# Metal Shaping Processes: A Comprehensive Guide



#### Metal Shaping Processes by Vukota Boljanovic

★★★★★ 5 out of 5

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### Vukota Boljanovic

Metal shaping is a process of changing the shape of a metal workpiece by applying force. There are many different metal shaping processes, each with its own advantages and disadvantages. The most common metal shaping processes include:

- Rolling
- Forging
- Extrusion
- Drawing
- Bending
- Shearing

#### Rolling

Rolling is a metal shaping process that involves passing a metal workpiece between two rotating rolls. The rolls apply pressure to the workpiece, which causes it to deform. Rolling can be used to create a wide variety of shapes, including sheets, plates, bars, and rods.

Rolling is a relatively inexpensive and efficient metal shaping process. It is also a very versatile process, as it can be used to create a wide variety of shapes. However, rolling can only be used to create shapes that have a constant cross-section.

#### **Forging**

Forging is a metal shaping process that involves heating a metal workpiece and then hammering or pressing it to shape. Forging can be used to create a wide variety of shapes, including gears, crankshafts, and connecting rods.

Forging is a very strong and durable metal shaping process. It can also be used to create shapes that are not possible with other metal shaping processes. However, forging is a relatively expensive and time-consuming process.

#### **Extrusion**

Extrusion is a metal shaping process that involves forcing a metal workpiece through a die. The die has a specific shape, which is imparted to the workpiece as it passes through. Extrusion can be used to create a wide variety of shapes, including pipes, tubes, and rods.

Extrusion is a very fast and efficient metal shaping process. It is also a very versatile process, as it can be used to create a wide variety of shapes. However, extrusion can only be used to create shapes that have a constant cross-section.

#### **Drawing**

Drawing is a metal shaping process that involves pulling a metal workpiece through a die. The die has a specific shape, which is imparted to the workpiece as it passes through. Drawing can be used to create a wide variety of shapes, including wires, tubes, and cans.

Drawing is a very fast and efficient metal shaping process. It is also a very versatile process, as it can be used to create a wide variety of shapes. However, drawing can only be used to create shapes that have a constant cross-section.

### **Bending**

Bending is a metal shaping process that involves applying a force to a metal workpiece to cause it to bend. Bending can be used to create a wide variety of shapes, including angles, channels, and beams.

Bending is a relatively inexpensive and efficient metal shaping process. It is also a very versatile process, as it can be used to create a wide variety of shapes. However, bending can only be used to create shapes that have a constant radius of curvature.

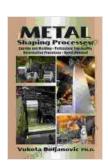
#### **Shearing**

Shearing is a metal shaping process that involves cutting a metal workpiece with a sharp blade. Shearing can be used to create a wide

variety of shapes, including blanks, plates, and strips.

Shearing is a very fast and efficient metal shaping process. It is also a very versatile process, as it can be used to create a wide variety of shapes. However, shearing can only be used to create shapes that have a straight edge.

Metal shaping is a critical process in the manufacturing industry. It is used to create a wide variety of products, from simple components to complex assemblies. The six metal shaping processes described in this article are the most common, but there are many other metal shaping processes that can be used to create a wide variety of shapes.



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