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பாதுகாப்பு அமைச்சு
Ministry of Defence

ජාතික ගොඩනැගිලි පර්යේෂණ සංවිධානය
தேசிய கட்டிட ஆராய்ச்சி நிறுவனம்
NATIONAL BUILDING RESEARCH ORGANISATION

99/1, ජාවත්ත පාර, කොළඹ 5. 99/1, ஜாவத்தை வீதி, கொழும்பு 5. 99/1, Jawatta Road, Colombo 5.

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මගේ අංකය எனது இல. Our Ref. 202423 0446

ඔබේ අංකය உமது இல. Your Ref.

දිනය திகதி Date 02.05.2023

TESTING OF QUARTZ ENGINEERING STONES

REPORT NO. : M/ 23/ 054
(Reference of Requisition: Letter received on 04th April 2023.)

PRODUCT : QUARTZ ENGINEERING STONES

ISSUED TO : RUHUNU LANKA MINERALS (PVT) LTD
KUNUABAYAGODA WATTA
BORALASSAGODA, RANTHOTUWILA,
BENTHOTA.

ISSUED BY : BUILDING MATERIALS RESEARCH AND
TESTING DIVISION
NATIONAL BUILDING RESEARCH ORGANISATION
99/1, JAWATTA ROAD, COLOMBO 05

The test results reported herein relate to the specimens submitted to N.B.R.O. and do not certify the quality of a product in general.

NATIONAL BUILDING RESEARCH ORGANISATION
BUILDING MATERIALS RESEARCH & TESTING DIVISION
NO. 99/1, JAWATTA ROAD,
COLOMBO 05.

202423 0446

TESTING OF QUARTZ ENGINEERING STONES
REPORT NO. : M/ 23/ 054

1.0 SAMPLES RECEIVED ON : Quartz Engineering Stone – 04.04.2023

2.0 DESCRIPTION OF SAMPLE AS RECEIVED : Size & No. of pieces :

1. 50 mm x 50 mm x 20 mm - 5 Quartz pieces
2. 65 mm x 65 mm x 20 mm - 5 Quartz pieces
3. 381mm x 102 mm x 20 mm - 10 Quartz pieces
4. 300 mm x 300 mm x 20 mm - 6 Quartz pieces

3.0 TEST REQUESTED :

1. Water Absorption and Density
2. Flexural Strength (Dry & Wet)
3. MOH's Hardness
4. Thermal Shock Resistance
5. Chemical Resistance

4.0 TEST METHOD :

1. ASTM C 97 - 02
   Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
2. ASTM C 880 - 98
   Standard Test Method for Flexural Strength of Dimension Stone
3. Scratch Method
4. ASTM C 484 - 99 (Reapproved 2003)
   Standard Test Method for Thermal Shock Resistance of Glazed Ceramic Tile
5. ASTM C 650 - 97
   Standard Test Method for Resistance of Ceramic Tile to Chemical Substances

5.0 TEST RESULTS : Test results are given in page no.3.

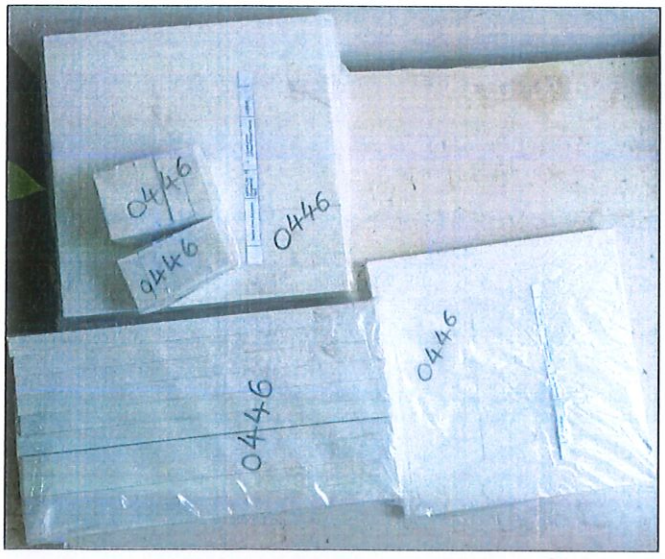

Figure 01: Samples as received

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COLOMBO 05.

202423 0446

TESTING OF QUARTZ ENGINEERING STONES

REPORT NO.: M/ 23/ 054

TEST RESULTS

1. Water Absorption and Density (Bulk Specific Gravity)

Sample No.	Normal Weight (g)	Dry Weight (g)	Weight in Water (g)	Wet Weight (g)	Water Absorption (%)	Bulk Specific Gravity
1	212.45	212.45	121.50	212.67	0.10	2.33
2	211.60	211.60	121.00	211.76	0.08	2.33
3	213.39	213.39	122.00	213.75	0.17	2.33
4	214.72	214.70	123.00	214.96	0.12	2.33
5	212.64	212.63	123.00	212.91	0.13	2.36
				Average	**0.12**	**2.34**

2. Flexural Strength (Dry & Wet)

Dry Flexural Strength

Sample No.	Load (N)	Flexural Strength (Mpa)
1	8281	48.41
2	8440	49.34
3	8641	50.51
4	8502	49.70
5	8231	48.12
	Average	**49.21**
	Standard Devition	**0.87**

Wet Flexural Strength

Sample No.	Load (N)	Flexural Strength (Mpa)
1	10260	59.98
2	9064	52.98
3	9358	54.70
4	9897	57.85
5	9696	56.68
	Average	**56.44**
	Standard Devition	**2.43**

3. MOH's Hardness

MOH's Hardness - 7 (Greater than hardness of the quartz)

4. Thermal Shock Resistance (Immersion procedure)

All the samples satisfied the standard specifications.

