

Steel pipes for an inside pressure with inner ceramic wear protection lining

1. Outer steel tubes

Straight pipes and segmental welded bends made of welded steel tubes to EN 10217-1/EN 10220.

Dimensions to EN 10217-1 as well as special sizes to specification

Outer diameter depending on the inside diameter and on the wall thickness of the inner ceramic wear protection lining

2. Flanges

Fixed flanges and/or rotating flanges (fixed collars with loose flanges) to EN 1092-1, as alternative option to earlier DIN Standards 2576/2642 with flat sealing face, dimensions in accordance with the diameters of the outer steel tubes (to 1.)

3. Materials

Outer steel tubes (1.) and flanges (2.) made of mild steel S235JR to EN 10025-2.

4. Weldings

- welding carried out by certified welders to EN 287
- welding carried out in accordance with welding procedures to EN 288
- welding carried out in accordance with the quality requirements per EN 729
- assessment of welded joints to EN 5817, acceptance level D
- welding process predominantly used: MAG, electrical, manual
- welding of fixed flanges and collars with fillet weld to EN 1708-1, No. 5.1.4., inner fillet weld however not penetrated, but only tack welded in four places

5. Dimensional tolerances

General tolerances for welding constructions to EN 13920, tolerance class A.

6. Surface treatment

- to works standard:
 - inside of steel tubes: none,
 - outside of steel casings, flanges and collars: standard primer after manual rust removal
- the flange or sealing surfaces are not painted and are only provided with temporary corrosion protection
- upon request, to customer specification (against separate charge)

7. Wear protection

- ceramic materials: cast basalt, zirconia ceramic, alumina ceramic, silicon carbide ceramic, to SC-works standards
- installation into steel tubes by use of a Portland cement mortar

8. Tests

- to works standard: none
- upon customer request (against separate charge):
 - hydrostatic pressure test,
 - non-destructive material tests,
 - others

9. Declarations / material certificates

- to works standard: none
- upon request, to customer specification (against separate charge):
 - Works Certificate 2.2. / 3.1.B to EN 10204,
 - Declaration of Conformity on the scope of supplies and services,
 - other attestations