



SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

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File No.: 31028
 Lab No.: T-97-311

November 11, 1997

CLIENT: **TILE TECH, LLC**
 5371 Wilshire Blvd., Suite #200
 Los Angeles, CA 90036
 Attn.: Paul Partovi

Subject: **12" x 12" x1" thick Concrete Paver Tile, Textured Surface.**
 Specification: ASTM C 936 / ASTM C 140 Compressive Strength (Modified)
 Source: Submitted to Laboratory by Client.

REPORT of TEST

COMPRESSIVE STRENGTH TEST

Samples were dried-conditioned as specified then used tested accordingly.

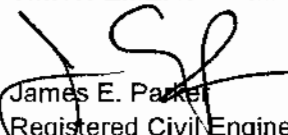
Sample No.	Dimensions (In.)	Gross Area (sq. in.)	Max. Load (Lbs.)	Compressive Strength (PSI)
1	2.04 x 2.00	4.08	35,200	8,627
2	1.95 x 2.00	3.90	31,900	8,179
3	2.04 x 1.98	4.04	36,000	8,913
4	2.02 x 1.96	3.96	32,300	8,158
5	2.03 x 2.01	4.08	31,500	7,720

Average : **8,320** PSI

Requirement: ASTM C 936

The average compressive strength shall be not less than 8,000 PSI with no individual unit less than 7,200 PSI.

Respectfully Submitted,
SMITH-EMERY COMPANY


 James E. Parker
 Registered Civil Engineer No.: 41507
 Registration Expires: 12-31-99

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File No.: 31028
Lab No.: T-97-311

November 11, 1997

CLIENT: **TILE TECH, LLC**
5371 Wilshire Blvd., Suite #200
Los Angeles, CA 90036
Attn.: Paul Partovi

Subject: **12" x 12" x 1" thick Concrete Paver Tile, Textured Surface.**
Specification: ASTM C 293 - Modulus of Rupture Test (Modified for Required Size).
Source: Submitted to Laboratory by Client.

REPORT of TEST

MODULUS OF RUPTURE

Samples were cut, dried and conditioned as specified then tested accordingly.

Sample No.	Width (b) (In.)	Depth (d) (In.)	Max. Load (lbs.)	M. O. R. (PSI)
1	1.959	1.161	480	1,091
2	2.049	1.169	510	1,093
3	2.068	1.163	560	1,201
4	2.138	1.161	510	1,062
5	2.027	1.163	680	1,488

Avg. M.O.R. = 1,187 PSI

Span = 4.0 inches

Respectfully Submitted,
SMITH-EMERY COMPANY

James E. Parker
Registered Civil Engineer No.: 41507
Registration Expires: 12-31-99

JEP:rc



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File No. 34076
 Lab No. T-99-176 COMP

May 12, 1999

CLIENT **TILE TECH, INC.**
 5371 Wilshire Blvd., Suite #200
 Los Angeles, CA 90036

Subject **Compressive Strength Test on 12" x 12" x 2" thick Concrete Tile "TILE TECH"**
(Dark Red: color)

Specification: ASTM C 936 / ASTM C 140 Compressive Strength (Modified)

Source Submitted to Laboratory by Client

REPORT of TEST

COMPRESSIVE STRENGTH TEST

Samples were dried-conditioned as specified then tested accordingly.

Sample No.	Dimensions (ln.)	Gross Area (sq. in.)	Max. Load (Lbs.)	Compressive Strength, (PSI)
1	2.011 x 2.510	5.048	45,100	8,934
2	2.008 x 2.461	4.942	42,500	8,600
3	2.010 x 2.491	5.007	43,600	8,308
Average:				8,614

PSI

Respectfully Submitted,

SMITH-EMERY COMPANY

James E. Partidge
 President

Registered Civil Engineer No. 26070

Registration Expires 12/31/00





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File No. : 34076
 Lab. No. : T-99-176 COMP

May 12, 1999

CLIENT: **SPEC CERAMICS, INC.**
 1604 North Orangethorpe Way
 Anaheim, CA 92801
 Attn.: Mr. Will Stapp

Subject: **Compressive Strength Test on 12" x 12" x 2" thick Concrete Tile "TILE TECH"**
(Dark Red: color)
 Specification: ASTM C 936 / ASTM C 140 Compressive Strength (Modified)
 Source: Submitted to Laboratory by Client.

