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Institute of Building Materials, Concrete Construction and Fire Safety | Braunschweig Civil Engineering Materials Testing Institute

Assessment Report

Abstract to Assessment Report No. 1101/063/16-ND of MPA Braunschweig

Document No.:	(1101/063/16 – ND - kurz) – Bod dd 20/02/2023
Customer:	Meesenburg Großhandel KG Westerallee 162 24941 Flensburg
Order date:	08/02/2016
Reference:	-
Order received:	08/02/2016
Subject:	Determination of the admissible pressure load on the composite system of blaugelb **Triotherm**+ and various connecting masonry (concrete, sand-lime brick, aerated concrete PP2 and PP4, perforated bricks and expanded clay). Proof of structural safety.
Test basis:	ETB-Guideline, 1985 and DIN 4103-1: 2015
Test material received:	
Sampling:	By customer
Test material marking:	By MPA Braunschweig
Assessment period:	February 2016, June 2016, March 2017, April 2017, December 2017 and April 2019

Materialprüfanstalt f. d. Bauwesen MPA BS 1 Braunschweig

This Assessment Report consists of 12 pages, including the cover sheet.

This document is the translated version of Untersuchungsbericht (1101/063/16 – ND -kurz) – Bod dd 03/06/2020. The legally binding text is the aforementioned German Untersuchungsbericht.

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Notified body (0761-CPR) -
Approved as a civil engineering testing, inspection and certifying body as well as notified as a civil engineering testing and certifying body.

1 Background

The Meesenburg Großhandel KG, based in Flensburg, Germany comissioned the Civil Engineering Materials Testing Institute, Braunschweig (MPA BS) with the proof of the structural safety of a construction made from the construction material blaugelb **Triotherm⁺** in combination with various wall building materials. For this purpose, tests with the wall building materials concrete, sand-lime brick, aerated concrete type PP2 and PP4, perforated bricks and expanded clay, combined with blaugelb **Triotherm⁺**, were carried out in the test hall of the MPA Braunschweig, see assessment report No. 1101/063/16-ND of MPA Braunschweig.

2 Summary

The Meesenburg Großhandel KG commissioned the Materials Testing Institute for Civil Engineering in Braunschweig (MPA BS) with the proof of the structural safety of a construction made of the construction material blaugelb **Triotherm⁺** and various wall building materials.

For this purpose, tests with the wall building materials concrete, sand-lime brick, aerated concrete type PP2 and PP4, perforated bricks and expanded clay were carried out from February 2016 to April 2019 in the test hall of the MPA Braunschweig.

The maximum forces and deformations are shown in Tables 1 to 20 below. In addition, the tables give the mean value of the force for a deformation of the test specimen of w = 3.0 mm.

Table 1 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and perforated bricks (Hochlochziegel HLZ). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
HLZ-T14-70-010	4,10	3,88	5,29	3,28	3,5	3,39
HLZ-T14-70-011	*2,93 (n.b.)*		*4,68 (n.b.)*		*2,73 (n.b.)*	
HLZ-T14-70-012	3,54		4,54		3,27	
HLZ-T14-70-013	3,29		2,49		-	
HLZ-T14-70-015	*5,90 (n.b.)*		*2,76 (n.b.)*		-	
HLZ-T14-70-016	4,61		2,27		-	
HLZ-T14-70-017	3,06		2,61		-	
HLZ-T14-70-018	4,68		2,45		-	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Cont. Table 1:

