

# فوراكو

جيسوم جي آر سي • ديڪور



# VORACO

GYPSUM • GRC • DECOR

C. R. : 78983 - 02

## Company Pre-Qualification Report

Mahesh Vora	: Architect (Director)	Ph: 3666 8674
Valay Vora	: Architect (GM)	Ph: 6637 7349
Suresh Kumar	: Site Supervisor	Ph: 3772 2514

E-Mail : [info@voracobh.com](mailto:info@voracobh.com)  
Website : [www.voracobh.com](http://www.voracobh.com)

Bldg 1349, Road 1224, Block 1012,  
Al Hamala, Kingdom of Bahrain

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**VORACO** GYPSUM · GRC · DECOR

فوراكو جيپسوم · جي آر سي · ديڪور

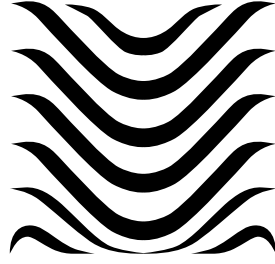
## **PRE - QUALIFICATION REPORT**

### **INDEX**

<b>SR NO</b>	<b>DESCRIPTION</b>
01	COPY OF COMMERCIAL REGISTRATION CERTIFICATE
02	COMPANY BROCHURE
03	COMPANY INTRODUCTION, PRODUCTS & SERVICES
04	COMPANY STRUCTURE, BOD, STAFF & MANPOWER DETAILS
05	PRODUCT'S MATERIAL SPECIFICATION & TEST REPORTS
06	PROJECTS COMPLETED & ONGOING PROJECTS
07	COMPANY ASSETS, EQUIPMENTS & VEHICLE DETAILS
08	STANDARD FIXING DETAILS & METHOD OF STATEMENT
09	MATERIAL APPROVALS & WORK PERFORMANCE LETTERS
10	CV & CRPEP DOCUMENTS

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01

COPY OF COMMERCIAL REGISTRATION  
CERTIFICATE



## شهادة قيد السجل التجاري

## Commercial Registration Certificate

The Registration Directorate at the Ministry of Industry, Commerce and Tourism certifies that the merchant's below details have been registered in accordance with Decree law No. (27) for the year 2015 of the Commercial Registration.

تشهد إدارة التسجيل بوزارة الصناعة والتجارة والسياحة بأنه قد تم قيد التاجر المسجلة بياناته أدناه وفقاً للمرسوم بقانون رقم (27) لسنة 2015 بشأن السجل التجاري.

Due Date	13/08/2019	تاريخ الاستحقاق	13/08/2015	تاريخ القيد	78983 - 2	رقم القيد
Group Name	VORA CONSULTANT W L L					
Commercial Name	VORACO GYPSUM GRC DECOR					
Registration Type	With Limited Liability Company					
CR Status	ACTIVE					
Commercial Address	P.O.BOX	ص.ب	1012	مجمع	1224	طريق
		AL HAMALAH / الهلمة	1012	Block	1224	Road
				Building	ج 1349	مبنى
				Flat/Shop No.	0	شقة/محل

## Activities

Building completion, finishing, and decor

إكمال المباني وتنظيفها، وأعمال الديكور

## الأنشطة



\* This CR does not permit its holder to practice investment activities on behalf of others.

\* هذا القيد لا يجوز لصاحبه بمزاولة نشاط استثمار أموال الغير.

إدارة التسجيل

Registration Directorate

Issued Date: 15/08/2018

Page 1 of 1

Q.F. 409 Issue 0

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## Company Portfolio & Presentation

Mahesh Vora	: Architect (Director)	Ph: 3666 8674
Valay Vora	: Architect (GM)	Ph: 6637 7349
Suresh Kumar	: Site Supervisor	Ph: 3772 2514

E-Mail : [info@voracobh.com](mailto:info@voracobh.com)  
Website : [www.voracobh.com](http://www.voracobh.com)

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**GRC or GFRC QUALITIES**

GRC is the combination of alkali-resistant glass fiber, cement & sand mortar. it is concrete like material but The fibers add compressive, tensile and impact strengths and the resulting material allows the production of strong yet lightweight products.

It has good chemical & fire resistance & will not decay or corrode. It provides high performance insulating with heat and sound.

GRC can be used for Exteriors as wall cladding, decorative facade screen, panels, cornices, balustrades, handrails, crowns, coping, columns, corbels, emblems, architraves, keystones, quoins, column covers, ceilings, water spouts, A/C duct screens, pipes, gratings, channels, plant vase.

The basic materials used are Cement (white or grey), Aggregate (fine natural sand), Water, Admixtures (Water reducing, plasticizers), Glass fiber (chopped), Color pigment.

**GRG or GFRG QUALITIES**

GRG is the combination of alkali-resistant glass fiber & Gypsum which can be used for Interiors as wall cladding, decorative screen, panels, cornices, crowns, coping, columns & covers, corbels, emblems, decorative architraves, keystones, A/C screens.

**TYPICAL DESIGN STRESSES**

Property	Unit	Hand/Mach Spray	Premix
Compressive	N / mm <sup>2</sup>	12	12
Bending	N / mm <sup>2</sup>	6	4
Shear	N / mm <sup>2</sup>	1	1

**PRINCIPAN MECHANICAL PROPERTIES**

Property	Unit	Hand/Mach Spray	Premix
Fibre Content	% by Wt	(Max) 5	(Max) 3
Density	Tonnes/mm <sup>3</sup>	2.1	2.0
Compressive Strength	N / mm <sup>2</sup>	50 ~ 75	40 ~ 44
Bending Strength (M.D.R.)	N / mm <sup>2</sup>	20 ~ 30	10 ~ 14
Bending Elastic Limit (K.I.O.)	N / mm <sup>2</sup>	7 ~ 11	5 ~ 8

It Should be noted that generally mechanical properties of G.R.C. varies from their original levels within time depending on the environment. There is little or no change in dry conditions but in moist or wet conditions there is a tendency for some loss of strength on aging.

