Print Form

STATICAL OUESTIONNAIRE FOR BURRIED PIPES

Basic design

Raw material: ☐ PE-HD ☐ PP Othrer: _____

Internal diameter: _____ mm

INSTALLATION

Cover condition

☐ A1- Trench backfill compacted against the native soil by layers (without verification of compaction degree); applies also to pile walls (Berlin shuttering).

☐ A2 - Vertical shuttering of the pipe trench using trench sheeting, which is not removed until after backfilling. Shuttering plates or equipment that are removed step by step during backfilling. Uncompacted trench backfill. Washing-in of the backfill (suitable only for soils of group G1)

☐ A3 - Vertical shuttering of the pipe trench using sheet piling, lightweight piling profiles, wooden beams, shuttering plates or equipment which are not removed until after backfilling.

☐ A4 - Backfilling compacted in layers against the native soil with verification of the required compaction degree to ZTVE-StB (see Section 4.2); applies also to beam pile walls (Berlin shuttering). Cover condition A4 is not applicable with group G4.

Bedding condition

☐ B1 - Bedding compacted by layers against the native soil or in the embankment (without verification of the degree of compaction); applies also to beam pile walls (Berlin shuttering).

☐ B2 - Vertical shuttering in the pipe zone using trench sheeting that reach down to the trench bottom and is not removed until after backfilling and compaction. Shuttering boards or equipment under the assumption that the soil is compacted after the trench sheeting is removed.

☐ B3 - Vertical shuttering within the pipe zone using sheet piling or lightweight piling profiles and compaction against the trench sheet reaching down below the trench bottom.There is no safe calculation model for determining vertical lining with wooden planks, boards or devices that are not removed until after backfilling and compacting the pipe zone.

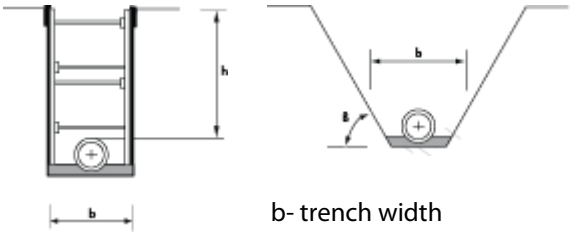
☐ B4 - Bedding compacted by layers against the native soil or in the embankment with verification of the required compaction degree according to ZTVE-StB. Embedding condition B4 is not applicable with soils of group G4.

Trench condition

Covering height (h): _____ mm

Trench width: _____ mm

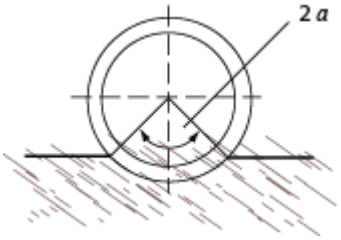
Slope angle: _____



b- trench width

Bedding form: ☐ loose ☐ tight

Angle:



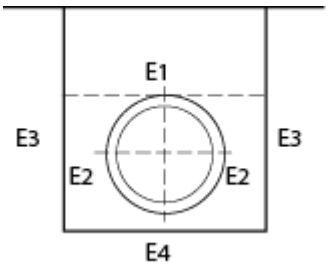
☐ 60

☐ 90

☐ 120

☐ 180

SOIL CONDITIONS



E1- above pipe crown:

Soil group:

☐ G1 - loose (sand, gravel)

☐ G2 - lightly bonded (sand, graval)

☐ G3 - mixed soil (bonding, muddly)

☐ G4 - clay, wet clay

Proctor density: _____ %

E2- at the side of the pipe:

Soil group:

- ☐ G1 - loose (sand, gravel)
- ☐ G2 - lightly bonded (sand, graval)
- ☐ G3 - mixed soil (bonding, muddly)
- ☐ G4 - clay, wet clay

Proctor density: _____ %

E3- beneath trench / line zone:

Soil group:

- ☐ G1 - loose (sand, gravel)
- ☐ G2 - lightly bonded (sand, graval)
- ☐ G3 - mixed soil (bonding, muddly)
- ☐ G4 - clay, wet clay

Proctor density: _____ %

E4- below the pipe:

Soil group:

- ☐ G1 - loose (sand, gravel)
- ☐ G2 - lightly bonded (sand, graval)
- ☐ G3 - mixed soil (bonding, muddly)
- ☐ G4 - clay, wet clay

Proctor density: _____ %

LOADS

Soil density: kN/m3

Minimum groundwater level: mm

Additional surface load: N/mm2

Internal pressure: bar

Maximum groundwater level: mm

Working pressure: bar

☐ Water filling (e.g. damming channel)

Density of medium:

Traffic load:

☐ no traffic

☐ two row highway

☐ one row highway

☐ railway

☐ airport

Free entry of traffic load:

SAFETY CLASSES

☐ Class **A**

☐ Class **B**, be used in special cases if the following conditions apply:

No risk to groundwater

Little interference with use

Failure will only have minimal economic impact

Safety class **A** (>2,5)

Admissible deformation:

☐ 2% railway

Safety class **B** (special case >2)

☐ 6% (regular)

☐ 9% (justified exceptions)