

Material Information

Carbon Steel 1008



Introduction

Carbon Steel 1008, also known as AISI 1008 or SAE 1008, is a low-carbon steel known for its excellent formability, good weldability, and relatively low strength compared with higher-carbon steels. Its low carbon content allows it to be readily cut, bent, stamped, deep drawn, and formed into a wide range of sheet metal shapes. Carbon Steel 1008 is widely used for fabricated sheet metal parts where ease of forming, weldability, and cost-effectiveness are important.

Advantages

Excellent formability, good weldability, and good cold-working characteristics make Carbon Steel 1008 suitable for a wide range of sheet metal fabrication applications. It can be readily bent, stamped, drawn, punched, and formed into complex shapes with appropriate processing conditions. Its relatively low material cost also makes it practical for high-volume fabricated parts and general industrial components.

Disadvantages

Carbon Steel 1008 has relatively low strength and hardness compared with higher-carbon steels and many alloy steels, which can limit its use in heavily loaded structural applications. It also has limited inherent corrosion resistance and can rust when exposed to moisture or corrosive environments without suitable protection. Surface treatment or protective coatings may therefore be required for outdoor or corrosive applications.

Tolerance

We offer tolerances as tight as $\pm 0.005"$. Tighter tolerances are available upon manual review.

Recommendation

The combination of excellent formability, good weldability, low carbon content, and cost-effectiveness makes Carbon Steel 1008 suitable for sheet metal fabricated parts used in automotive, appliance, industrial equipment, electrical, construction, and general manufacturing applications. It is particularly appropriate for brackets, panels, covers, housings, stamped

components, and other parts that require extensive forming rather than high structural strength.

Material Specifications (For reference only.)	
Tensile strength	440MPa
Yield strength	370MPa
Elongation at Break	15%
Hardness	126 HB
Density	7.87 g/cm ³

Attention

Carbon Steel 1008 is a low-carbon, non-heat-treatable steel for applications where strength is primarily determined by the material condition and amount of cold work. During bending, stamping, and deep drawing, appropriate bend radii, tooling, and forming conditions should be considered to maintain surface quality and dimensional accuracy. Because Carbon Steel 1008 has limited corrosion resistance, fabricated parts exposed to moisture or corrosive environments should be protected with an appropriate coating, plating, paint, or other surface treatment. Heat generated during welding may also cause local distortion in thin sheet, so suitable welding procedures should be used.

Applications

3DSPRO finds people using Carbon Steel 1008 to make functional parts and prototypes in the following industries and applications.

Automotive and transportation:

Body panels, brackets, supports, shields, stamped components, and other fabricated parts requiring good formability and weldability.

Appliances and consumer equipment:

Housings, covers, panels, brackets, frames, and other sheet metal components that benefit from easy forming and cost-effective production.

Industrial equipment:

Machine covers, guards, brackets, enclosures, mounting plates, and other fabricated components where high strength is not the primary requirement.

Electrical, construction, and general fabrication:

Electrical cabinets, panels, boxes, brackets, ductwork, structural covers, and other sheet metal fabricated parts requiring good formability, weldability, and economical material selection.