**PHYSICAL PROPERTIES**

	Property	Performance
Thermal	expansion / conductivity	negligible / max 1.0 W / MK
Fire	Combustibility / ignitability	non combustible / very low
Moisture	Permeability / absorption	negligible / max 15% up tp saturation
Acoustic	Sound absorption	very low

**VORACO Scope of Work: GRC Screen & Quran Verses.**  
**Project : BDF HOSPITAL MOSQUE**  
**Contractor: Nass Contracting**  
**Consultant: Abeer Akbari Associates**

**VORACO Scope of Work: GRC Architraves.**  
**Project : KFCD, THE AVENUES MALL**  
**Contractor: Nass Contracting**  
**Consultant: MSCEB Architects & Engineers**





**VORACO Scope of Work: GRC Screen & Curved GRC Cladding above balcony ceiling for each floor & all around the building.**

**Project : JUFFAIR HEIGHTS**

**Main Contractor : Dadabhai Construction**

**Main Consultant : Habib Modara Art and Architecture**



**VORACO Scope of Work: GRC Screen on service balcony for the each floor & 10mx8m Screen on parking level front & back sides.**

**Project : SEEF TERRACES**

**Main Contractor : Dadabhai Construction**

**Main Consultant : Habib Modara Art and Architecture**





**VORACO Scope of Work: Custom Decorative GRC Screens & Panels for Exterior Elevation as approved by client and consultant.**

**Project: O.A.K VILLA**

**Main Contractor : Al Ghanah Contracting**

**Main Consultant : Horizon Interiors**

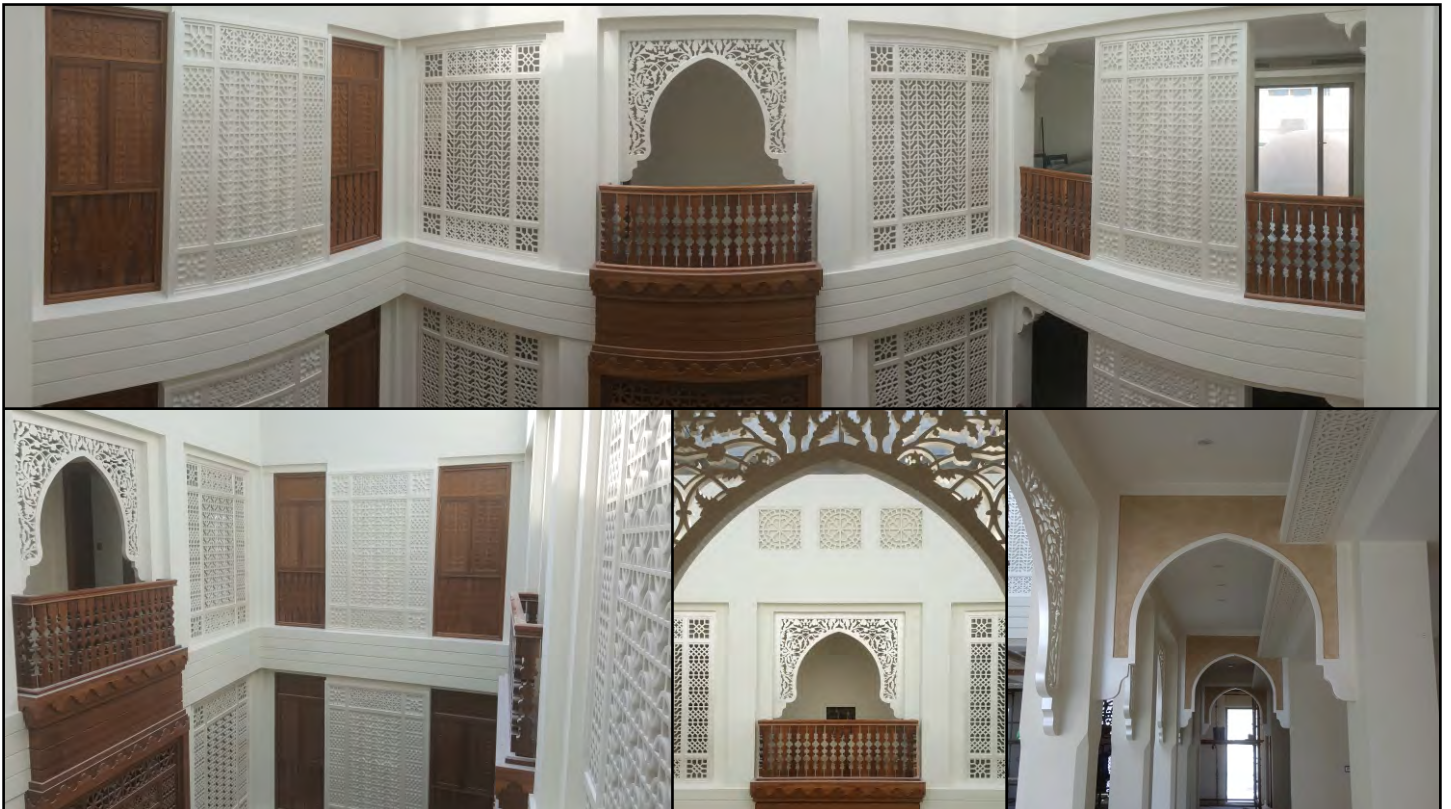


**VORACO Scope of Work: Custom Decorative GRC Screens & Panels for Interior Elevation as approved by client and consultant.**

**Project: O.A.K VILLA**

**Main Contractor : Al Ghanah Contracting**

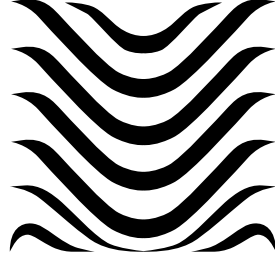
**Main Consultant : Horizon Interiors**





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03

COMPANY INTRODUCTION,  
PRODUCTS & SERVICES

# Company Introduction, Products and Services

## Company Introduction

**VORACO Gypsum GRC Decor** started in 2015 with an aim to provide best GRC and Gypsum Decor Products to the client with the best Economical fixing Solutions.

We are GRC, Gypsum Decor Products Manufacturing, Supplying & Fixing Company in Bahrain. We have achieved and completed many renowned projects successfully coordinating with Main Contractors / Client.

We have a team of experienced Architects, Engineers, Supervisors and Skilled workers and helpers which can handle the GRC & GRG works for any scale of Project from Preparing Shop Drawings till the Finished Product Fixed at site with achieving requirements like Sample approval, Product Scheduling, Technical Information, Test Reports, Method Statements, O&Ms and all the As Built Drawings to successfully complete the project in given time frame.

## Products & Services

### **1) GRC or GFRC :-**

Glass Fiber Reinforced Concrete Products  
Manufacture, Supply & fix.  
(Generally used for Exterior decoration works.)

### **2) GRG or GFRG :-**

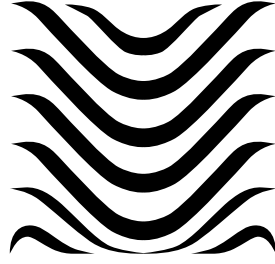
Glass Fiber Reinforced Gypsum Products  
Manufacture, Supply & fix.  
(Generally used for Interior decoration works.)