REPORT of TEST


COMPRESSIVE STRENGTH TEST

Samples were dried-conditioned as specified then tested accordingly.

Sample No.	Dimensions (In.)	Gross Area (sq. in.)	Max. Load (Lbs.)	Compressive Strength (PSI)
1	2.011 x 2.510	5.048	45 800	8,934
2	2.008 x 2.461	4.942	42 500	8,600
3	2.010 x 2.491	5.007	41 800	8,308
Average :				8,614

PSI

Respectfully Submitted,
SMITH-EMERY COMPANY


 James E. Partridge
 President

Registered Civil Engineer No.: 25270
 Registration Expires: 12-31-01



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File No.: 31028
Lab No.: T-95-244

November 17, 1995

Client: **TILE TECH, INC.**
5371 Wilshire Blvd., Suite 207
Los Angeles, CA 90036
Attn: John Haider

Subject: **16" x 16" x 1-1/4" Cement Paver Tile.**
Specification: ASTM C 936 & ASTM C 140
Source : Submitted to Laboratory by Client.

Report of Tests

COMPRESSIVE STRENGTH TEST

Sample No.	Dimension (in. x in.)	Area (sq.in.)	Maximum Load, lbs.	Compressive Strength, PSI
1.	2.015x2.008	4.046	37,400	9,244
2.	1.995x1.953	3.896	39,300	10,087
3.	2.030x2.042	4.145	39,800	9,602
4.	2.035x2.030	4.131	37,800	9,150
5.	2.016x2.055	4.143	38,300	9,245

Average : 9,466

ASTM C 936 Requirement:

The average compressive strength of the tests shall be not less than 8,000 psi with no individual unit less than 7,200 psi.

Respectfully Submitted,
SMITH-EMERY COMPANY


Edward C. Trasoras

Registered Civil Engineer, No.: 44233

Registration Expires: 06-30-97

ECT:rc



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File No.: 31028
Lab No.: T-95-244

November 17, 1995

Client: **TILE TECH, INC.**
5371 Wilshire Blvd., Suite 207
Los Angeles, CA 90036
Attn: John Haider

Subject: **16" x 16" x 1-1/4" Cement Paver Tile. (Gray)**
Specification: ASTM C 293 - Concrete Modulus of Rupture (Modified for Size)
Source : Submitted to Laboratory by Client.

Report of Tests

Modulus of Rupture

Five cut samples were conditioned in a controlled chamber at 70° F ±3°F and 50% R.H.; then tested accordingly.

Span = 4.00"

Sample No.	Avg. Width (in.)	Avg. Depth (in.)	Max. Load (lbs.)	Modulus of Rupture, PSI
1.	1.970	1.419	985	1,490
2.	2.022	1.402	1,020	1,540
3.	2.012	1.412	1,030	1,541
4.	2.005	1.400	980	1,496
5.	1.987	1.405	1,020	1,560

Average : 1,525

Requirement:

As per client design requirement.

Respectfully Submitted,
SMITH-EMERY COMPANY


Edward C. Trasoras

Registered Civil Engineer, No.: 44233
Registration Expires: 06-30-97
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File No.: 31028
Lab No.: T-95-244 SKD-2

November 21, 1995

Client: **TILE TECH, INC.**
5371 Wilshire Blvd., Suite 207
Los Angeles, CA 90036
Attn: John Haider

Subject: **16" x 16" x 1-1/4" Concrete Paver Tile. Treated w/ 511 Porous Plus**
Specification: ASTM C 1028 - 89
Source : Submitted to Laboratory by Client.

Report of Tests

STATIC COEFFICIENT OF FRICTION (ASTM C 1028-89)

A block of wood with a 3" x 3" x 1/8" section of standard neolite sole liner attached was placed on the surface to be tested. A 50 pound (22kg) weight was placed on the block of wood. Using dynamometer, the force in pounds required to cause the test assembly to slip parallel to the test surface was measured. Four measurements were taken on each of three test surfaces, each measurement perpendicular to the previous one. The twelve measurements were averaged to obtain the coefficient of friction for each test condition.