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
HLZ-T14-020	7,68	7,42	6,56	6,43	5,72	5,19
HLZ-T14-021	7,71		5,74		6,65	
HLZ-T14-022	6,86		6,93		6,01	
HLZ-T14-023	7,36		7,64		5,41	
HLZ-T14-024	5,97		3,29		5,68	
HLZ-T14-024	*9,91 (n.b.)*		*11,43 (n.b.)*		*4,88 (n.b.)*	
HLZ-T14-025	8,85		7,13		3,71	
HLZ-T14-026	7,53		7,69		3,16	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Table 2 Compilation of the test results for the tests made of the construction material **Triotherm**$^+$ and perforated bricks (Hochlochziegel HLZ). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
HLZ-T14-030	5,27	5,81	7,25	7,16	3,28	3,3
HLZ-T14-031	5,68		5,44		4,33	
HLZ-T14-032	6,74		7,72		3,48	
HLZ-T14-033	*7,38 (n.b.)*		*7,02 (n.b.)*		*4,93 (n.b.)*	
HLZ-T14-033	5,78		6,91		3,59	
HLZ-T14-034	5,27		7,02		2,39	
HLZ-T14-035	6,26		8,00		3,71	
HLZ-T14-036	5,64		7,81		2,29	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Table 3 Compilation of the test results for the tests made of the construction material **Triotherm**$^+$ and perforated bricks (Hochlochziegel HLZ). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
HLZ-T14-70 (2)-110	4,95	5,17	3,37	5,14	4,85	3,89
HLZ-T14-70 (2)-111	5,28		3,30		5,22	
HLZ-T14-70 (2)-112	4,46		3,38		4,33	
HLZ-T14-70 (2)-113	4,89		7,67		3,38	
HLZ-T14-70 (2)-114	5,75		5,57		3,29	
HLZ-T14-70 (2)-115	5,68		7,57		2,26	

Cont. Table 3:

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
HLZ-T14-160 (2) - 130	6,68	6,74	7,47	7,06	3,15	3,61
HLZ-T14-160 (2) - 131	*5,6 (n.b.)*		*6,56 (n.b.)*		*3,97 (n.b.)*	
HLZ-T14-160 (2) - 132	6,31		7,04		3,40	
HLZ-T14-160 (2) - 133	7,01		6,48		4,08	
HLZ-T14-160 (2) - 134	6,96		7,25		3,82	

(n.b.): Measured value for experiment 131 not included in the averaging for the force

Table 4 Compilation of the test results for the tests made of the construction material **Tri-otherm⁺** and perforated bricks (Hochlochziegel HLZ). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
HLZ-(SFK12)-170-141	5,71	4,52	6,71	6,15	3,73	3,04
HLZ-(SFK12)-170-142	*6,34 (n.b.)*		*7,22 (n.b.)*		*3,87 (n.b.)*	
HLZ-(SFK12)-170-143	4,17		5,81		2,83	
HLZ-(SFK12)-170-144	*3,42 (n.b.)*		*6,10 (n.b.)*		*3,14 (n.b.)*	
HLZ-(SFK12)-170-145	4,58		5,7		3,36	
HLZ-(SFK12)-170-146	3,6		6,36		2,25	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Table 5 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and sand-lime bricks (Kalksandstein KS). In addition, the measured test forces for a deformation of w = 3.0 mm are

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS-SFK12-70-040	3	3,46	5,94	4,63	2,76	2,91
KS-SFK12-70-041	3,39		5,99		2,74	
KS-SFK12-70-042	3,24		5,49		2,91	
KS-SFK12-70-043	*2,76 (n.b.)*		*7,51 (n.b.)*		*2,48 (n.b.)*	
KS-SFK12-70-043n	4,02		2,99		3,06	
KS-SFK12-70-044	3,35		5,88		3,15	
KS-SFK12-70-045	*4,52 (n.b.)*		*4,01 (n.b.)*		*4,44 (n.b.)*	
KS-SFK12-70-046	3,35		3,33		2,81	
KS-SFK12-70-047	3,85		2,76		-	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Cont. Table 5:

