

IS 15914:2011 – High Tensile Strength Steel Specification for Gas Cylinders

Flat rolled steel plates, sheets, and strips are used in a variety of applications, including the manufacturing of gas cylinders and vehicle body panels. Flat rolled steel is strong and flexible, making it ideal for these applications. This steel is produced through a process called flat rolling, which involves reducing the thickness of a work piece while increasing its length. The sheet used for making gas cylinder must bear the quality for **workability & weldability**. Cylinders manufactured from high tensile strength steel are not only robust but are also optimized for **lighter weight**, which **facilitates handling and reduces transportation costs**.

IS 15914 :2011 covers the specifications for high tensile strength flat rolled steel plate (up to 6 mm), sheet, and strip, designed specifically for manufacturing welded gas cylinders. These materials are essential in producing lightweight, high-durability gas cylinders for domestic, automotive, and industrial use.

The steel is available in **four grades** based on its tensile strength, these products ensure the necessary strength and structural integrity to safely contain liquefied gases under pressure. Given the demands for **safety and ease of use**, consumers expect gas cylinders to be reliable, long-lasting, and compliant with rigorous quality standards.

This Indian Standard addresses these consumer expectations by setting stringent requirements for **chemical composition**, tensile **strength**, and manufacturing processes. By specifying the use of fully **aluminum-killed** steel and optional **micro-alloying** elements, the standard ensures enhanced **durability, weldability**, and consistency in **product quality**. The standard also specifies the test for **weldability** making the product **easy to use** while manufacturing LPG cylinders and also **leakage proof** when high pressure gas is inserted in the cylinder.

Through comprehensive guidelines on testing methods, dimensions, tolerances, and surface conditions, this standard facilitates the production of gas cylinders that meet both national and international safety standards, ultimately supporting consumer protection and satisfaction.