A. As Received (Treated w/ 511 Porous Plus)

Test Condition	Tile No.	N	E	S	W	Average	Individual	S.C.O.F
							Coefficient of Friction (fc)	After Neolite Correction Factor
Dry Neolite	1	45	44	45	43	44.00	0.86	(0.86)
	2	45	45	43	44			
	3	43	44	42	45			
Wet Neolite	1	37	37	38	37	37.25	0.73	(0.70)
	2	37	38	38	38			
	3	36	38	37	36			

B After Cleaning with Hilliards Renovator.

Dry Neolite	1	45	45	44	45	45.00	0.88	(0.88)
	2	45	46	45	46			
	3	45	44	45	45			
Wet Neolite	1	38	39	37	39	38.17	0.74	(0.71)
	2	39	39	38	38			
	3	37	39	38	37			

Respectfully Submitted,

SMITH-EMERY COMPANY

Edward C. Trasoras

Registered Civil Engineer, No.: 44233

Registration Expires: 06-30-97

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File No.: 31028
 Lab No.: T-95-244 SKD-1

November 21, 1995

Client: **TILE TECH, INC.**
 5371 Wilshire Blvd., Suite 207
 Los Angeles, CA 90036
 Attn: John Haider

Subject: **16" x 16" x 1-1/4" Concrete Paver Tile.**
 Specification: ASTM C 1028 - 89
 Source : Submitted to Laboratory by Client.

Report of Tests

STATIC COEFFICIENT OF FRICTION (ASTM C 1028-89)

A block of wood with a 3" x 3" x 1/8" section of standard neolite sole liner attached was placed on the surface to be tested. A 50 pound (22kg) weight was placed on the block of wood. Using dynamometer, the force in pounds required to cause the test assembly to slip parallel to the test surface was measured. Four measurements were taken on each of three test surfaces, each measurement perpendicular to the previous one. The twelve measurements were averaged to obtain the coefficient of friction for each test condition.

A. As Received

Test Condition	Tile No.	N	E	S	W	Average	Individual	S.C.O.F
							Coefficient of Friction (fc)	After Neolite Correction Factor
Dry Neolite	1	40	41	41	39	40.17	0.78	(0.78)
	2	40	40	41	40			
	3	39	40	40	41			
Wet Neolite	1	38	37	37	38	37.17	0.73	(0.70)
	2	37	38	37	36			
	3	38	36	37	37			

B After Cleaning with Hillyards Renovator.

Dry Neolite	1	42	42	42	42	42.00	0.82	(0.82)
	2	42	43	42	43			
	3	41	41	42	42			
Wet Neolite	1	37	38	37	38	37.83	0.74	(0.71)
	2	39	37	39	38			
	3	38	39	37	37			

Respectfully Submitted,

SMITH-EMERY COMPANY

Edward C. Trasoras
 Edward C. Trasoras

Registered Civil Engineer, No.: 44233

Registration Expires: 06-30-97

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File No.: 31028
Lab No.: T-95-244

November 17, 1995

Client: **TILE TECH, INC.**
5371 Wilshire Blvd., Suite 207
Los Angeles, CA 90036
Attn: John Haider

Subject: **16" x 16" x 1-1/4" Cement Paver Tile. (Gray)**
Specification: ASTM C 936 & ASTM C 140
Source : Submitted to Laboratory by Client.

Report of Tests

Water Absorption

Five cut samples were immersed in clean potable water at room temperature (70° F ±10°F) for not less than 24 hrs. Samples then was removed from water, drained for 1 minute, damped dry any excess water and weighed; after which were dried in a well ventilated oven at 212° F - 239° F for 24 hours or until an approximate constant weight was achieved.

Sample No.	Wet Weight (grams)	Dried Weight (grams)	Compressive Strength, PSI
1.	831.8	795.9	4.51%
2.	876.0	833.4	5.11%
3.	868.1	829.0	4.72%
4.	873.4	831.8	5.00%
5.	874.1	828.9	5.45%

Average : 4.96%

ASTM C 936 Requirement:

The average absorption shall not be greater than 5% with no individual unit in excess of 7%.

