

# RAPIDOX



## Welded Tubes and Pipes

### EUROPE

#### EN 10217-7

Welded steel tubes for pressure purposes

Technical Delivery Conditions – Part 7: Stainless Steel Tubes.

This standard will replace most of the standards for welded stainless tubes and pipes for pressure purposes within the CEN countries.

It is similar to DIN 17457 and SS 219711.

The standard prescribes 100 % non-destructive testing. This gives a possible design utilization of 100%, and a weld factor  $z = 1.0$ . Heat treatment may be omitted if agreed. The standard inspection is normally in accordance with EN 10204 3.1.

#### EN 10296-2

Welded circular steel tubes for mechanical and general engineering purposes

Technical Delivery Conditions - Part 2: Stainless Steel Tubes.

This standard will replace most of the standards for welded stainless tubes and pipes for general purposes within the CEN countries.

It is similar to DIN 17455 and SS 219716.

Non-destructive testing of the weld is not mandatory. This gives a possible design utilization of 70%, and a weld factor  $z = 0.7$ . Heat treatment may be omitted if agreed. The standard inspection is normally in accordance with EN 10204 3.1. If the base metal is in accordance with EN 10028-7, and the tube mill is PED-approved, it is possible to use these pipes up to category I.

### GERMANY

**DIN 17455** Geschweisste Kreisförmige Rohre aus nichtrostenden Stählen für allgemeine Anforderungen.

DIN 17455 is used as one out of three standards for AST's sheet welded pipe. No technological or non-destructive testing is specified for tubes intended for general purposes. The permitted weld factor is  $v=0.8$ . Subject to agreement, heat treatment may be omitted. The prescribed hydrostatic testing may be replaced by eddy current testing to SEP 1925.

### USA

#### Welded pipes

**ASTM A 312/A 312M** Seamless and welded austenitic stainless steel pipe.

This standard contains analysis regulations and strength requirements. In addition, certain regulations of ASTM A 999 apply as regards inspection and tolerances. The scope of the sampling inspection to be carried out in respect of technological inspection is stated. Hydrostatic or Eddy Current testing is to be carried out as a 100% inspection. Welding is to be without filler material and the pipes are to be heat treated.

**ASTM A 358/A 358M** Electric-fusion-welded austenitic chromium-nickel alloy steel pipe for high temperature service.

This standard's class 3 forms the basis for manufacture of 254 SMO. Pipes are welded with filler material and are subject to 100% radiographic inspection.

# Specifications

**ASTM A 790/A 790 M** Seamless and welded ferritic/austenitic stainless steel pipes.

This standard is similar to ASTM A 312, but intended for duplex grades.

**ASTM A 928/A 928M** Ferritic/austenitic (duplex) stainless steel pipe electric-fusion-welded with addition of filler metal.

This standard is similar to ASTM A 358, but intended for duplex grades, and this standard's class 3 forms the basis for manufacture of 2205. Pipes are welded with filler material and are subject to 100% radiographic inspection.

## **Welded Tubes**

**ASTM A 249** Welded austenitic steel boiler superheater heat-exchanger and condenser tubes

**ASTM A 269** Seamless and Welded Austenitic Stainless Steel Tubing for General Service

**ASTM A 270** Seamless and Welded Austenitic Stainless Steel Sanitary Tubing

**ASTM A 789** Seamless and Welded Ferritic/Austenitic Stainless Steel Tubing for General Service

## **OUTGOING STANDARDS**

### **SWEDEN**

SS 21 97 11

Stainless steel - pressure vessel tubes, condition 23. Inspection class I.

SS 21 97 13

Stainless steel - pressure vessel tubes, condition 25. Inspection class II.

SS 21 97 16

Stainless steel tubes, condition 34 - pressure vessel tubes welded from plate or strip.

### **GERMANY**

DIN 17457

Geschweisste Kreisförmige Rohre aus austenitischen nichtrostenden Stählen für besondere Anforderungen.

### **FRANCE**

NFA 49-147

Tubes soudés longitudinalement à extrémités lisses pour canalisations et usages généraux.

# Specifications

## Butt weld fittings

### Europe

#### EN 10253-3

Butt-welding pipe fittings. Wrought austenitic and austenitic-ferritic (duplex) stainless steels without specific inspection requirements. Z=0.7

#### EN 10253-4

Butt-welding pipe fittings. Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements. Z=1.0

#### DIN 2609 (Outgoing)

Steel butt-welding pipe fittings. Technical delivery conditions.  
This standard will be replaced by the EN-standards above.

### USA

**ASTM A 403** Wrought austenitic stainless steel piping fittings

**ASTM A 815** Wrought ferritic, duplex, martensitic stainless steel piping fittings

## Threaded Fittings

### Europe

**EN 10241** Steel threaded pipe fittings

**DIN 2566** Threaded Flanges

## Flanges

### Europe

**EN 1092-1** Flanges and their joints. Circular flanges for pipes, valves, fittings and accessories, PN designated. Steel flanges

**DIN 2527** Blind Flanges

**DIN 2573-76** Flat Welding Flanges

**DIN 2641-42** Loose Flanges

**DIN 2655-56** Loose Flanges

**DIN 2631-38** Welding Neck Flanges

### USA

**ASTM A 182** Forged or rolled alloy-steel pipe flanges, forged fittings and valves and parts for high-temperature service

**ASME SA-240** This specification covers chromium, chromium-nickel, and chromium-manganese-nickel stainless and heat-resisting steel plate, sheet, and strip for pressure vessels.