

# Quality Association of the Vitrified Clay Pipe Industry

Testing, supervising and certificating authority

Steinzeug Abwassersysteme GmbH  
Werk STG-3  
Alfred-Nobel-Strasse 32  
  
50226 Frechen

## Notified body for the certification of

- Vitrified clay pipes and fittings
- Seals and sealing materials for drainage applications
- Sanitary components
- Toilets



Köln, 31/03/2005

## Test report

**Nr. 19090 b**

Subject	Third party certification
Ordered by	<b>Quality Association of the Vitrified Clay Pipe Industry.</b>
Order	Testing of jacking pipes - compressive strength
Manufacturer	Steinzeug Abwassersysteme GmbH., Werk STG-3
Order Nr.	GR2 - 6/05
Sampling date	1/02/2005
Sample entry date	11/02/2005
Samples	4 Jacking pipes EN295-7 DN 600 - FN 96 - 9,6 with stainless steel sleeve Type 2
Evaluation	The requirements of EN 295-7, WN 295 and the quality and testing rules for vitrified clay jacking pipes are fulfilled. The routine testing has been performed completely. The results can be found in the monthly evaluation sheets.

### The quality committee

This test report contains an annex of 2 pages and shall not be used abridged.

**Quality Association of the Vitrified Clay Pipe Industry.**

Annex page 1 of test report 19090 b

dated 31/03/2005

Ordered by: STG3

Samples: Jacking pipes DN 600 x 2000

Order Nr.: GR2 - 6/05

Sample Nr.: 24 -- 26

Sample Nr.: 24

Production date: 7/04/2004

Test specimen nr	Diameter d mm	Area A mm <sup>2</sup>	max load F <sub>B</sub> kN	Compr. strength Sigma d N/mm <sup>2</sup>	Requirement WN 295-7
1	14,9	174,37	29,98	171,94	
2	14,9	174,37	29,99	171,99	
3	14,89	174,13	27,82	159,76	
4	14,89	174,13	27,19	156,15	
5	14,89	174,13	29,32	168,38	
6	14,89	174,13	30,93	177,62	
7	14,88	173,90	31,81	182,92	
8	14,89	174,13	33,80	194,11	
9	14,88	173,90	33,42	192,18	
10	14,9	174,37	33,38	191,44	
Mean value			x =	176,65	min. 100 N/mm <sup>2</sup>
Standard deviation			s =	13,428	
95%-Fractile			=	147,93	

Sample Nr.: 25

Production date: 13/04/2004

Test specimen nr	Diameter d mm	Area A mm <sup>2</sup>	max load F <sub>B</sub> kN	Compr. strength Sigma d N/mm <sup>2</sup>	Requirement WN 295-7
1	14,89	174,13	28,96	166,31	
2	14,88	173,90	30,33	174,41	
3	14,89	174,13	31,93	183,37	
4	14,88	173,90	32,50	186,89	
5	14,88	173,90	32,12	184,71	
6	14,88	173,90	32,75	188,33	
7	14,88	173,90	33,07	190,17	
8	14,88	173,90	33,91	195,00	
9	14,88	173,90	33,28	191,38	
10	14,88	173,90	33,98	195,40	
Mean value			x =	185,60	min. 100 N/mm <sup>2</sup>
Standard deviation			s =	9,134	
95%-Fractile			=	166,06	



Testing institute

**Quality Association of the Vitrified Clay Pipe Industry.**

Annex page 2 of test report 19090 b

dated 31/03/2005

Ordered by: STG3

Samples: Jacking pipes DN 600 x 2000

Order Nr.: GR2 - 6/05

Sample Nr.: 24 -- 26

Sample Nr.: 26

Production date: 8/04/2004

Test specimen nr	Diameter d mm	Area A mm <sup>2</sup>	max load	Compr. strength	Requirement  WN 295-7
			F <sub>B</sub> kN	Sigma d N/mm <sup>2</sup>	
1	14,88	173,90	35,06	201,61	
2	14,88	173,90	35,52	204,26	
3	14,87	173,66	35,68	205,45	
4	14,87	173,66	34,56	199,00	
5	14,87	173,66	35,40	203,84	
6	14,87	173,66	34,40	198,08	
7	14,87	173,66	35,81	206,20	
8	14,89	174,13	35,47	203,70	
9	14,88	173,90	34,67	199,37	
10	14,89	174,13	34,39	197,49	
Mean value			x =	201,90	min. 100 N/mm <sup>2</sup>
Standard deviation			s =	3,207	
95%-Fractile			=	195,04	

**Statistical overall evaluation**

Samples 4 -- 6  
number of specimen 30

<b>mean value</b>	<b>x =</b>	<b>188,05</b>
<b>standard deviation</b>	<b>s =</b>	<b>14,075</b>
<b>95%-fractile</b>	<b>=</b>	<b>161,89</b>

1) Quality and test prescriptions for vitrified clay jacking pipes



Testing institute