Respectfully Submitted,
SMITH-EMERY COMPANY


Edward C. Trasoras

Registered Civil Engineer, No.: 44233

Registration Expires: 06-30-97

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File No.: 31028
Lab No.: T-97-208 BRK

June 16, 1997

Client : **TILE TECH, INC.**
5371 Wilshire Blvd., Suite 207
Los Angeles, CA 90036
Attn.: Mr. Jean Haider

Subject: **16" x 16" x 1-3/8" thick Concrete Paver Tile (Grey color; Two layer construction)**
Specification : ASTM C 648
Source : Submitted to Laboratory by Client.

Report of Test

BREAKING STRENGTH (ASTM C 648)

The tile samples were placed on a test fixture having three (3) supports located in a circle three and fifteen-thirty-secondths (3-15/32) inches in diameter with the load applied at the center as per specifications.

Breaking Load (Lbs.)

One Sample Only - 2,500 pounds

Requirements : ANSI A 137.1 (General) Breaking Strength; When tested as described.
In ASTM C-648, the average breaking strength shall be 250 pounds or greater.

Respectfully Submitted,
SMITH - EMERY COMPANY


James E. Parker
Registered Civil Engineer No. 41507
Registration Expires : 12-31-99

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File No.: 31028
Lab No.: T-99-116

February 1, 1999

CLIENT: **TILE TECH, LLC**
5371 Wilshire Blvd., Suite #200
Los Angeles, CA 90036
Attn.: George Mousa

Subject: **12" x 24" x 1.5" thick Concrete Paver Tile, Textured Surface.**
Specification: ASTM C 936 / ASTM C 140 Compressive Strength (Modified)
Source: Submitted to Laboratory by Client.

REPORT of TEST

COMPRESSIVE STRENGTH TEST

Samples were dried-conditioned as specified then used tested accordingly.

Sample No.	Dimensions (In.)	Gross Area (sq. in.)	Max. Load (Lbs.)	Compressive Strength, (PSI)
1	2.555 x 2.53	6.47	47,400	7,330
2	2.518 x 2.55	6.41	53,700	8,376

Average : **7,853** PSI

Respectfully Submitted,
SMITH-EMERY COMPANY

James E. Parker
Registered Civil Engineer No.: 41507
Registration Expires: 12-31-99

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File No.: 31028
 Lab No.: T-99-111

January 27, 1999

CLIENT: **TILE TECH, LLC**
 5371 Wilshire Blvd., Suite #200
 Los Angeles, CA 90036
 Attn.: George Mousa

Subject: **Various Concrete Paver Tile, Textured Surface.**
 Specification: ASTM C 936 / ASTM C 140 Compressive Strength (Modified)
 Source: Submitted to Laboratory by Client.

REPORT of TEST

COMPRESSIVE STRENGTH TEST

Samples were dried-conditioned as specified then used tested accordingly.

Sample Description	Dimensions (In.)	Gross Area (sq. in.)	Max. Load (Lbs.)	Compressive Strength,(PSI)
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A. Cut to 2.5" x 2.5" Surface Area

12"x24" (Peach)	2.510 x 2.503	6.28	33,200	5,287
Octagon	2.463 x 2.500	6.16	34,300	5,568
16"x16"	2.493 x 2.520	6.28	43,900	6,990
16"x16"	2.477 x 2.473	6.13	51,200	8,352

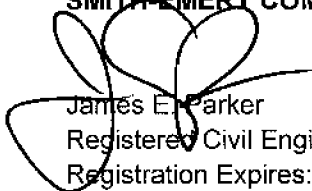
B. Cut to 1-3/8" x 1-3/8" Surface Area

12"x24" (Peach)	1.363 x 1.386	1.89	8,700	4,603
Octagon	1.404 x 1.388	1.95	8,000	4,103
16"x16"	1.357 x 1.359	1.84	10,000	5,435
16"x16"	1.344 x 1.370	1.84	13,400	7,283

Requirement: ASTM C 936

The average compressive strength shall be not less than 8,000 PSI with no individual unit less than 7,200 PSI.

Respectfully Submitted,
SMITH-EMERY COMPANY



James E. Parker
 Registered Civil Engineer No.: 41507
 Registration Expires: 12-31-99

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