5. Chemical Resistance

1. NH_4Cl - Not affected
2. NaOCl - Not affected
3. HCl - Not affected
4. KOH - Not affected
5. Citric Acid - Not affected

Testing Officer : _____
D.P. Gallage
MA - Technical

Checked by : _____
S.R. Randika
Materials Engineer

NATIONAL BUILDING RESEARCH ORGANISATION
BUILDING MATERIALS RESEARCH & TESTING DIVISION
NO. 99/1, JAWATTA ROAD,
COLOMBO 05.

Certified by : _____
Eng. (Mrs.) S.S.K. Muthurathne
Director
Building Materials Research & Testing Division

202423 0446

TESTING OF CRYSTAL STONE QUARTZ PRODUCTS
REPORT NO. : M/ 23/ 054

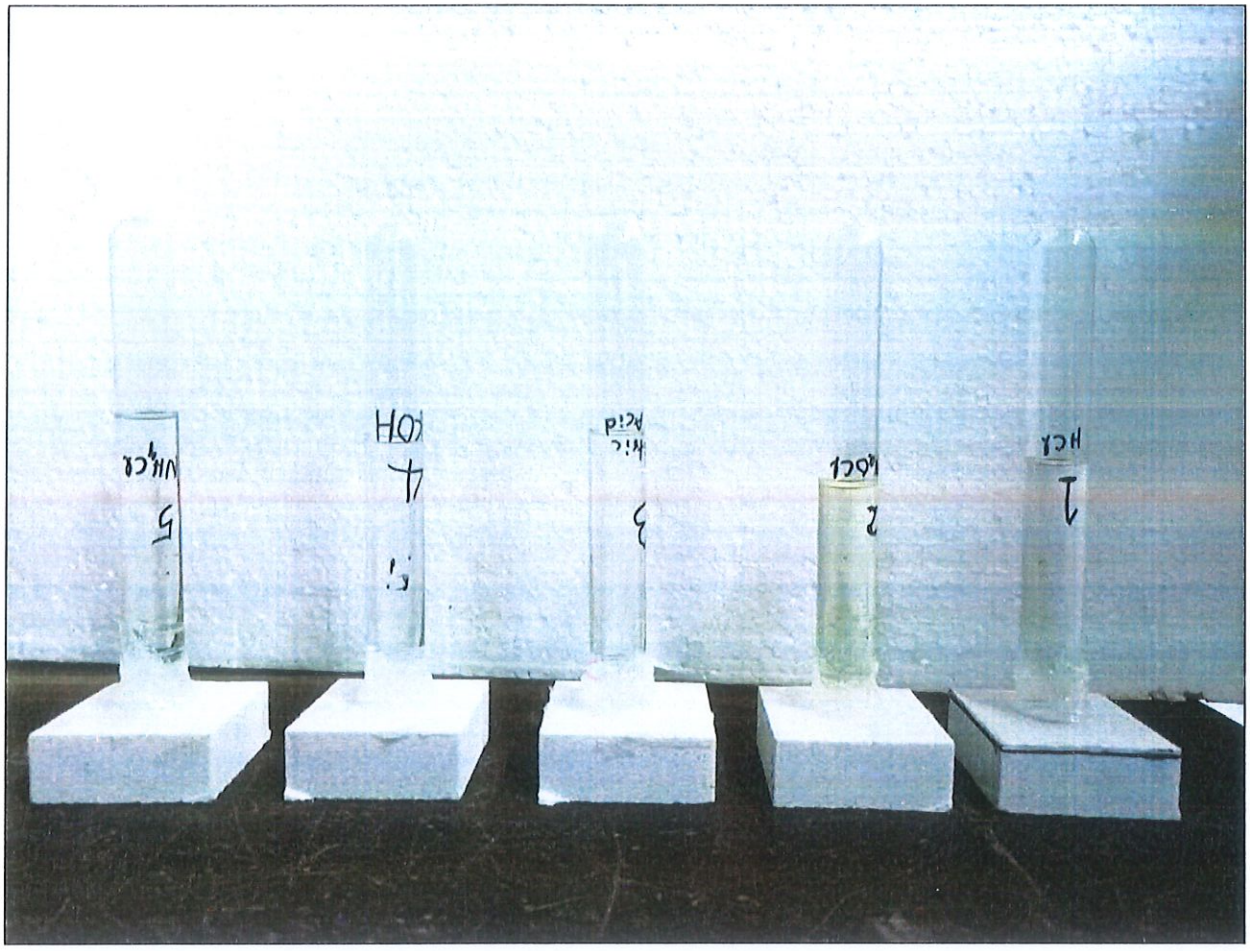

Figure 02: Test sample for Chemical Resistance Test

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