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November 8, 1994 Client: 40970.3

Mr. Bob Galganski GLOBAL TECHNOLOGY SYSTEMS Badger Cork Division 26112 110th Street Trevor, Wisconsin 53179

Subject: Floor System Performance Level as evaluated in compliance to ASTM C 627-88, Standard Method for EVALUATING CERAMIC FLOOR TILE INSTALLATION SYSTEMS USING THE ROBINSON-TYPE FLOOR TESTER.

Floor Performance Rating Criteria:

RESIDENTIAL:

System shall pass cycles 1 through 3, (900 revolutions each). System shall pass cycles 1 through 6, (900 revolutions each).

LIGHT COMMERCIAL: MODERATE:

System shall pass cycles 1 through 10, (900 revolutions for 1-8

each, 450 revolutions for cycles 9 & 10 each).

HEAVY COMMERCIAL:

System shall pass cycles 1 through 12, (900 revolutions for 1-8

each, 450 revolutions for cycles 9-12 each).

EXTRA HEAVY COMMERCIAL: System shall pass cycles 1 through 14, (900 revolutions for 1-8 each, 450 revolutions for cycles 9-14 each).

Construction configuration:

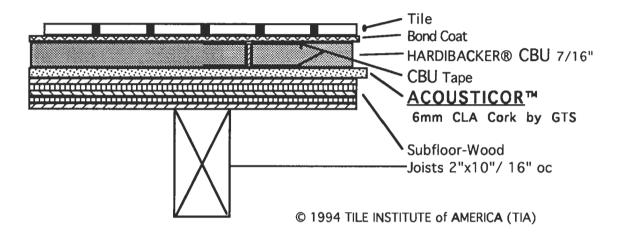
Tile - 2 x 2 x 1/4 inch unglazed ceramic mosaic tile, light cushion edged. Grout - Commercially prepared Portland Cement Unsanded Colored Grout. Bond Coat - "Latex Modified" commercially prepared Portland Cement Mortar. Cementitious Backer Unit - "HARDIBACKER®" $3 \times 5 \times 7/16$ inches taped on the bottom and top with 2" wide coated fiberglass mesh tape adhered with bond coat. Resilient Underlayment: ACOUSTICOR 6 mm CLA Cork by GTS Wood subfloor - 5/8 inch thick standard grade plywood nailed 4+1/2 inch on center to 4 two inch wide floor joists 16 inch on center.

Procedure:

The floor system was constructed on the Robinson Floor Tester and cured for not less than 28 days according to the standards. The number of tile and grout joints were counted that were under the wheel wear test pattern. The deflection measurements were made at center span between the joists under the wheel path, one under the plywood subfloor and the other under the HARDIBACKER[®]. The dial indicators were set on 0.000 prior to the first revolution. The tiled surface was examined before, during and after each cycle and recorded as indicated in the attached test results.

Sound-Rated Tile Floor System # 40970.3

ACOUSTICOR™ 6mm CLA Cork by GTS



Summary of Test Results:

Floor Performance Rating...Light Commercial

Number of cycles Passed...6

Number of Tile under wheel path...84 Number of grout joints under wheel path...117

TEST	WGT.	Wheel	Rev.	Chip	Broke	Loose	PopUp	Crack	Powdr		Deflections
CYCLE	lbs	Type		Tile	Tile	Tile	Grt.Jt	Grt.Jt	Grt.Jt	Dial#1	Dial#2
1	100	SR	900	00	00	00	00	00	00	0.018	0.000
2	200	SR	900	00	00	00	00	00	00	0.033	0.001
3	300	SR	900	00	00	00	00	00	00	0.044	0.003
4	300	SR	900	00	00	00	00	00	00	0.050	0.003
5	100	HR	900	00	00	00	00	00	00	0.030	0.000
6	200	HR	900	00	00	00	00	00	00	0.043	0.001
7 *	300	HR	120	00	14	00	00	00	07	0.058	0.003

^{*} System failed at Revolution...120 in Cycle number...7

Note Limitation: Cracked and broken tile.

Laboratory Test Conducted by:

Don Halvorson (Director of Testing)

Witnessed by: Mr. Donald W. Kaufmann &

erald m. Halu

Gerald M. Halweg, CTC, CSI, TTA. (President)