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PHYSICAL TESTING OF BURNED CLAY BRICK, CAN3-A82.2-M78

CLIENT:	Permatint 170 West Beaver Creek Rd, Richmond Hill, Ont.	REPORT DATE:	Dec.10, 2007
PROJECT:	RC Harris	REPORT NO.:	137PT07-01 Final
BRICK MARK:	Leicester Multi Cream Stock, Product Code A0189A	LAB NUMBER:	L-4151
[Client Info.]	Best Facing Brick, Single Frog. No markings on brick.	DATE MADE:	Not Known

CAN3-A82.1-M87

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>Average</u>	<u>Type SW/FBS Brick Limits</u> (See Note 1)
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DIMENSIONS

Length, mm	211.0	212.0	212.5	212.5	210.5		
Width, mm	100.0	100.5	100.0	100.0	100.0		
Depth, mm	65.0	64.5	65.0	65.0	63.5		
	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>		
Length, mm	210.0	212.5	213.5	213.0	210.0	211.5	215 +/- 7.94 Note 1.
Width, mm	101.0	100.5	100.5	100.5	100.0	100.5	102 +/- 4.76 Note 1.
Depth, mm	64.0	68.0	64.5	64.0	64.0	64.5	65 +/- 2.38 Note 1.

WATER ABSORPTIONS

24 Hr., Cold Water, %	18.0%	17.0%	17.5%	17.9%	17.3%	17.5%	8% max Average [With no more than one brick between 8 - 10%] [See note 2]
5 Hr. Boiling Water %	29.6%	29.9%	29.9%	30.2%	30.0%	29.9%	17.0 max. Average 20.0 max. Individual
Saturation Coefficient	0.61	0.57	0.58	0.59	0.58	0.59	0.78 max. Average 0.80 max. Individual [See note (2)]

COMPRESSIVE STRENGTH

Compressive Strength, MPa	24.2	36.1	32.1	30.4	39.6	32.46	20.68 min. Average 17.24 min. Individual
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FREEZE-THAW

Loss in Mass, %	0.0	0.0	0.0	0.0	0.0	0.0	[See note (3)]
Observed Breakage	None	None	None	None	None	None	[See note (3)]

NOTES & COMMENTS REGARDING TEST RESULTS:

1. Type FBS brick assumed [General use with wider range of colour and size permitted]. SW = Severe weather condition. Manufacturer's specified dimensions provided from Istock product data sheet. Average dimension calculated based on 10 bricks.
2. According to the current CSA A82.1 specification, the saturation coefficient requirement is waived providing the cold-water absorption requirements are met. The test results indicate that the sampled brick do not meet the cold-water absorption requirement. Therefore; the brick must meet both the 5-hour boiling water and saturation coefficient requirements indicated to be exempt from the freezing thawing test. [The sampled brick, however, do not meet both requirements].
3. According to the current CSA A82.1 specification, brick that are subject to 50 cycles of the freezing and thawing test and a) experience no breakage, b) show not greater than 0.5% loss in dry mass of any individual brick shall be classified as Grade SW. The sampled brick meet these two requirements and therefore can be classified as Grade SW.

General Notes:

- a) The above test results are applicable to the bricks provided by Permatint to Intratech for testing.
- b) Intratech is not liable for third party use.

Respectfully submitted,

Frank Miles, P. Eng., Vice President
Intratech Engineering Laboratories Ltd.