### **3) CNC Design & Engraving :-**

Manufacture, Supply & fix Standard & Custom design Panels  
in MDF, Acrylic & Aluminum Sheet

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# VORACO

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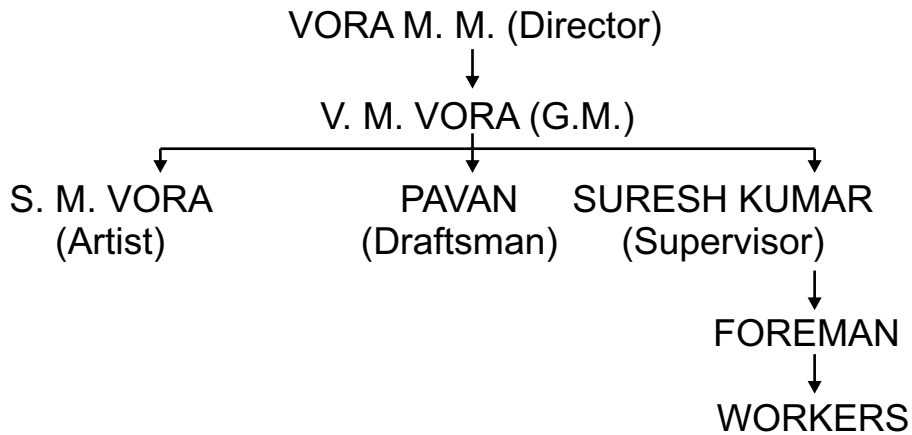
C. R. : 78983 - 02

04

COMPANY STRUCTURE, BOD,  
STAFF & MANPOWER DETAILS



## Company Structure



## Board of Directors Introduction

### **Mr. Mahesh Vora :-**

having a degree in Architecture and gained total of 40 years experience in different fields as a Senior Architect, Residential Engineer, Consultant and Managing Partner with many reputed Engineering and GRC Company in bahrain.

### **Mr. Valay Vora :-**

having a degree in Architecture and experience of 5 years as an architect and interior designer with a good knowledge of site supervising and designing.

### **Mrs. Shaila Vora :-**

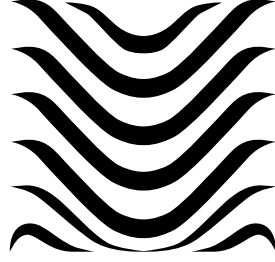
Degree in Arts with knowledge of art designing.

## Company Staff and Workers details

1) Architects and Engineers	-	3
2) Site Supervisors	-	2
3) Skilled Workers	-	6
4) Helper Workers	-	10
5) Driver	-	2

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# VORACO

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05

PRODUCT'S MATERIAL  
SPECIFICATION & PROPERTIES

**VORACO** GYPSUM · GRC · DECOR

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### Material Specifications

Property	Unit	Percentage
White Cement (JK White)	% by wt	42
Sand Double Wash	% by wt	38
Fiber Content (ACS 25PH-901X(20)/V) (JAPAN)	% by wt	5
Water Content	% by wt	15

### Principal Mechanical Properties

Property	Unit	Hand/Machine	
		Spray	Premix
Fibre Content	% by wt	(mx) 5	(mx) 3
Density	Tonnes/mm <sup>3</sup>	2.1	2.0
Compressive Stgth	N/mm <sup>2</sup>	50 - 75	40 - 44
Bending Stgth (MDR)	N/mm <sup>2</sup>	20 - 30	10 - 14
Bending Elastic Lmt (KIO)	N/mm <sup>2</sup>	7 - 11	5 - 8

### Typical Design Stresses

Property	Unit	Hand/Machine	
		Spray	Premix
Compressive	N/mm <sup>2</sup>	12	12
Bending	N/mm <sup>2</sup>	6	4
Shear	N/mm <sup>2</sup>	1	1

it should be noted that generally mechanical properties of GRC varies from their original levels with time depending on the environment. there is little or no change in dry conditions but in moist or wet conditions there is a tendency for some loss of strength on ageing.

### Physical Properties

	Property	Performance
Thermal	expansion / conductivity	negligible / max 10 W/MK
Fire	combustibility / ignitability	non combustible / very low
Moisture	Permeability / absorption	negligible / max 15% up to saturation
Acoustic	Sound absorption	very low

### Material Sample Example

GRC Material Description	Material Breakup	Weight/Vol.	% /Vol.
<b>GRC Cube</b>	White Cement	1.410 Kg	60.0%
size: 100x100x100mm	Aggregates (Sand)	0.705 Kg	30.0%
Volume: 0.001 Cu Mt	Glass fiber (Chopped)	0.070 Kg	3.0%
Weight: 2.350 Kg	Water	0.160 Lit	6.8%
	Admixtures	0.005 kg	0.2%
	<b>Total Wet Weight:</b>	<b>2.350 Kg</b>	<b>100%</b>



# TEST REPORT

Cert. Number:

UR4 - 7287

Page 1 of 2

CALIBRATION & TESTING  
LABORATORIES**Universal Laboratories (Bahrain) WLL**

Gate No: 1006, Villa No.2 Road 3221, Mahooz-332

Tel: +973 17720117 Fax: +973 17162830

E-mail: bahrain@universallab.co

Approved Signatory

K.T.Noushad

WORK ORDER NO.	:	65129
Client	:	VORACO – Gypsum – GRC - Decor
Address	:	Building 1349,Road 1224, Block 1012, Al Hamala, Bahrain
Date Received	:	22 February 2018
Certificate issued on	:	25 February 2018
PROJECT	:	General Purposes
SAMPLE DESCRIPTION	:	GLASSFIBRE REINFORCED CONCRETE
TYPE OF TEST	:	FLEXURAL PROPERTIES OF GLASSFIBRE REINFORCED
PLACE OF TEST	:	Universal Permanent Laboratory
DATE OF TEST	:	25 February 2018
METHOD OF COMPACTION	:	Premix
METHOD / STANDARD	:	GCRA Methods of Testing Glassfibre Reinforced Concrete (GRC) Material
CONDITION OF SPECIMEN WHEN RECEIVED	:	SATISFACTORY
ENVIRONMENTAL CONDITION	:	Temperature 22.0 °C Relative Humidity 48.0 %

SAMPLE NO	DIMENSIONS(mm)			SPAN mm	MOR LOAD N	LIMIT OF PROPORTIONALITY N/mm <sup>2</sup>	MODULUS OF RUPTURE N/mm <sup>2</sup>	DIRECTION OF LOADING
	L	x	W x T					
11-02-18/1	301	x	102 x 30.2	252	5550	14.6	18.0	x
11-02-18/2	303	x	101 x 30.3	251	6450	15.2	21.1	x
24-02-18/3	302	x	101 x 30.4	254	7950	16.8	25.7	y
24-02-18/4	302	x	103 x 30.1	251	7000	13.8	22.7	y

NOTE: x mould face of the specimen in contact with the major span rollers  
y mould face of the specimen in contact with the minor span rollers



Seal: \_\_\_\_\_

Verified by: \_\_\_\_\_  
Testing LaboratoryApproved by: \_\_\_\_\_  
General Manager

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Results only related to the sample tested.  
Reports without the signature and the seal of the issuing laboratory are not valid.  
This report complies with the requirements of ISO 17025



# TEST REPORT

Cert. Number:

