

## IS 6913 : 2023 (Stainless steel tubes for the food, beverage, dairy and pharmaceutical industry Specification)

Stainless steel tubes are essential components in the food, beverage, dairy, and pharmaceutical industries due to their **durability, resistance to corrosion, and suitability for hygienic applications**. These tubes are specifically engineered to handle sensitive consumables and pharmaceutical products without compromising **safety, quality, or cleanliness**. The Indian Standard IS 6913:2023 outlines specifications for stainless steel tubes used in the food, beverage, dairy, and pharmaceutical industries. The standard includes significant provisions for tolerance levels, surface finish requirements, and testing procedures to meet the specific needs of these industries. The primary expectation from consumers in these industries is that the stainless steel tubes used are **durable, resistant to corrosion**, and have a high-quality **surface finish** suitable for **hygienic applications**. Food, beverage, dairy, and pharmaceutical products must remain **uncontaminated by metals or harmful deposits**, requiring stringent manufacturing processes. Additionally, consumers demand flexibility in selecting tube finishes and sizes to meet specific operational needs. Hence, the standard provide a **wide range of grades** for different applications. To address these expectations, the standard sets detailed criteria for tube **dimensions, manufacturing processes, and heat treatment**, ensuring uniform quality. Surface finish options such as **mill finish, electropolished finish**, and several levels of mechanically polished surfaces allow customization to fit consumer applications precisely. Requirements for smooth, **burr-free ends**, and a specified **surface roughness** ( $R_a \leq 1.0 \mu\text{m}$  for food-contact surfaces) ensure that the tubes are both **easy to clean** and suitable for sensitive uses. The standard also incorporates **hydrostatic, tensile, hardness, and corrosion tests** to verify tube strength and resilience under operational pressures, enhancing safety and reliability. IS 6913:2023 thus meets consumer expectations by ensuring tubes are manufactured to high standards, with flexibility for specialized use, and by maintaining essential hygiene and durability needed in critical industries.