Range	Length Range
1/8" - 1/2"	1/2" - 3"	36" - 72"





## REBAR

Used in foundation construction, concrete forms and post reinforcement. Meets ASTM A305.

Size	Diameter Range	Length Range
#4	1/2"	24" - 72"



## HOT-ROLLED STEEL ROUND TUBES

General purpose steel tube for commercial and industrial applications. Tubing seam is electric-resistance welded. Meets ASTM A513.

Thickness	Diameter Range	Length Range
16 Gauge	1/2" - 1"	36" - 48"



## HOT-ROLLED STEEL SQUARE TUBES

General purpose steel tube for commercial and industrial applications. Frames, railings, truck racks and gates. Meets ASTM A513.

Thickness	Width Range	Length Range
16 Gauge	1/2" - 1-1/4"	36" - 72"



## HOT-ROLLED STEEL SMOOTH RODS

Braces, supports, shafts and axles. Meets ASTM A510.

Thickness	Diameter Range	Length Range
-	1/4" - 3/4"	36" - 72"



## COLD-ROLLED STEEL SMOOTH RODS

Fencing, supports, railing, sign posts and frame work. Meets ASTM A510.

Thickness	Diameter Range	Length Range
-	1/8" - 1"	12" - 72"



### **Galvanized Steel**

Galvanized steel is metal that is treated with a high quality galvanized coating to create a rust and corrosion-resistant surface. Ideal for building structures that require the ability to withstand constant exposure to the elements, durable galvanized steel has been used for more than a century and continues to be one of the most popular building materials used today.

### **Features & Benefits**

- Ideal for most residential and industrial projects.
- Galvanized steel can be drilled and bolted for heavy-duty use.
- Great for metal surfaces that are frequently exposed to the elements.
- Combine slotted and solid steel flats and angles together to create work benches, stands, tables or other framework.
- Galvanized threaded rod meets building codes for coastal building applications.



### SLOTTED STEEL ANGLES

Mounting garage door openers, tables, workbenches, and applications where support is needed.

Thickness	Width Range	Length Range
0.047" - 0.074"	1-1/4" - 2-1/4"	12" - 96"



### PERFORATED TUBES

Used for building frames, tables, workbenches and sign posts.

Thickness	Width Range	Length Range
0.074"	1" - 1-3/4"	36" - 72"



### SLOTTED STEEL RECTANGULAR FLATS

Designed for hanging or bracing. Holes are punched to match when used with slotted angles.

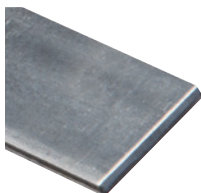
Thickness	Width Range	Length Range
0.074"	1-3/8" - 2-3/16"	36" - 72"



### SOLID STEEL ANGLES

Can be used in construction and other repair applications where a strong support and weather resistance is needed.

Thickness	Width Range	Length Range
12 Gauge	3/4" - 1-1/4"	36" - 72"



### SOLID STEEL RECTANGULAR BARS

Reinforcement, base plates and repair projects.

Thickness	Width Range	Length Range
12 Gauge	3/4" - 1-1/4"	36" - 72"



### GALVANIZED STEEL SHEETS

Can be formed without flaking or peeling.  
Meets ASTM A653.

Thickness	Width Range	Length Range
26 - 28 Gauge	18" - 30"	12" - 30"



### GALVANIZED THREADED RODS

For hanging, connecting, clamping and supporting in plumbing, heating electrical and marine projects.  
Meets ASTM A153 and ASTM A307.

Thickness	Diameter Range	Length Range
-	3/8" - 3/4"	12" - 72"



## Zinc-Plated Steel

Zinc-plated steel rods can be cut, drilled and shaped for residential or industrial construction. Ideal for connecting, clamping or supporting, zinc-plated steel can be used in numerous applications. Zinc plating is more resistant than plain steel to rust and corrosion.



### THREADED STEEL RODS

For hanging, connecting, clamping and supporting in plumbing, heating, electrical and do-it-yourself projects. Available in coarse thread, fine thread and metric sizes. Meets ASTM A307.

