

## REPORT OF TESTS

Description	Granite Sample		
Tested for	Blue Stream Environmental Technology L.L.C, P.O. Box 120507, Dubai, United Arab Emirates		
Lab Ref. No.	WR22-03846 (Page 1 of 3)	Request No.	D22-01794
Date Received	31.05.2022	Date Reported	07.06.2022

Client's Reference : Date Request 31.05.2022

### 1.0 Introduction

Further to the test work instructions received from M/s. Blue Stream Environmental Technology L.L.C, Dubai, Dated 31.05.2022, Al Futtam Element Materials Technology Dubai L.L. has tested provided sample for the following.

- |     |                     |   |                             |
|-----|---------------------|---|-----------------------------|
| 1.1 | Flexural Strength   | - | ASTM C 880/C880M – 2018     |
| 1.2 | Abrasion Resistance | - | BS EN 14157-2017, Method –A |

### 2.0 Sample Details

Sample reference	Granite Sample
Project Name	Riyadh City - South
Origin	India
Sample submitted by	Blue Stream Environmental Technology L.L.C
AFE sample No.	D22-01794

### 3.0 Results

Results are given on the attached sheets.

**RESULTS**

Sample reference : Grey Granite 20mm Thick  
 AFE sample No. : D22-01794

**Flexural Strength of Dimension Stone**  
 ASTM C880/C880M – 2018

Condition of Test	Dry
Shape of specimen	Prism
Nominal Dimension	300x100x20mm

Client Reference No.	1	2	3	4	5
AFE Sample No. D22-01794/-	1	2	3	4	5
Actual Length (mm)	300	300	300	300	300
Actual Width (mm)	99.8	101.1	102.5	113.0	104.2
Actual Thickness(mm)	18.8	19.6	18.8	21.1	18.6
Length of Span (mm)	200	200	200	200	200
Max. Load at Fail (kN)	3.832	4.407	3.917	3.569	4.054
Flexural Strength (MPa)	16.3	17.0	16.2	10.6	16.9
Average Flexural Strength (MPa)	15.4				
Standard Deviation	2.7				
Specification Limits- as per ASTM C615/C615M-2011	8.3MPa (Minimum)				

Condition of Test	Wet
Shape of specimen	Prism
Nominal Dimension	300x100x20mm

Client Reference No.	6	7	8	9	10
AFE Sample No. D22-01794/-	6	7	8	9	10
Actual Length (mm)	300	300	300	300	300
Actual Width (mm)	111.3	109.0	111.7	105.3	106.4
Actual Thickness(mm)	20.0	19.2	20.8	18.4	18.4
Length of Span (mm)	200	200	200	200	200
Max. Load at Fail (kN)	3.509	3.103	3.124	3.375	2.595
Flexural Strength (MPa)	11.8	11.6	9.7	14.2	10.8
Average Flexural Strength (MPa)	11.6				
Standard Deviation	1.7				
Specification Limits- as per ASTM C615/C615M-2011	8.3MPa (Minimum)				


**RESULTS**

Sample reference : Grey Granite 20mm Thick  
AFE sample No. : D22-01794

**Abrasion Resistance**  
BS EN 14157-2017, Method –A

AFE Sample No- D22-01794/-	11		12		13		14		15		16	
Client's Specimen no.	1		2		3		4		5		6	
Groove lengths (mm)	14.9	15.7	14.7	14.8	13.6	15.1	15.5	14.7	14.5	15.2	15.8	15.9
Abrasion Resistance (mm)	16.0		15.0		15.5		16.0		15.5		16.5	

Sreeranganathan Ragini Lotus  
Department Manager, Civils



For and on behalf of Al Futtaim Element Materials Technology Dubai L.L.C  
Tested by: AVS, Date tested: 31.05.2022 – 03.06.2022  
Sampled by client.

## REPORT OF TESTS

<b>Description</b>	<b>Granite Sample</b>		
<b>Tested for</b>	Blue Stream Environmental Technology LLC., P.O. Box: 120507, Al Quoz, Dubai, United Arab Emirates		
<b>Lab Ref. No.</b>	WR22-02193 (Page 1 of 3)	<b>Request No.</b>	D22-01181
<b>Date Received</b>	02.04.2022	<b>Date Reported</b>	05.04.2022

Client's Reference : PO No: BS-PO-22-21-01672, Dated 31.03.2022

### 1.0 Introduction

Further to the test work instructions received from M/s. Blue Stream Environmental Technology LLC, Dubai, Dated 02.04.2022, Al Futtaim Element Materials Technology Dubai L.L. has tested provided sample for the following.

- |     |                      |   |                        |
|-----|----------------------|---|------------------------|
| 1.1 | Water Absorption     | - | ASTM C97/C97M – 2018   |
| 1.2 | Bulk Density         | - | ASTM C97/C97M – 2018   |
| 1.3 | Compressive Strength | - | ASTM C170/C170M – 2017 |

### 2.0 Sample Details

<b>Sample reference</b>	Granite Sample
<b>Sample submitted by</b>	Blue Stream Environmental Technology LLC
<b>Origin</b>	N.G
<b>AFE sample No.</b>	D22-01181

### 3.0 Results

Results are given on the attached sheets.

**RESULTS**

Sample reference : Granite Sample  
 AFE sample No. : D22-01181

**Absorption and Bulk density of dimension stone**

ASTM C97/C97M – 2018

Shape of specimen	Square Prism
Nominal Dimension	50.0x50.0x100.0mm

Client Reference No.	1	2	3
AFE Sample No. D22-01181/-	1	2	3
Length (mm)	47.2	52.5	51.8
Width (mm)	52.1	52.5	52.2
Height (mm)	7.5	6.4	6.4
Weight of Dried Specimen (g)	46.50	43.12	43.01
Weight of Soaked and Surface Dried Specimen in Air (g)	46.56	43.16	43.03
Water Absorption, (% by weight )	0.13	0.09	0.05
Mean Water Absorption, (% by weight )	0.09		
Weight of Soaked and Specimen Suspended in Water (g)	28.91	26.75	26.65
Bulk Density (kg/m <sup>3</sup> )	2629	2623	2621
Average Bulk Density (kg/m <sup>3</sup> )	2624		

Remarks: The tested sample do not comply with the dimensional requirements and ratio of volume to surface area specified in Clause 6.1 of the standard, however samples tested as per client's request.

**RESULTS**

Sample reference : Granite Sample  
 AFE sample No. : D22-01181

**Compressive Strength of Dimension Stone**

ASTM C170/C170M – 2017

Condition of Test	As Received
Shape of specimen	Square Prism
Nominal Dimension	50.0x50.0x10.0mm

Client Reference	1	2	3	4	5
AFE Sample No. D22-01181/-	4	5	6	7	8
Actual Length (mm)	54.0	52.4	51.3	51.9	51.9
Actual Width (mm)	52.1	52.0	51.7	52.2	52.1
Actual Height (mm)	8.2	7.8	7.4	9.4	7.4
Max. Load at Fail (kN)	811.3	764.1	842.4	825.1	863.9
Compressive Strength (MPa)	288	280	318	305	319
Average Compressive Strength (MPa)	302				
Standard Deviation	17.6				

Remarks: The ratio of height to the lateral dimension does not comply with the dimensional requirements specified in clause 7.1 of the standard However samples tested as per client's request.



Sreeranganathan Ragini Lotus  
 Department Manager, Civils

For and on behalf of Al Futtaim Element Materials Technology Dubai L.L.C

Tested by: AVS, Date tested: 02.04.2022 – 05.04.2022

Sampled by client.