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS-SFK12-70-(2)-100	4,94	4,98	4,82	5,41	4,63	4,56
KS-SFK12-70-(2)-101	4,91		4,56		4,7	
KS-SFK12-70-(2)-102	4,85		4,35		4,7	
KS-SFK12-70-(2)-103	4,99		4,79		4,72	
KS-SFK12-70-(2)-104	5,19		8,53		4,05	
KS-SFK12-70-(2)-105	*5,47 (n.b.)*		*6,81 (n.b.)*		*4,90 (n.b.)*	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Table 6 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and sand-lime bricks (Kalksandstein KS). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS-SFK12-Stp-70-140	11,90	11,62	8,49	8,51	5,95	6,53
KS-SFK12-Stp-70-141	11,29		7,99		6,80	
KS-SFK12-Stp-70-142	11,66		9,04		6,85	
KS-SFK12-Stp-70-(2) 241	16,10	14,98	10,74	9,38	8,62	8,70
KS-SFK12-Stp-70-(2) 242	14,66		9,31		8,38	
KS-SFK12-Stp-70-(2) 243	14,19		8,08		9,09	

Table 7 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and sand-lime bricks (Kalksandstein KS). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS-SFK12-90-050	*5,49 (n.b.)*	10,49	*5,93 (n.b.)*	10,63	*4,77 (n.b.)*	6,29
KS-SFK12-90-051	*5,29 (n.b.)*		*4,20 (n.b.)*		*4,64 (n.b.)*	
KS-SFK12-90-052	10,77		11,33		6,52	
KS-SFK12-Stp-90-052	10,97		12,07		5,09	
KS-SFK12-90-053	*5,77 (n.b.)*		*7,36 (n.b.)*		*4,57 (n.b.)*	
KS-SFK12-90-054	11,36		5,27		9,75	
KS-SFK12-Stp-90-054	8,84		13,83		3,80	
KS-SFK12-90-055	*6,12 (n.b.)*		*13,51 (n.b.)*		*3,97 (n.b.)*	
KS-SFK12-90-056	*3,31 (n.b.)*		*9,07 (n.b.)*		*2,37 (n.b.)*	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Cont. Table 7:

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS-SFK12-Stp-90-(2)-150	15,09	13,45	12,600	12,1	3,65	4,68
KS-SFK12-Stp-90-(2)-151	12,32		14,54		4,48	
KS-SFK12-Stp-90-(2)-152	12,65		11,83		4,36	
KS-SFK12-Stp-90-(2)-153	14,11		12,21		4,89	
KS-SFK12-Stp-90-(2)-154	13,99		11,49		4,72	
KS-SFK12-Stp-90-(2)-155	12,55		9,910		5,97	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Table 8 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and sand-lime bricks (Kalksandstein KS). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS-SF12-Stp(200)-90-160	14,50	14,28	8,83	9,45	6,89	7,86
KS-SF12-Stp(200)-90-161	14,34		10,15		7,78	
KS-SF12-Stp(200)-90-162	14,58		9,38		7,66	
KS-SF12-Stp(200)-90-163	13,58		10,14		7,45	
KS-SF12-Stp(200)-90-164	14,00		7,24		9,08	
KS-SF12-Stp(200)-90-165	14,70		10,94		8,29	

Table 9 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and sand-lime bricks (Kalksandstein KS). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS-SFK12-120-060	8,52	8,06	11,86	9,71	5,02	5,28
KS-SFK12-120-061	7,6		9,64		5,79	
KS-SFK12-120-062	8,36		6,98		6,38	
KS-SFK12-120-063	8,56		9,98		4,87	
KS-SFK12-120-064	7,27		10,08		4,36	

Table 10 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and sand-lime bricks (Kalksandstein KS). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS-SFK12-Stp-170-171	11,14	12,21	12,7	12,64	5,07	6,07
KS-SFK12-Stp-170-172	13,08		10,47		6,67	
KS-SFK12-Stp-170-173	13,52		14,81		6,43	
KS-SFK12-Stp-170-174	11,81		14,38		6,13	
KS-SFK12-Stp-170-175	13,39		10,34		7,67	
KS-SFK12-Stp-170-176	10,31		13,13		4,44	
KS-SFK12-Stp(2)-170-181	10,81	-	9,25	-	6,07	-