UR4 - 7287

Page 2 of 2

CALIBRATION & TESTING  
LABORATORIES**Universal Laboratories (Bahrain) WLL**

Gate No: 1006, Villa No.2 Road 3221, Mahooz-332

Tel: +973 17720117 Fax: +973 17162830

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Approved Signatory

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WORK ORDER NO.	:	65129
Client	:	VORACO Gypsum – GRC - Decor
Address	:	Building 1349, Road 1224, Block 1012, Al Hamala, Bahrain
Date Received	:	22 February 2018
Certificate issued on	:	25 February 2018
PROJECT	:	General Purposes
SAMPLE DESCRIPTION	:	GLASSFIBRE REINFORCED CONCRETE
TYPE OF TEST	:	COMPRESSIVE STRENGTH OF GLASSFIBRE REINFORCED
PLACE OF TEST	:	Universal Permanent Laboratory
DATE OF TEST	:	25 February 2018
METHOD OF COMPACTION	:	Premix
METHOD / STANDARD	:	BS EN 12390 - 3
CONDITION OF SPECIMEN WHEN RECEIVED	:	SATISFACTORY
ENVIRONMENTAL CONDITION	:	Temperature 22.0 ° C      Relative Humidity 48.0 %

SAMPLE NO.	DIMENSIONS (mm)	MAXIMUM LOAD @ FAILURE N	COMPRESSIVE STRENGTH N/mm <sup>2</sup>
	L x W x H		
11-02-18/1	101 x 102 x 100	425050	41.3
11-02-18/2	100 x 101 x 102	431050	41.8
24-02--18/3	102 x 101 x 100	435100	42.2
24-02-18/4	101 x 100 x 102	435900	42.3



Seal: \_\_\_\_\_

Verified by: \_\_\_\_\_  
Testing LaboratoryApproved by: \_\_\_\_\_  
General Manager

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This report complies with the requirements of ISO





Project / Location : K.F.C.D. – The Avenues  
 Test Location : Concrete Filled Blocks  
 Sample Description : Fischer Anchor SXR 10x80 A4  
 Source : Fischer  
 Weather Condition : Clear  
 Equipment used : Proceq Z16  
 Date Received : 06.10.2016  
 Date Tested : 06.10.2016

**RESULTS:**

	Test 1	Test 2
Age of Curing, Days	-	-
Diameter of the specimen, mm	10	10
Test Conditions	Smooth	Smooth
Location of test	Exterior Wall	Exterior Wall
Surface Temperatures, °C	32	32
Tensile Load, kN	3	4
Failure Mode	No visual defect was observed	No visual defect was observed
Remarks	Satisfactory	Satisfactory



**NITIL K. SHRIVASTAVA**  
Material Laboratory Manager

Checked by: M.J.C.

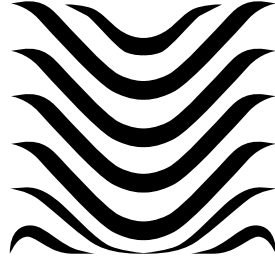
**DISCLAIMER**

The test reports / certificates issued by AAS are records of the actual test conducted on sample and the details submitted to us for testing and the results thereof. The results are applicable only to those sample/s, which have been tested and do not apply to other sample/s even though declared to be identical. Test report / certificate if reproduced, for any purpose commercial or otherwise, should be reproduced in full. AAS shall not be liable for any changes in reported factual data due to any cause related to sample tested after the report / certificate, in respect of it, has been issued. The results reported in the test report / certificates are valid only at the time of and under the stated conditions of the testing. Measurements are traceable to National/International Standard.



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06

PROJECTS COMPLETED

&

ONGOING PROJECTS

## GRC Work Projects Completed

SR No	Main Contractor/ Client	Projects	Consultant	GRC Items	GRC Contract Amount in BHD	GRC Works Contract Period
1	Dadabhai Construction	Juffair Heights 28 Storey Twin Tower Building	Habib Modera Associates	Service Balcony Screen & Curved Canopy on every floor.	60,000.000	Nov 2015 – Nov 2016
2	Nass Contracting	BDF Hospital Mosque at Riffa	Abeer Akbari Associates	Quran Verses all sided elevation and GRC Screen on minaret	10,000.000	July 2016 – Nov 2016
3	Al Ghanah Contracting	O. A. K. Villa at Amwaj Islands	Horizon Interiors	Decorative Screen and Panels for interior and exterior elevation	20,000.000	Jan 2017 – Jan 2018
4	Nass Contracting	The avenues Mall at Bahrain Bay	MSCEB Architects and engineers	GRC Architraves on custom steel framing	30,000.000	Dec 2016 – Aug 2017
5	Dadabhai Construction	Seef Terraces at Seef	Habib Modera Associates	GRC Screen on Service Balcony & 10mx8m Screen on parking level	50,000.000	Jan 2017 – Dec 2017
6	Dadabhai Construction	Galaria mall Mewar & Marzipan Restaurant	Dadabhai Construction	GRG Cornice and GRG AC grills all around Ceiling	6,000.000	Jul 2017 – Oct 2017
7	Dadabhai Construction	Elite Crystal Hotel at Juffair	Dadabhai Construction	GRG Cornice and GRG AC grills all around Ceiling	5,000.000	May 2017 – June 2017

## GRC Work Projects Completed

SR No	Main Contractor/ Client	Project	Consultant	GRC Itmes	GRC Contract Amount in BD	GRC Works Contract Period
8	Dadabhai Construction	Kingdom Mall at Janabiya	Arabian East Bureau	Terrace parapet, Window parapet & Ground parapet	24,800.000	May 2018- Spte. 2018
9	Dadabhai Construction	Mararssi Shores at Diyar Al Maharraq	Gulf House Engineering	Front elevation cladding	8,500.000	May 2018- July 2018
10	UAT, Trust Electromechanical Services Co W.L.L	Maharraq Central Market at Maharraq	Architecture 360	Front elevation cladding all around building	12,000.000	April 2018- June 2018
11	Mahmood Akbar Aireza W.L.L.	BDF School at M3	T & P Department	Elevation GRC Screen Paneling	2,000.000	April 2018- Completed
12	Al Manar Construction Establishment	BDF Mosque at M7	T & P Department	Elevation GRC Screen Paneling	2,500.000	June 2018- July 2018
13	Dadabhai Construction	DTH at Manama	Dadabhai Interiors	Front elevation cladding & Window parapet	4,500.000	April 2018- May 2018

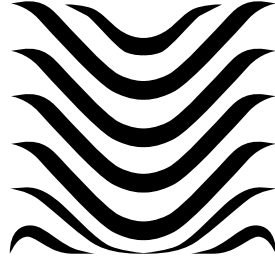
## GRC Work On Going Projects

SR No	Main Contractor/ Client	Project	Consultant	GRC Itmes	GRC Contract Amount in BD	GRC Works Contract Period
1	Al Hidaya Contracting	Danaat Al Lawzi at Hamad Town	Gulf House Engineering	Elevation GRC Screen & Paneling	36,300.000	March 2018- Spte. 2018
2	Al Jameel Contraction Co.	Alsidra villa at Asset 13A	Horizon Interioirs	Elevation GRC Screen & Paneling	78,000.000	Oct 2018
3	Cyprus Cybarco Tabat JV WII.	Dilmunia Mall at Dilmunia	Mazen Alumran Consulting & Engineers	Elevation GRC Cornice	33,000.000	August 2018
4	Charilaos Apostolides W.L.L	AMP Phase 1 & 2 at Riffa	Adel Ahmadi Associates	Elevation GRC Screen & Paneling	10,500.000	Oct. 2018
5	Dadabhai Construction	Flower Pot for Marrasi at Diyar Al Muharraq	Gulf House Engineering	GRC Flower Pot	4382.000	March 2019



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# VORACO

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07

COMPANY ASSETS, EQUIPMENTS &  
VEHICLE DETAILS

## **Company Assets**

VORACO Building is located at Hamala contains following :-

- 1) VORACO Admin office,
- 2) Manufacturing Workshop,
- 3) Staff & Worker Accommodation.
- 4) Store for raw materials and equipment.

