



**An Environment  
of Exceptional  
Solutions**

Registered to  
ISO 9001:2000

3 Spectacle Lake Drive  
Dartmouth, Nova Scotia, Canada B3B 1W8  
www.jacqueswhitford.com

Bus 902 468 7777  
Fax 902 468 9009

**TABLE 1 PLASTIC AND HARDENED LIGHTWEIGHT CONCRETE PROPERTIES  
CAPTURED STONE IMPRESSIONS**

PLASTIC PROPERTIES		
Total Air Content		5.7 % (entrapped)
Slump		25 mm
HARDENED CONCRETE		
Density		1,656 kg/m <sup>3</sup>
Compressive Strength	7 day	32.0 MPa
	28 day	37.9 MPa

**TABLE 2 SUMMARY OF PHYSICAL PROPERTIES – CAPTURED STONE IMPRESSIONS**

TEST	CAPTURED STONE IMPRESSIONS (2007)	ICBO AC 51 STANDARD
BOND STRENGTH, MPa	4.7	> 0.34
WATER ABSORPTION, %	15.9	< 22
SPECIFIC GRAVITY, g/cm <sup>3</sup>	2.04	
FREEZE-THAW, % MASS LOSS	1.0	< 3
28 DAY COMPRESSIVE STRENGTH, MPa	37.9	> 12.3
DENSITY, LB/FT <sup>2</sup> (KG/M <sup>2</sup> )	12.9 (63.0)	< 15 (<73)
FLEXURAL STRENGTH, MPa	3.8	

**COMPRESSIVE STRENGTH,  
CSA TEST METHOD A23.2-9C-04, AND ASTM C 39, STANDARD TEST METHOD FOR COMPRESSIVE  
STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS**

SPECIMEN №	AGE, DAYS	
	7	28
A	32.1	
B	31.8	
C		37.9
D		37.9
<b>AVERAGE</b>	<b>32.0</b>	<b>37.9</b>

**Commentary:** The average compressive strength at either test age exceeds the minimum specified by ICBO AC51 of 1,800 psi (12.4 MPa).



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**FLEXURAL STRENGTH,  
ASTM C880, STANDARD TEST METHOD FOR FLEXURAL STRENGTH OF DIMENSION STONE**

SPECIMEN No	TEST DATA				
	DIMENSIONS, MM			LOAD AT FAILURE, kN	FLEXURAL STRENGTH, MPa
	SPAN	WIDTH	DEPTH		
A	318	103	25	0.85	3.15
B	318	103	27	0.98	3.11
C	318	101	20	0.79	4.66
D	318	100	15	0.44	4.66
E	318	100	29	1.20	3.40
<b>AVERAGE</b>					<b>3.80</b>

**Commentary:** ICBO AC51 specifies that the individual results for flexural strength shall not exceed the average by ten percent. While the above results illustrate a variation in excess of ten percent, the minimum strength reported exhibits good product performance for the use and application of the product.

**BOND STRENGTH,  
ASTM C482, STANDARD TEST METHOD FOR BOND STRENGTH OF CERAMIC TILE TO PORTLAND  
CEMENT**

SPECIMEN No	TEST DATA				
	DIMENSIONS, MM		LOAD AT FAILURE, kN	BOND STRENGTH, MPa	FAILURE PLANE
	LENGTH	WIDTH			
A	99	94	47.4	5.09	Within sample
B	103	97	56.1	5.65	Between mortar bed and sample
C	100	95	51.0	5.38	Between mortar bed and sample
D	98	91	33.6	3.77	Within sample
E	101	94	33.2	3.50	Between mortar bed and sample
<b>AVERAGE</b>				<b>4.70</b>	

**Commentary:** The minimum bond shear strength specified by ICBO AC51 is 50 psi (0.34 MPa) at an age of 28 days.



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**FREEZE THAW DURABILITY,  
ASTM C 1262, STANDARD TEST METHOD FOR EVALUATING THE FREEZE THAW DURABILITY OF  
MANUFACTURED CONCRETE MASONRY UNITS AND RELATED CONCRETE UNITS**

SPECIMEN №	TEST DATA			
	MASS, g			MASS LOSS, % OF INITIAL MASS
	INITIAL	FINAL	LOSS	
A	962.1	961.9	0.2	0.02
B	862.9	862.7	0.2	0.02
C	875.1	873.0	2.1	0.2
D	933.6	908.7	24.9	2.7
E	1079.4	1055.4	24.0	2.2
<b>AVERAGE</b>				<b>1.03</b>

**Commentary:** In accordance with ICBO AC51, the average mass loss, expressed as a percentage of the initial specimen mass, shall not exceed 3.0 percent.

**WATER ABSORPTION,  
ASTM C 373, STANDARD TEST METHOD FOR WATER ABSORPTION, BULK DENSITY, APPARENT  
POROSITY, AND APPARENT SPECIFIC GRAVITY OF FIRED WHITEWARE PRODUCTS**

SPECIMEN №	TEST DATA		
	ABSORPTION, %	SPECIFIC GRAVITY	BULK DENSITY, g/cm <sup>3</sup>
A	15.9	2.04	1.54
B	16.3	2.01	1.51
C	14.3	1.98	1.54
D	15.7	2.01	1.53
E	17.2	2.15	1.57
<b>AVERAGE</b>	<b>15.9</b>	<b>2.04</b>	<b>1.54</b>

**Commentary** In accordance with ICBO AC51, the average mass loss, expressed as a percentage of the initial specimen mass, shall not exceed 3.0 percent.