

Summary of

IS 10773:1995

Wrought Copper Tubes for Refrigeration and Air- Conditioning Purpose

copper tubes that are specifically manufactured for use in refrigeration, air conditioning (AC) systems, and heat exchangers. These tubes are made from wrought copper, which refers to copper that has been shaped through mechanical processes such as drawing or extrusion, as opposed to casting. Wrought copper has superior mechanical properties, including higher strength and durability, making it ideal for use in HVAC (heating, ventilation, and air conditioning) systems.

Key Characteristics of Wrought Copper Tubes for HVAC Applications:

1. **High Thermal Conductivity:** Copper has excellent thermal conductivity, which makes it ideal for the heat exchange process in refrigeration and air conditioning systems. It allows heat to be efficiently transferred between the refrigerant and the surrounding air or fluid.
2. **Corrosion Resistance:** Wrought copper is resistant to corrosion, particularly from moisture and refrigerants, which is essential for the long-term durability of HVAC systems.
3. **Flexibility and Workability:** Copper tubes are easy to bend and form into the required shapes and sizes for different types of refrigeration and air-conditioning equipment, which simplifies installation and maintenance.
4. **Strength and Durability:** Wrought copper tubes are strong enough to withstand high-pressure refrigerants and the mechanical stresses that occur in HVAC systems without the risk of cracking or failure.

In summary, wrought copper tubes are essential components for efficient and durable refrigeration and air conditioning systems due to their excellent thermal conductivity, corrosion resistance, flexibility, and overall strength. These properties make them the preferred material in the HVAC industry.

This standard prescribes the requirements for purity of the copper, conductivity, metallurgical aspects of the Copper like grain size, hydrogen embrittlement, NDT tests for the issues in the material. It also prescribes the requirements for the dimensional, strength, hydrostatic test requirements and pneumatic tests.