

## Input Data for structural analysis

of applications in renovation with Lining-, Sliplining with GRP Pipes;  
calculation acc. DWA-A 143, Teil 2

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Text input.

project name

Text input.

company

Text input.

street

Text input.

postcode

Text input.

city

Text input.

contact person

Text input.

phone/fax

Text input.

mail

Text input.

date/stamp/signature

### Details to the geometry old channel (circular shape, egg shape, other shape)

inner diameter old pipe

Text input.

mm

minimal cross section old pipe

Text input.

mm (for pipe design)

profile shape

circular

egg

others

Text input.

material

Text input.

local predeformation

Text input.

%

section length

Text input.

m

pipe slope

Text input.

%

### Details to the required GRP pipe; spacers; plastic skids

pipe material

GRP (UP-GF)

sewer pipe

nominal diameter DN

Text input.

pressure sewer pipe

pressure class PN

Text input.

pressure pipe

nominal stiffness SN

Text input.

potable water pipe

Spacer planned  yes  no  others

axial gap of spacer grid  m

short information to the planned installation  
(Pipe support, Pipe fixation, construction details, etc.)

**details to the loads; characteristic values of soil**

- old-pipe condition I (ARZ I)** Old pipe structurally load-bearing (e.g. leakage in the pipe connection or wall; no cracks, excluded hair-cracks)
- old-pipe condition II (ARZ II)** Old pipe-ground system structurally load-bearing (e.g. longitudinal scratches with low pipe deformation with checked active lateral bedding. Confirmed e.g. by long time observation and / or dynamic probing of soil resistance)
- old-pipe condition III (ARZ III)** pipe-ground system long-early only not more load-bearing; clear distortions; towards condition II the liner is also claimed by earth loads and traffic loads

**Ground water over pipe Invert\*** max  $h_{w,so}$   m

\* acc. DWA A-143-2 OD+100mm; however at least 1500mm above pipe-invert

**Only for old-pipe condition ARZ III:**

cover depth above the pipe crown from  m to  m

native soil  G1, non-cohesive soils (gravel, sand)

G2, slightly cohesive soils

G3, cohesive mixed soils, silt

G4, cohesive soils, except silts

proctor density native soil  % or modulus of deformation native soil  N/mm<sup>2</sup>

- traffic load  no traffic load  
 road  
 railway  
 aircraft load  
 others

HCL/LM1

Text input.

UIC/LM71

single track  multiple track

DAC/BFZ

Text input.

Text input.

General damage description of the old pipe, e.g. leaching at pipe invert, longitudinal cracks at pipe crown, circumferential cracks, broken shards, missing pipe pieces, other damages

Texteingabe.

Texteingabe.

Texteingabe.

Texteingabe.

**Water filling in the relining pipe while grouting of the annular gap**

No water filling

partial charge of water filling

Pipe completely filled with water

additional load inside the pipe

Water depth middle of canal section  m

Water height above pipe crown (upper section end)  m

Kg/m

specific weight of the grout material  KN/m<sup>3</sup>

Grout level above pipe crown (lower section end)  m

multi-stage grouting  yes  no

Number of layers  Pc.

Layer height  m

Example: Standard grout material  
14-18 KN/m<sup>3</sup>  
light grout material  
8-14 KN/m<sup>3</sup>

Please provide technical data sheet of the planned grout material!