## **Company Equipment**

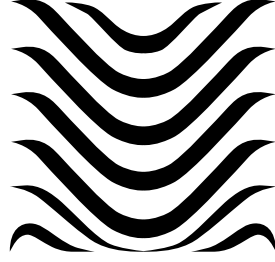
1) CNC Machine	-	1
2) GRC Mixing Machine	-	1
3) Air-Compressor Machine	-	1
4) Gas Cylinder & Stove	-	2
5) Heating Pots	-	4
6) Mold Table	-	6
7) Electric & Manual Chain Block	-	3
8) Hilti & Drill Machine	-	10
9) Wood Saw, Table Saw Machines	-	4
10) Big & Small Grinding Machine	-	5
11) Sanding & Finishing machine	-	4
12) Vacuum & Blower Machines	-	3
13) Misc. Hand tools	-	30

## **Company Vehicles**

1) Car	-	1
2) Pickup	-	1
3) Minibus	-	1
4) 6 Wheeler Truck	-	1

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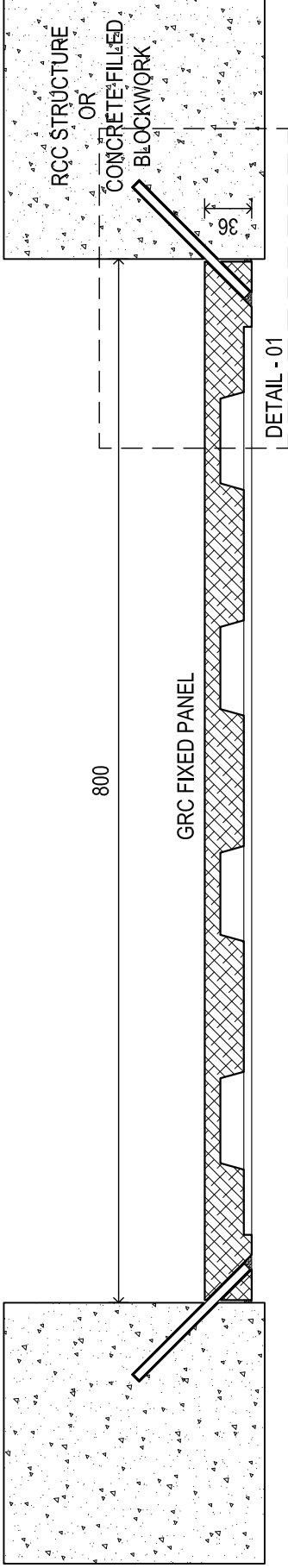
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08

STANDARD FIXING DETAILS

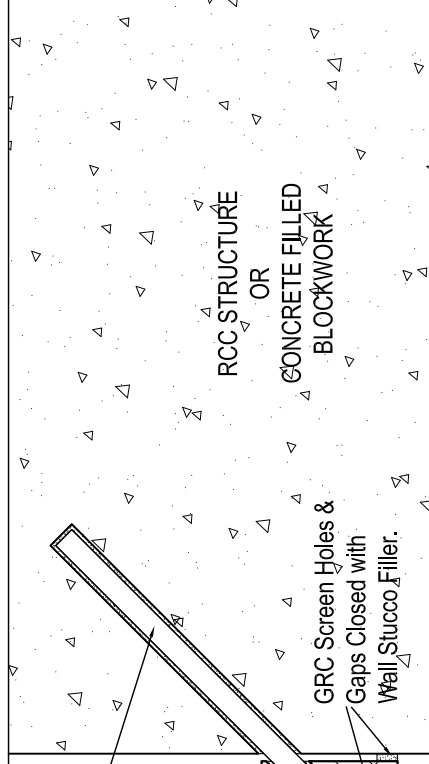
&

METHOD OF STATEMENT



### GRC FIXING DETAIL ON ADJACENT SIDE SUPPORTS

DETAIL - 01



120 x 6mm Ø S.S. Rod drilled & inserted with GRC Glue inside RCC / concrete Filled Block wall through GRC Screen Border

DETAIL - 01

#### METHOD OF STATEMENT - GRC FIXED PANEL / SCREEN

- 01 Wall Surface to be cleaned and levelled.
- 02 Measurement as per shop drawing are marked with a chalk line marking string on the wall recess.
- 03 Holes are marked on the GRC as per the shop drawings.
- 04 GRC panel is lifted manually by labors or with lifting tools and placed gently on the wall recess.
- 05 GRC panel edges are aligned with the previously marked lines on wall recess.
- 06 Using concrete drill bit; holes are drilled through GRC panel towards the wall at an 45° angle.

#### GENERAL NOTES:

SR NOTE

- 1 All measurements in the drawing are in millimeters.
- 2 Docs. provided are strictly for reference purpose only, sharing to others using content as final Docs. without our consent is not allowed.

