

## 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
- 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
- as alternative option: protection with our ceramic wear protection compound SC-WearStop®

### 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