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Boehmers
P.O. Box 25059
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Attention: Mr. Paul Hargest

**Subject: Laboratory Test Results
Standard and Lightweight Concrete Blocks
Boehmers P.O.# 60.7995
160-P-0000404-0-02-501-IM-L-0028-00 (Formerly 160-P037792-0500)**

Dear Sir:

Please find attached on Tables 1 through 11 the laboratory test results for eleven sets of various sized concrete blocks received by our laboratory on May 21st, 2013. It is understood that all of the lightweight blocks provided are classified as H/20/C/M, while the remaining blocks are classified as either H/20/B/M or H/20/A/M.

The blocks were tested for compressive strength. The results of the testing are displayed in the appended tables.

I trust that this information is suitable to your present requirements, and ask that you contact our office if you require anything further.

Yours very truly,



Jeff Dietz, P.Eng.
Project Engineer
jt

Encl. Tables 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 – Masonry Block Laboratory Test Results – Compressive Strength

3cc: Boehmers, Mr. Paul Hargest, Ms. Stefanie Hargest, and Mr. Jeff Mohring

**TABLE 1
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH**

**30 cm standard concrete blocks
Boehmers P.O.# 60.7995
H/20/A/M**

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C47-A	23.708	112,955	52,983	1447.5	12.8	27.3
C47-B	24.102	112,566	52,802	1607.4	14.3	30.4
C47-C	24.184	112,760	52,746	1547.2	13.7	29.3
C47-D	24.088	113,050	53,021	1630.6	14.4	30.8
C47-E	24.120	113,195	52,825	1595.5	14.1	30.2
				Averages	13.9	29.6

TABLE 2
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH

30 cm lightweight concrete blocks
Boehmers P.O.# 60.7995
H/20/C/M

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C48-A	20.304	113,586	52,132	1776.8	15.6	34.1
C48-B	20.324	113,927	52,328	1768.6	15.5	33.8
C48-C	20.320	113,586	52,259	1843.3	16.2	35.3
C48-D	20.240	113,636	52,332	1813.5	16.0	34.7
C48-E	20.250	113,731	52,100	1765.7	15.5	33.9
				Averages	15.8	34.3

TABLE 3
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH
 20 cm standard concrete blocks
 Boehmers P.O.# 60.7995
 H/20/B/M

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C49-A	16.896	74,290	37,313	1008.0	13.6	27.0
C49-B	16.911	74,284	36,916	988.3	13.3	26.8
C49-C	17.014	74,095	36,622	1004.5	13.6	27.4
C49-D	17.132	74,390	36,635	995.7	13.4	27.2
C49-E	16.932	74,189	36,938	986.6	13.3	26.7
				Averages	13.4	27.0

TABLE 4
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH
10 cm lightweight concrete blocks
Boehmers P.O.# 60.7995
H/20/C/IM

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C50-A	10.090	35,822	26,798	866.7	24.2	32.3
C50-B	10.518	36,018	27,130	859.9	23.9	31.7
C50-C	10.210	34,844	26,833	886.5	25.4	33.0
C50-D	10.082	35,445	26,373	892.4	25.2	33.8
C50-E	10.366	35,972	26,800	839.5	23.3	31.3
				Averages	24.4	32.4

TABLE 5
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH
25 cm lightweight concrete blocks
Boehmers P.O.# 60.7995
H/20/C/M

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C51-A	16.684	94,276	43,382	1119.2	11.9	25.8
C51-B	16.742	94,276	43,288	1157.6	12.3	26.7
C51-C	16.848	94,320	43,350	1190.4	12.6	27.5
C51-D	16.822	93,764	43,294	1189.9	12.7	27.5
C51-E	16.840	94,547	43,306	1179.5	12.5	27.2
				Averages	12.4	26.9

TABLE 6
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH
 10 cm standard concrete blocks
 Boehmers P.O.# 60.7995
 HI/20/A/M

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C52-A	12.148	35,960	28,088	818.8	22.8	29.2
C52-B	12.256	35,129	28,033	844.2	24.0	30.1
C52-C	12.198	35,914	28,322	790.9	22.0	27.9
C52-D	12.472	35,960	28,130	711.4	19.8	25.3
C52-E	12.124	35,900	28,331	787.9	21.9	27.8
				Averages	22.1	28.1

TABLE 7
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH
 20 cm lightweight concrete blocks
 Boehmers P.O.# 60.7995
 H/20/C/M

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C53-A	14.156	74,486	36,473	720.1	9.7	19.7
C53-B	14.212	74,295	36,522	716.7	9.6	19.6
C53-C	14.162	74,175	36,471	713.9	9.6	19.6
C53-D	14.084	74,586	36,781	1221.8	16.4	33.2
C53-E	14.104	74,100	35,982	1152.0	15.5	32.0
				Averages	12.2	24.8

TABLE 8
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH
20 cm 2-hour fire rated concrete blocks
Boehmers P.O.# 60.7995
H/20/A/M

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C54-A	18.926	74,385	43,032	1053.2	14.2	24.5
C54-B	18.864	74,000	42,666	1134.1	15.3	26.6
C54-C	18.956	74,295	42,812	1088.4	14.6	25.4
C54-D	18.980	74,486	42,879	1156.6	15.5	27.0
C54-E	18.988	74,581	42,561	1155.8	15.5	27.2
				Averages	15.0	26.1

TABLE 9
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH
15 cm lightweight concrete blocks
Boehmers P.O.# 60.7995
H/20/C/M

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C55-A	11.640	55,131	30,375	1099.7	19.9	36.2
C55-B	11.414	55,327	30,272	890.1	16.1	29.4
C55-C	11.768	55,327	30,351	1040.0	18.8	34.3
C55-D	11.482	55,131	30,243	886.5	16.1	29.3
C55-E	11.782	55,380	30,331	978.4	17.7	32.3
				Averages	17.7	32.3

**TABLE 10
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH**

**25 cm standard concrete blocks
Boehmers P.O.# 60.7995
H/20/A/M**

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C56-A	20.088	93,405	44,017	953.3	10.2	21.7
C56-B	20.176	93,645	44,169	1220.4	13.0	27.6
C56-C	20.028	93,525	43,995	1223.6	13.1	27.8
C56-D	20.158	93,569	44,207	1218.1	13.0	27.6
C56-E	20.028	93,480	44,148	1158.4	12.4	26.2
				Averages	12.3	26.2

TABLE 11
MASONRY BLOCK LABORATORY TEST RESULTS – COMPRESSIVE STRENGTH
15 cm standard concrete blocks
Boehmers P.O.# 60.7995
H/20/A/M

BLOCK ID	RECEIVED WEIGHT (kg)	GROSS AREA (mm ²)	NET AREA (mm ²)	LOAD (kN)	COMPRESSIVE STRENGTH	
					GROSS (MPa)	NET (MPa)
C57-A	13.376	55,397	30,211	756.1	13.6	25.0
C57-B	13.356	54,936	30,096	709.5	12.9	23.6
C57-C	13.444	54,936	29,999	705.7	12.8	23.5
C57-D	13.288	54,670	29,750	733.7	13.4	24.7
C57-E	13.202	54,936	29,773	736.0	13.4	24.7
				Averages	13.2	24.3