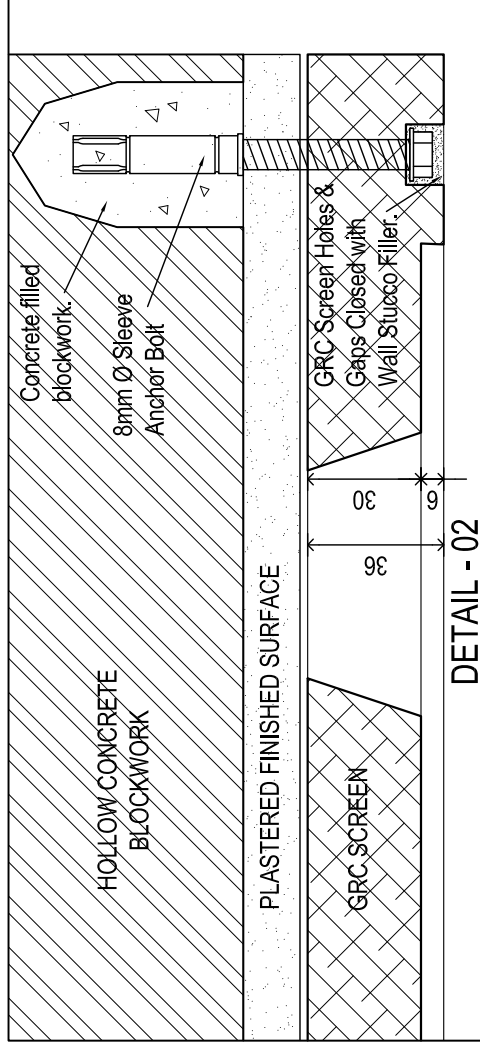
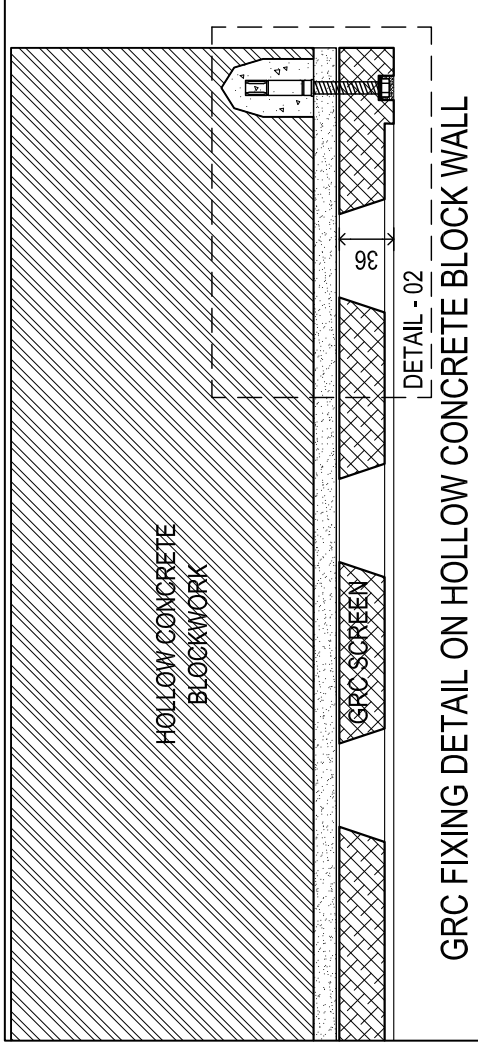
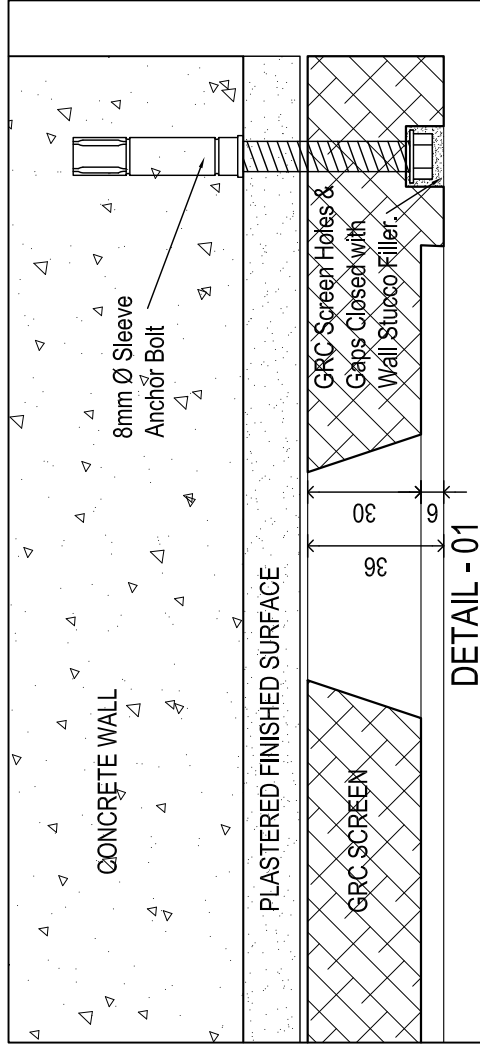
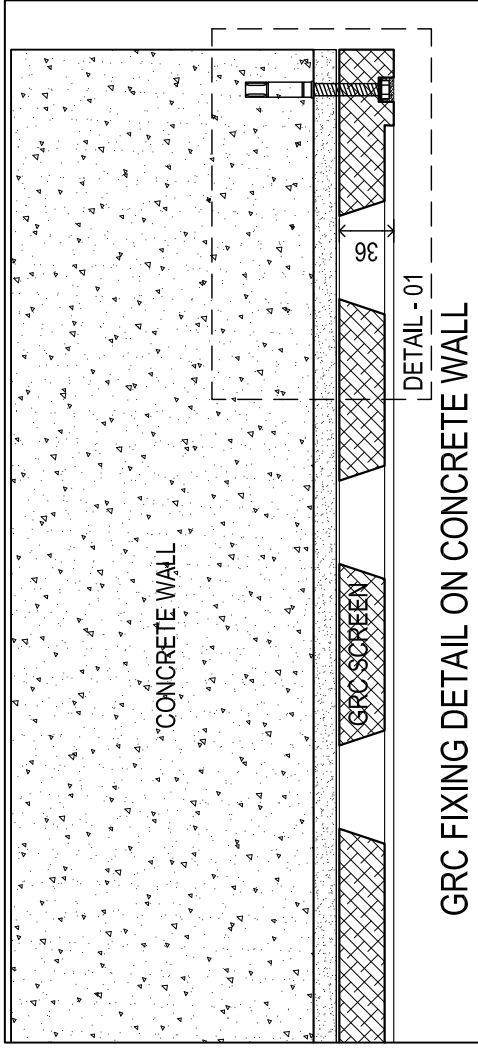
**VORACO Gypsum GRC Decor**  
 Bldg:1349 • Rd:1224 • Block:1012  
 Al Hamala, Kingdom of Bahrain  
 E-mail : info@voracobb.com  
 TEL - 6637 7349 • CR - 78983-2

DRAWING  
 GRC FIXING SYSTEM TYPE - 01  
 GRC FIXING DETAIL &  
 METHOD OF STATEMENT

Drawing No:  
 10-10-SD-01

- 07 S.S. Rod with GRC (glue) Epoxy is inserted inside the drilled hole till it is fully inserted in GRC Screen & concrete structure.
- 08 holes and other gaps are filled with wall stucco filler.
- 09 After the wall filler on the holes get dried the GRC is properly leveled by sanding to remove improper surface or undulations.
- 10 Excess dust from sanding is blown off using a blower.





**METHOD OF STATEMENT - GRC FIXED PANEL / SCREEN**

- 01 Wall Surface to be cleaned and levelled.
- 02 Measurement as per shop drawing are marked with a chalk line marking string on the wall.
- 03 Holes are marked on the GRC as per the shop drawings.
- 04 GRC panel is lifted manually by labors or with lifting tools and placed gently on the wall.
- 05 GRC panel edges are aligned with the previously marked lines on wall.
- 06 Using concrete drill bit; holes are drilled through GRC panel towards the wall perpendicular.

