





Architecture, Building and Construction

Ferritic Stainless Steel Tubes for Floor Heating



Fabrication process	Tube making, press-fitting
Grade/surface	444 (EN 1.4521)
Dimensions	22 mm Ø, 0.8 mm wall thickness
Manufacturer	Tecnofar Spa., Delebio (SO), Italy
Source of information	Centro Inox, Milan, Italy

Contrary to classic radiators, floor heating requires relatively low temperatures (about 35°C) and therefore ideally combines with “green” sources of heating energy like solar panels or heat pumps. Traditionally, slings of polymer tubes are embedded in the floor. The idea of using stainless steel for this purpose, is new. The molybdenum-alloyed ferritic grade 444 (EN 1.4521) has boosted the application of stainless steel in household plumbing. It was a natural extension of this idea to use this type of stainless steel for floor heating, where tubes with an outer diameter of 22 mm and a wall thickness of 0.8 mm are used. Ferritic stainless steel has economic and technical benefits. Firstly, its alloying composition makes it rather price-stable. Secondly, it has higher thermal conductivity than austenitic stainless steel, which is an obvious advantage when efficient heat transfer is critically important. The clever combination of the inherent physical properties of the material with a proven joining technique opens up new opportunities in the quickly growing market of energy-efficient floor heating.