Description

430LNbTi/1.4512 is a ferritic stainless steel grade known for its low carbon content and excellent welding properties. It is primarily utilized in applications requiring good corrosion resistance and mechanical strength, especially in environments prone to oxidation.

Chemical Composition

The typical chemical composition of 430LNbTi includes:

- Chromium (Cr): 16.0 - 18.0%
- Nickel (Ni): 0.5% max
- Molybdenum (Mo): 0.5% max
- Niobium (Nb): 0.5 - 1.0%
- Titanium (Ti): 0.1 - 0.5%
- Carbon (C): 0.03% max
- Iron (Fe): Balance

Mechanical Properties

The mechanical properties of 430LNbTi are as follows:

- Yield Strength: 310 MPa (min)
- Tensile Strength: 480 MPa (min)
- Elongation: 20% (min)
- Hardness: 200 HB (max)

Thermal & Physical Properties

- Thermal Conductivity: Approximately 25 W/m·K
- Specific Heat: 0.5 kJ/kg·K
- Density: 7.8 g/cm³
- Melting Point: 1400 - 1450 °C

Other Designations

- DIN Number: 1.4512
- Other Designations: UNS S43000, EN 1.4512

Fabrication and Heat Treatment

430LNbTi can be processed using standard fabrication techniques for stainless steels, including:

- Welding: Suitable for TIG and MIG welding processes.
- Heat Treatment: Generally not heat treated; however, stress relief can be performed at temperatures up to 800 °C.

Applications

This grade is commonly used in:

- Automotive exhaust systems
- Heat exchangers
- Kitchen equipment
- Industrial applications requiring resistance to oxidation and corrosion

Supplied Form

430LNbTi is typically supplied in the following forms:

- Filler wires
- Rods

Features

- Excellent resistance to oxidation and corrosion
- Good weldability and mechanical properties
- Stabilized with niobium and titanium to enhance performance

This datasheet provides a comprehensive overview of the 430LNbTi grade, ensuring a clear understanding of its properties and applications.