

LADR GmbH

Medizinisches Versorgungszentrum Dr. Kramer und Kollegen

Abt. Wasser-Abwasser-Umwelthygiene

21502 Geesthacht

Lauenburger Str. 65-67

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* akkreditiert durch:



DAP-PL-3022.00

GROUTTECH

Voltweg 2

NL-8071 CZ Nunspeet

Nederland

Geesthacht, 12. April 2011

Test Certificate

according to the KTW recommendations

(Federal Health Gazette 20, 1977ff)

(This test was implemented in accordance with the requirements of the KTW-recommendation of October 2005.)

Note: The actual state of the KTW recommendations given by the German Federal Environmental Agency (UBA) was published in October 2008.

Applicant: GROUTTECH
Voltweg 2
NL-8071 CZ Nunspeet
Nederland

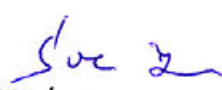
Product: Epoxy-Injectionresin
GROUTTECH 4110

Test type: Product testing

According to the test report dated April 12, 2011 the test boards Lab.-No. 38096/00/01 **GROUTTECH 4110** fulfill the requirements of the KTW recommendations for the following

Application area(s)	Temperature range(s)		
	cold water	warm water	hot water
A Pipes	--	--	--
B Containers	--	--	--
C Equipment gear	--	--	--
D1 Large-surface sealants	fulfilled	--	--
D2 Small-surface sealants	--	--	--

if the material is suitable for these in technical terms.


Head of laboratory:

(Dr. S. Dageförde)

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GROUTTECH
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NL-8071 CZ Nunspeet
Nederland

Geesthacht, 12. April 2011

Test report

(This test was implemented in accordance with the requirements of the KTW recommendation from 1977 dated October 2005.)
Note: The actual state of the KTW recommendations given by the German Federal Environmental Agency (UBA) was published in October 2008.

Laboratory-No.: 38096/00/01 KTW-classification: D1 "Large-surface sealants "
Manufacturer: GROUTTECH Proportion of surface and volume: 1:25 cm²/cm³
Type of sample: Epoxy-Injectionresin Test sample surface: 53.6 cm²
Sample name: GROUTTECH 4110 Test water volume: 1340 mL

Test results:

Parameter	after 3 days	after 6 days	after 9 days	KTW-requirements after 9 days
pH	8.53	8.49	8.52	6.5–9.5 DIN 38404 C5
absorption coefficient „colour“ (436nm) ^{1/m}	<0.1	<0.1	<0.1	n.c.i. (≤0.5) DIN EN ISO 7887
Turbidity TE/F	<0.1	<0.1	<0.1	n.c.i. (≤1.5) DIN EN ISO 7027
Tendency of foam formation	n.c.i.	n.c.i.	n.c.i.	n.c.i.
Threshold odour number (20°C)	1	1	1	≤2
TOC (mg C/m ² *day)	4.9	3.3	1.6	≤60 DIN EN 1484
Oxidation reaction with chlorine (mg Cl ₂ /m ² *day)	11.5	10.7	9.1	≤75 DIN EN ISO 7393-2

n.c.i. = not considerably influenced

Assessment:

The test samples of **GROUTTECH 4110** provided fulfill the requirements according to the KTW recommendations of the Federal Health Department for the application range D1 "Large-surface sealants" (surface/volume = 1:25 cm²/cm³).

Head of laboratory:
(Dr. S. Dageförde)