Thickness	Diameter Range	Length Range
-	#6 - 1"	12" - 120"



### SMOOTH STEEL RODS

For use as axles, shafts and supports.

Thickness	Diameter Range	Length Range
-	1/4" - 1"	36 - 72"



### SQUARE KEY STOCK

Designed as a wedge or locking device in shaft keyways to transmit the torque in motors or machines.

Thickness	Width Range	Length Range
-	1/8" - 1/2"	12"



**Oiled Steel**

Oiled steel rods are heat treated to meet a minimum tensile strength of 125 ksi. Meets ASTM A193, Grade B7. Oiled for rust resistance while permitting welding. For connecting or clamping where high strength is needed.



**HEAT TREATED STEEL RODS**

For bolting valves, flanges and fittings of high pressure/temperature.

Thickness	Diameter Range	Length Range
-	1/4" - 5/8"	36"

**Brass**

Solid brass is rust and corrosion resistant and can be used in areas where moisture is present. Brass can be used in plumbing, heating, electrical and a variety of other applications.



**BRASS THREADED RODS**

For hanging, connecting, clamping and supporting in plumbing, heating, electrical and do-it-yourself projects.

Thickness	Diameter Range	Length Range
-	#6 - 5/16"	12"



**SMOOTH BRASS RODS**

For hobby, craft and marine projects.

Thickness	Diameter Range	Length Range
-	1/8" - 1/4"	36"



## Stainless Steel

Stainless steel is the most effective metal in resisting corrosion, rust and staining. It is considered a low maintenance metal, making it ideal for a variety of applications. Stainless steel is used in building construction for both practical and aesthetic reasons.

## Features & Benefits

- Most used where both the properties of steel and resistance to corrosion are required.
- Stainless steel is especially suitable for marine and outdoor projects where maximum rust and corrosion resistance is required.



### STAINLESS STEEL THREADED RODS

For hanging, connecting, clamping and supporting in plumbing, heating, electrical and do-it-yourself projects. Especially suitable for marine and other outdoor applications. 18-8 Alloy stainless steel.

Thickness	Diameter Range	Length Range
-	#10 - 3/4"	36"



### STAINLESS STEEL SMOOTH RODS

For braces, supports and axles.

Thickness	Diameter Range	Length Range
-	1/8" - 3/16"	36"



## COUPLERS FOR THREADED RODS

For connection two peices of threaded rod. Larger couplers come with "witness holes" to confirm rods are threaded together completely. Available in course thread, fine thread and zinc, galvanized finishes.

Thickness	Diameter Range	Length Range
-	#10 - 1"	-



## CORNER PLATES FOR SLOTTED ANGLES

Join and brace slotted steel angles and bars.



## GUSSETS FOR PERFORATED TUBES

Connect slotted and solid steel tubes, angles and bars together to create workbenches, stands, tables or other framework.



## INSIDE ANGLES FOR PERFORATED TUBES

Connect slotted and solid steel tubes, angles and bars together to create workbenches, stands, tables or other framework. 14 gauge galvanized steel.



## WELDABLE HINGES

Weld directly to surface. No holes or drilling needed.

## **Terms And Conditions Of Sale**

All orders, whether solicited or written by our sales representatives or forwarded by our customers are deemed to be mere offers to purchase in accordance with these Terms and Conditions of Sale until actually accepted in writing. We reserve the right to refuse any orders as well as the right to sell or not sell to any firm at our sole discretion. The acceptance of any order is expressly made conditional upon your assent to these Terms and Conditions of Sale. We object to the inclusion of any different or additional terms or conditions, even if the same are included in your order, a contract of sale will result upon the Terms and Conditions of Sale stated herein only.





## **Product Warranty**

Upon return of a defective product, National Hardware shall either replace the product or refund the purchase price, at our discretion, in accordance with our standard warranty. National Hardware is not responsible for incidental or consequential damages. Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

## **Warning**

Bending, cutting or drilling metal shapes materials is hazardous. Always use appropriate protective gear and follow appropriate safety precautions.

## **Caution**

Do not use any metal shapes materials in any application that will exceed specified safe working load for that product. Exceeding the safe working load specification may result in product failure causing serious personal injury or death.







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