Table 11 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and sand-lime bricks (Kalksandstein KS). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS, (SFK 12), 140 (1), 111	2,51	2,71	6,42	3,71	1,99	2,23
KS, (SFK 12), 140 (1), 112	2,52		3,38		2,46	
KS, (SFK 12), 140 (1), 113	2,24		3,04		1,62	
KS, (SFK 12), 140 (1), 114	3,18		3,34		2,36	
KS, (SFK 12), 140 (1), 115	2,81		3,26		2,73	
KS, (SFK 12), 140 (1), 116	2,78		2,83		-	

Table 12 Compilation of the test results for the tests made of the construction material **Triotherm+** and sand-lime bricks (Kalksandstein KS). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
KS, (SFK 12), 140 (2), 121	3,44	3,48	10,59	9,97	2,29	2,65
KS, (SFK 12), 140 (2), 122	3,54		10,21		2,90	
KS, (SFK 12), 140 (2), 123	3,21		10,67		2,63	
KS, (SFK 12), 140 (2), 124	3,55		9,11		2,36	
KS, (SFK 12), 140 (2), 125	3,39		9,73		3,05	
KS, (SFK 12), 140 (2), 126	3,71		9,51		2,65	
KS, (SFK 12), 140 (3) + Statikprofil, 131	8,53	8,76	18,17	18,01	4,87	4,55
KS, (SFK 12), 140 (3) + Statikprofil, 132	8,87		22,81		4,81	
KS, (SFK 12), 140 (3) + Statikprofil, 133	8,69		17,53		4,52	
KS, (SFK 12), 140 (3) + Statikprofil, 134	8,91		17,01		4,62	
KS, (SFK 12), 140 (3) + Statikprofil, 135	8,56		14,54		3,91	
KS, (SFK 12), 140 (4) + Stahlprofil, S141	5,66	5,42	15,56	16,61	4,00	3,96
KS, (SFK 12), 140 (4) + Stahlprofil, S142	5,50		17,54		3,88	
KS, (SFK 12), 140 (4) + Stahlprofil, S143	5,73		16,52		3,98	
KS, (SFK 12), 140 (4) + Stahlprofil, S144	5,05		15,64		3,64	
KS, (SFK 12), 140 (4) + Stahlprofil, S145	5,54		14,74		4,43	
KS, (SFK 12), 140 (4) + Stahlprofil, S146	5,3		19,67		3,85	
KS, (SFK 12), 230 (3) + Statikprofil, S151	7,14	7,6	9,66	8,31	3,46	4,42
KS, (SFK 12), 230 (3) + Statikprofil, S152	7,8		9,77		4,33	
KS, (SFK 12), 230 (3) + Statikprofil, S153	7,39		7,16		4,69	
KS, (SFK 12), 230 (3) + Statikprofil, S154	7,65		7,73		4,57	
KS, (SFK 12), 230 (3) + Statikprofil, S155	7,56		7,23		5,04	
KS, (SFK 12), 230 (4) + Statikprofil, S161	9,08	8,87	12,07	13,94	5,01	4,73
KS, (SFK 12), 230 (4) + Statikprofil, S162	8,47		10,94		4,57	
KS, (SFK 12), 230 (4) + Statikprofil, S163	8,93		18,43		4,7	
KS, (SFK 12), 230 (4) + Statikprofil, S164	9,38		16,86		4,94	
KS, (SFK 12), 230 (4) + Statikprofil, S165	9,3		13,14		5,00	
KS, (SFK 12), 230 (4) + Statikprofil, S166	8,26		12,22		4,14	
KS, (SFK 12), 200 (1), S171	4,73	3,90	6,23	6,75	3,17	3,29
KS, (SFK 12), 200 (1), S172	4,13		6,66		3,27	
KS, (SFK 12), 200 (1), S173	3,72		6,5		3,58	
KS, (SFK 12), 200 (1), S174	3,63		7,50		3,27	
KS, (SFK 12), 200 (1), S175	4,10		6,86		3,17	
KS, (SFK 12), 55 (u), 450-01	4,296	4,41	7,36	5,23	2,35	2,58
KS, (SFK 12), 55 (u), 450-02	3,847		5,22		2,39	
KS, (SFK 12), 55 (u), 450-03	4,650		5,42		2,53	
KS, (SFK 12), 55 (u), 450-04	4,164		4,80		2,72	
KS, (SFK 12), 55 (u), 450-05	4,374		3,55		2,30	
KS, (SFK 12), 55 (u), 450-06	5,024		5,05		3,18	

