

In a more scientific sense, density is defined as the mass per unit volume, and whilst this may mean the same thing in practice, the empirical way to measure and define volume can seem quite complex.

In an algebraic expression, density is  $\rho = m/V$ , or density ( $\rho$ ) equals mass ( $m$ ) divided by volume ( $V$ ).

Density is an intensive property of materials, meaning that no matter how much steel is removed, its density will remain the same.

## What is Steel's Density

Steel has a density of  $7.85\text{g/cm}^3$ , which means that compared to most other metals, steel is a very dense material, with twice the density of titanium and three times the density of aluminium. Steel's density makes it strong and durable, and this, along with being affordable on a large scale, is what makes steel beams and steel columns so widely renowned as a staple of the construction industry.

Steel is also one of the only ways to use a strong, environmentally conscious and resistant material for steel railings, gates and steel frames. Its density has a big part to play in making steel such a versatile material.

## How to Use Your Knowledge of Density While Selecting Materials

While selecting a material for your project, you'll want to consider a few very significant physical factors. This will include density, conductivity and melting point.

These factors will all significantly affect how useful a building material can be when used in a building, and falling short at just one of these factors can often completely exclude a material from use on an industry-wide scale. This is what makes steel such a popular choice across the [construction industry](#). It's strong, sturdy and reliable.

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