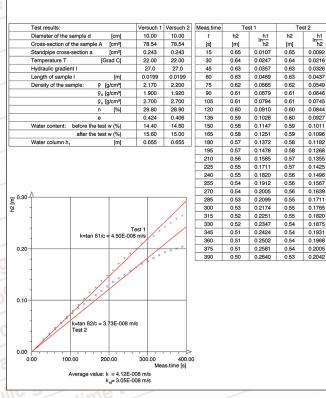## DC-SOFTWARE

Density
Water content
DCDENS

- Density acc. to DIN 18 125, EN ISO/TS 17892-2
- Water content acc. to DIN 18 121, EN ISO/TS 17892-1, SN 670 340b
- German, English, French language
- Printout for density and water content together or separately
- Water content with 2 or 4 measures
- Optionally with comparison to the degree of compaction from the proctor test

Bowl no.	Bowl and sample moist [g]	= 453.70 g	Bowl and sample dry [g]	= 446.18 g
	Bowl and sample dry [g]	= 446.18 g	Bowl weight [g]	= 190.40 g
1	Water content [g]	= 7.52 g	Dry sample G [g]	= 255.78 g
			Water content [%]	= 2.94 %
Bowl no.	Bowl and sample moist [g]	= 445.70 g	Bowl and sample dry [g]	= 437.48 g
	Bowl and sample dry [g]	= 437.48 g	Bowl weight [g]	= 182.55 g
2	Water content [g]	= 8.22 g	Dry sample G [g]	= 254.93 g
			Water content [%]	= 3.22 %
			Average	= 3.08 %

Water content

Density	Natural water content w_n [%]	3.08
	Density of moist soil [g/cm²]	1.614
	Density of dry soil [g/cm²]	1.586
Compaction	100% Proctor density	2.010
	min/max water content	15.20 / 18.40
	req. degree of compaction	95.0
	obt. degree of compaction	77.9
Coefficients	Granular density γ_s	2.670
	1-n	0.59
	Pore content n	0.41
	Pore ratio ε	0.71
	Saturation ratio S_r	0.12

Density and coefficients

Permeability test
DCPERM

- Permeability test acc. to DIN 18 130, EN ISO/TS 17892-11
- German, English, French language

5 types of tests according to DIN 18 130:
- mixed-grained soils according to DIN 18 130 - KD - ES - ST - SB
- coarse-grained soils according to DIN 18 130 - ZY - MS - MZ
- mixed-grained soils according to DIN 18 130 - TX - DE - MZ - SB
- fine-grained soils according to DIN 18 130 - TX - DE - KP - UO
- coarse-grained soils according to DIN 18 130 - ZY - ES - ST

3 types acc. to EN ISO/TS 17892-11:
- Falling hydraulic head
- Constant hydraulic head
- Triaxial cell

- Customizable number of measurements
- Output of all test data in a table

Analysis of mixed-grained soils acc. DIN 18130 - KD - ES - ST - SB

Test results:		Versuch 1	Versuch 2
Diameter of the sample d	[cm]	10.00	10.00
Cross-section of the sample A	[cm²]	78.54	78.54
Standpipe cross-section a	[cm²]	0.243	0.243
Temperature T	[Grad C]	22.00	22.00
Hydraulic gradient I		27.0	27.0
Length of sample l	[m]	0.0199	0.0199
Density of the sample: ϑ	[g/cm³]	2.170	2.200
ϑ_d	[g/cm³]	1.900	1.920
ϑ_s	[g/cm³]	2.700	2.700
n	[%]	29.80	28.90
e		0.424	0.406
Water content: before the test w (%)		14.40	14.60
after the test w (%)		15.60	15.00
Water column h_1	[m]	0.655	0.655

Meas.time	Test 1		Test 2	
t [s]	h2 [m]	ln h1/h2	h2 [m]	ln h1/h2
15	0.65	0.0107	0.65	0.0092
30	0.64	0.0247	0.64	0.0216
45	0.63	0.0357	0.63	0.0326
60	0.63	0.0469	0.63	0.0437
75	0.62	0.0565	0.62	0.0549
90	0.61	0.0679	0.61	0.0646
105	0.61	0.0794	0.61	0.0745
120	0.60	0.0910	0.60	0.0844
135	0.59	0.1028	0.60	0.0927
150	0.58	0.1147	0.59	0.1011
165	0.58	0.1251	0.59	0.1096
180	0.57	0.1372	0.58	0.1182
195	0.57	0.1478	0.58	0.1268
210	0.56	0.1585	0.57	0.1355
225	0.55	0.1711	0.57	0.1425
240	0.55	0.1820	0.56	0.1496
255	0.54	0.1912	0.56	0.1567
270	0.54	0.2005	0.56	0.1639
285	0.53	0.2099	0.55	0.1711
300	0.53	0.2174	0.55	0.1765
315	0.52	0.2251	0.55	0.1820
330	0.52	0.2347	0.54	0.1875
345	0.51	0.2424	0.54	0.1931
360	0.51	0.2502	0.54	0.1968
375	0.51	0.2581	0.54	0.2005
390	0.50	0.2640	0.53	0.2042

Test 1
k=tan ß1/c = 4.50E-008 m/s

k=tan ß2/c = 3.73E-008 m/s
Test 2

Average value: k = 4.12E-008 m/s
k$_{id}$= 3.05E-008 m/s

Evaluation with balancing straight line