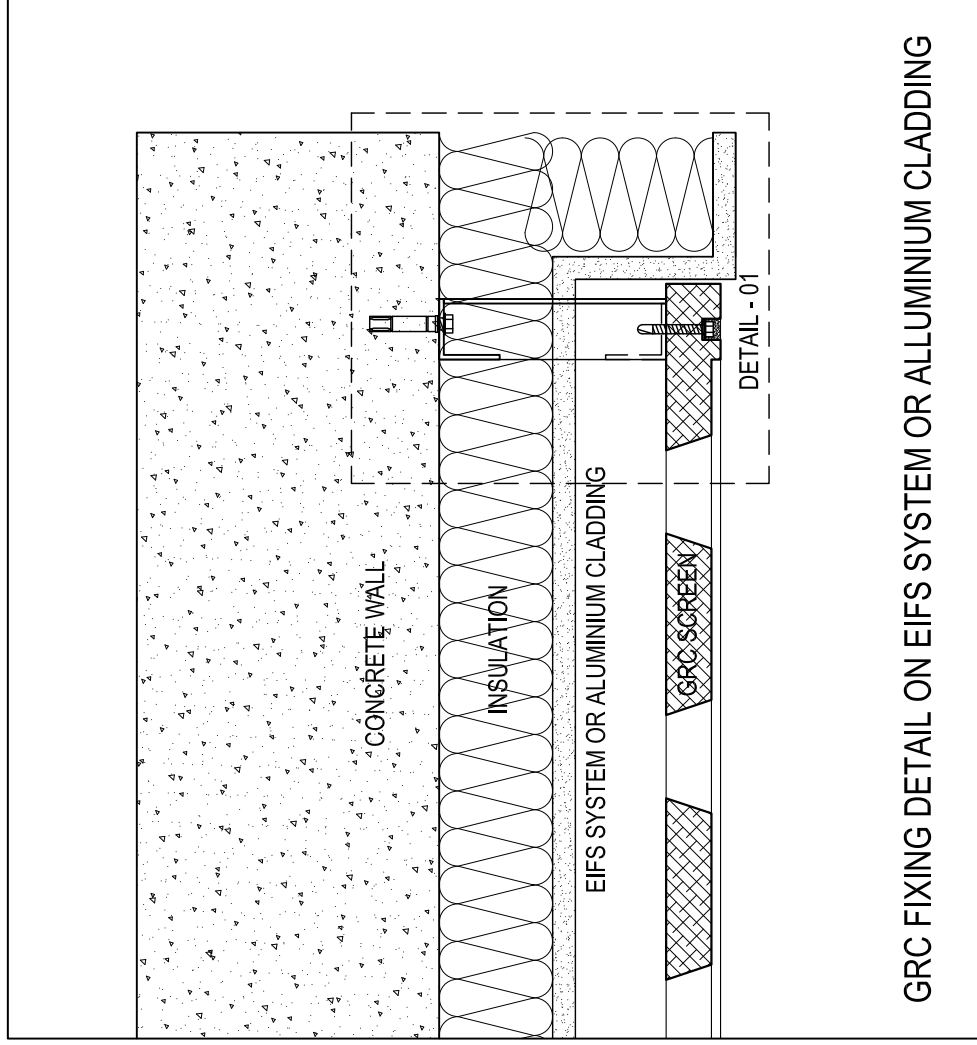
- 07 Sleeve anchor bolt is inserted inside the drilled hole in GRC Screen & concrete wall & tightened properly.
- 08 holes and other gaps are filled with wall stucco filler.
- 09 After the wall filler on the holes get dried the GRC is properly leveled by sanding to remove improper surface or undulations.
- 10 Excess dust from sanding is blown off using a blower.

**GENERAL NOTES:**

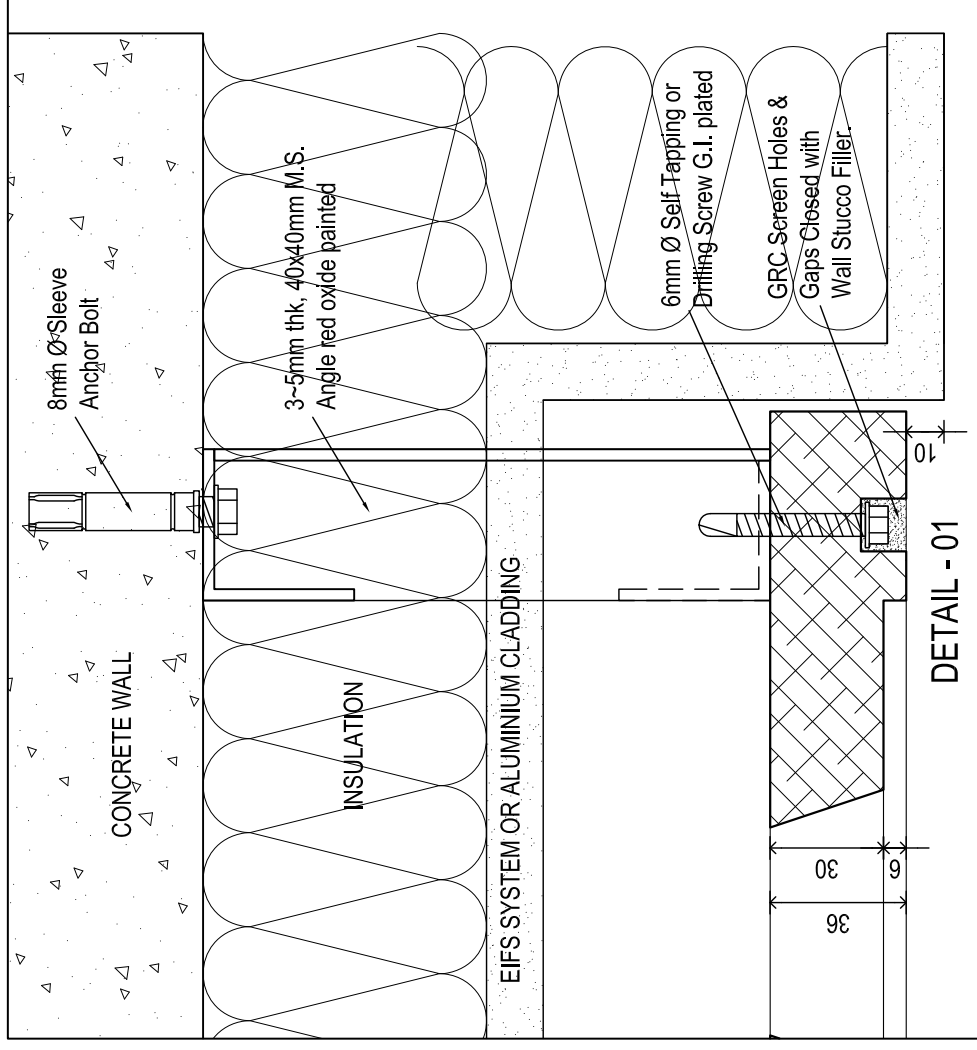
SR	NOTE
1	All measurements in the drawing are in millimeters.
2	Diags. provided are strictly for reference purposes only, sharing to others, using content as final Diags. without our consent is not allowed.