Table 13 Compilation of the test results for the tests made of the construction material **Triotherm+** and aerated concrete blocks PP4 (Porenbetonsteine PP4). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
PP4-70-070	3,17		5,79		2,77	
PP4-70-071 (n.b.)	*2,44 (n.b.)*		*9,3 (n.b.)*		*1,65 (n.b.)*	
PP4-70-072	3,31	3,07	6,02	6,25	3,12	2,90
PP4-70-073	2,81		7,08		2,75	
PP4-70-074	2,99		6,09		2,94	
PP4-120-080	9,23		7,31		5,38	
PP4-120-081	11,23		6,78		5,37	
PP4-120-082	9,36	10,27	6,49	6,522	5,80	6,64
PP4-120-083	10,11		6,17		6,88	
PP4-120-084	11,40		5,86		9,77	
PP4-090	7,7		10,92		4,39	
PP4-091	6,37		6,41		4,62	
PP4-092	9,17	7,92	9,29	8,66	5,52	5,02
PP4-093 (n.b.)	*6,19 (n.b.)*		*10,23 (n.b.)*		*3,92 (n.b.)*	
PP4-094	8,43		8,01		5,56	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Table 14 Compilation of the test results for the tests made of the structural building material **Triotherm+** and concrete (Beton). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
Beton-70-011	6,15		6,05		4,44	
Beton-70-012	4,89		6,11		4,30	
Beton-70-013	5,55	5,78	3,65	5,43	5,36	4,75
Beton-70-014	5,90		4,98		5,04	
Beton-70-015	5,94		5,18		4,90	
Beton-70-016	6,25		6,61		4,43	
Beton-70 (2)-021	6,22		3,96		5,67	
Beton-70 (2)-022	5,72		4,59		4,94	
Beton-70 (2)-023	5,51	5,65	4,11	4,45	4,61	4,75
Beton-70 (2)-024	5,33		3,90		4,93	
Beton-70 (2)-025	5,47		3,43		5,23	
Beton-70 (2)-026	5,65		6,68		3,10	

Table 15 Compilation of the test results for the tests made of the structural building material **Triotherm⁺** and concrete (Beton). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
Beton-70 (Statik)-171	9,14	10,84	7,79	9,73	4,70	4,42
Beton-70 (Statik)-172	12,72		11,03		4,81	
Beton-70 (Statik)-173	10,04		10,35		4,74	
Beton-70 (Statik)-174	12,01		9,29		4,26	
Beton-70 (Statik)-175	9,99		9,22		4,16	
Beton-70 (Statik)-176	11,11		10,68		3,87	

Table 16 Compilation of the test results for the tests made of the structural building material **Triotherm⁺** and concrete (Beton). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
Beton-100 (2) - 041	3,93	3,64	4,09	3,82	2,96	3,09
Beton-100 (2) - 042	*2,24 (n.b.)*		*2,71 (n.b.)*		-	
Beton-100 (2) - 043	3,36		4,69		1,92	
Beton-100 (2) - 044	3,66		3,40		3,54	
Beton-100 (2) - 045	3,54		3,62		3,37	
Beton-100 (2) - 046	3,73		3,31		3,66	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Table 17 Compilation of the test results for the tests made of the structural building material **Triotherm⁺** and concrete (Beton). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
Beton-Stp-130-120	4,68	5,1	12,09	10,4	2,63	2,57
Beton-Stp-130-120a	5,57		9,59		2,24	
Beton-Stp-130-121	5,13		13,51		2,50	
Beton-Stp-130-122	*7,66 (n.b.)*		*9,53 (n.b.)*		*(0,74) n.b.*	
Beton-Stp-130-123	5,15		8,51		2,91	
Beton-Stp-130-124	4,99		8,32		2,55	

(n.b.): Measured value for test concrete-122 in the averaging for the force at w = 3.0 mm not taken into account (additional deformation in the support area)

Table 18 Compilation of the test results for the tests made of the construction material **Triotherm⁺** and the building material expanded clay (Blähton). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
Blähton-130 (1) - 190	7,16	8,50	14,98	15,52	2,62	2,83
Blähton-130 (1) - 191	8,54		20,16		2,65	
Blähton-130 (1) - 192	7,61		15,59		2,82	
Blähton-130 (1) - 193	10,67		16,07		2,55	
Blähton-130 (1) - 194	8,52		10,78		3,49	
Blähton-130 (1) - 195	*6,18 (n.b.)*		*8,95 (n.b.)*		*2,41 (n.b.)*	
Blähton-130 (2) - 200	9,12	8,75	13,40	17,57	3,17	2,86
Blähton-130 (2) - 201	9,82		19,64		2,66	
Blähton-130 (2) - 202	7,59		19,53		2,78	
Blähton-130 (2) - 203	8,48		17,69		2,82	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

Table 19 Compilation of the test results for the tests made of the structural material **Triotherm⁺** and aerated concrete blocks PP2 (Porenbetonstein PP2). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
PP2-90-300-01	1,725	1,77	5,55	5,24	1,416	1,404
PP2-90-300-02	1,822		4,93		1,392	
PP2-90-310-01-Ejot	1,232	1,43	4,08	4,95	1,151	1,17
PP2-90-310-02-Ejot	0,926		5,22		0,847	
PP2-90-310-03-Ejot	1,725		5,55		1,241	
PP2-90-310-04-Ejot	1,822		4,93		1,422	
PP2-130-320-01	4,132	5,07	5,50	5,78	3,250	3,80
PP2-130-320-02	4,698		5,68		3,595	
PP2-130-320-03	5,645		6,38		4,173	
PP2-130-320-04	5,794		5,56		4,196	
PP2-130-330-01-Ejot	4,143	4,00	8,30	6,83	1,858	2,67
PP2-130-330-02-Ejot	4,171		7,52		2,709	
PP2-130-330-03-Ejot	4,010		5,17		3,368	
PP2-130-330-04-Ejot	3,669		6,31		2,759	
PP2-90-340-01-L=210	5,924	6,21	6,10	5,73	5,335	5,13
PP2-90-340-02-L=210	7,075		5,69		5,082	
PP2-90-340-03-L=210	5,789		5,94		5,277	
PP2-90-340-04-L=210	6,049		5,17		4,834	

Table 20 Compilation of the test results for the tests made of the structural building material **Triotherm⁺** and concrete (Beton). In addition, the measured test forces for a deformation of w = 3.0 mm are given.

Test	max. load F_{max} [kN]	average of F_{max} [kN]	max. deformation w_{max} [mm]	average of max. deformation w_{max} [mm]	load at w = 3,0 mm [kN]	average of load at w = 3,0 mm [kN]
PP2-90-350-01-L=300	5,943	6,2	6,10	5,89	5,335	4,92
PP2-90-350-02-L=300	5,044		6,02		4,527	
PP2-90-350-03-L=300	7,628		6,14		5,000	
PP2-90-350-04-L=300	6,180		5,28		4,817	
PP2-200-101 (n.b.)	*4,67 (n.b.)*	6,45	*5,26 (n.b.)*	8,48	*3,55 (n.b.)*	3,28
PP2-200-102	7,18		7,05		3,98	
PP2-200-103	5,33		7,45		2,86	
PP2-200-104	7,87		7,80		4,26	
PP2-200-105	5,22		12,48		2,25	
PP2-200-106	6,63		7,64		3,04	

(n.b.): Values with (n.b.) are not included in the averaging and are shown in italics with the color gray

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