**VORACO Gypsum GRC Decor**  
 Bldg: 1349 • Rd: 1224 • Block: 1012  
 Al Hamala, Kingdom of Bahrain  
 E-mail: info@voracobb.com  
 TEL: 6637 7349 • CR - 78983-2

DRAWING  
 GRC FIXING SYSTEM TYPE - 02  
 GRC FIXING DETAIL &  
 METHOD OF STATEMENT  
 Drawing No: 10-10-SD-02



### GRC FIXING DETAIL ON EIFS SYSTEM OR ALUMINIUM CLADDING



#### METHOD OF STATEMENT - GRC FIXED PANEL / SCREEN

- 01 Wall Surface to be cleaned and levelled.
- 02 Measurement as per shop drawing are marked with a chalk line marking string on the concrete prior to preparing insulation.
- 03 Holes are marked on concrete wall & holes are drilled with bit.
- 04 Mounting angles as per the shop drawings are fixed on the concrete wall with the sleeve anchor bolts.
- 05 Measurements as per the shop drawings are marked on the recess after completing EIFS or Aluminium cladding system.
- 06 Angle distance is measured & marked on GRC Screen & Using concrete drill bit; holes are drilled through GRC panel.

- 07 GRC Screen is aligned with the markings on the recess by manual labor or with a lifting tools.
- 08 Self tapping screw is inserted through the GRC hole & tightened with the angle supports behind.
- 09 holes and other gaps are filled with wall stucco filler.
- 10 After the wall filler on the holes get dried the GRC is properly leveled by sanding to remove improper surface or undulations.
- 11 Excess dust from sanding is blown off using a blower.

#### GENERAL NOTES:

##### SR NOTE

- 1 All measurements in the drawing are in millimeters.
- 2 Dies provided are strictly for reference purposes only, sharing to others using content as final Docs. without our consent is not allowed.

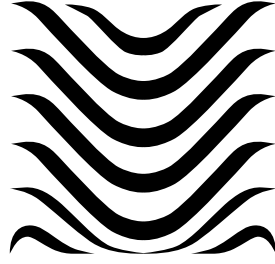
**VORACO Gypsum GRC Decor**  
 Bldg:1349 • Rq:1224 • Block:1012  
 Al Hamala • Kingdom of Bahrain  
 E-mail : info@voracobbh.com  
 TEL - 6637 7349 • CR - 78983-2

DRAWING  
 GRC FIXING SYSTEM TYPE - 03  
 GRC FIXING DETAIL &  
 METHOD OF STATEMENT

Drawing No:  
 10-10-SD-03

# فوراكو

جيسوم جي آر سي • ديڪور



# VORACO

GYPSUM • GRC • DECOR

C. R. : 78983 - 02

09

MATERIAL APPROVALS

&

WORK PERFORMANCE LETTER



**MATERIAL APPROVAL CERTIFICATE (MAC)**

<b>PROJECT TITLE</b>		Proposed New Coast Guard Base At Muharraq.	
<b>CONTRACTOR</b>		Projects Construction Co. W.L.L	
<b>JOB NO.</b>		112491/D	
<b>WD SUPERVISOR</b>		Adel Ahmadi Associates.	<b>DATE: 19-09-2018</b>
Civil	<b>C</b>	Elect	<b>E</b>
		Mech	<b>M</b>
<b>Submittal No:</b>			<b>A-016 R-00</b>

We Request approval for the following materials for use in the above Contract

1	<b>Material Description</b>	GRC Panel Raw materials and Accessories
2	<b>Particular Specification/General specification as per Contract</b>	Particular Specification
3	<b>Submitted Sample</b>	No
4	<b>Does the submittal meet the particular Standards/General Specifications</b>	Yes
5	<b>Location</b>	Administration Building
6	<b>Manufacturer</b>	VORACO-Gypsum-GRC-Décor, Kingdom of Bahrain
7	<b>Local Supplier</b>	VORACO-Gypsum-GRC-Décor, Kingdom of Bahrain
8	<b>Standard Reference</b>	MOI Specification
9	<b>Estimated Delivery Time</b>	6 Months
10	<b>Estimated Date Required at site</b>	1 <sup>st</sup> March 2019
11	<b>Enclosures</b>	GRC Raw materials breakup details, GRC Test reports & GRC Fixing method of statement
12	<b>Warranty</b>	Attached Guarantee Letter From VORACO

**QUALITY ASSURANCE ENGINEER / SITE SUPERVISOR**

<b>COMMENTS:</b> RAW MATERIALS CONFORM TO SPECIFICATION			<input checked="" type="checkbox"/>	<b>RECOMMENDED</b>
				<b>NOT RECOMMENDED</b>
<b>NAME</b> C.V. THOMAS	<b>SIGNATURE</b> 	<b>DATE:</b> 18-09-2018		<b>RECOMMENDED WITH COMMENTS</b>

**ELECTRICAL/MECHANICAL / HVAC ENGINEER**

<b>COMMENTS:</b> Apply As per The attached Data Sheets.			<input checked="" type="checkbox"/>	<b>RECOMMENDED</b>
				<b>NOT RECOMMENDED</b>
<b>NAME</b>	<b>SIGNATURE</b>	<b>DATE:</b>	<input checked="" type="checkbox"/>	<b>RECOMMENDED WITH COMMENTS</b>

**WD COMMITTEE APPROVAL**

<b>NAME</b> M. TA	<b>NAME</b> Riyadh	<b>NAME</b> Subhi		<b>APPROVED</b>
<b>SIGNATURE</b> 	<b>SIGNATURE</b> 	<b>SIGNATURE</b> 		<b>NOT APPROVED</b>
<b>DATE:</b> 2/10/18	<b>DATE:</b> 2/10/2018	<b>DATE:</b> 2/10/2018	<input checked="" type="checkbox"/>	<b>APPROVED WITH COMMENTS</b>

**NOTES:**

1	This approval relates only to identical materials. Not similar materials.
2	Materials which have not been approved are deemed to have been rejected
3	Approval of items does not any way relieve the Contractor from Complying with all the requirements of the contract Terms, Specification and Project Design
4	Approval of Materials is not a Variation Order approval





# REQUEST FOR MATERIAL APPROVAL

MSCEB JUFFAIR OFFICE  
10 OCT 2016 16:40  
RECEIVED

MAC Ref. No	110251-G.1.4-694 - 2
Category	( ARCHITECTURAL )
Date :	09-Oct-16
Prev. MAC Ref. No.:	MAC 694 R1
Date	28-Sep-16

**Project :** KING FAISAL CORNICHE DEVELOPMENT

**To :** MSCEB, (Juffair Office)  
**Attn :** Mr.Vijay Kumar, Sr.Project Manager  
**From :** Nass Contracting Co. WLL

**Works :** GRC WORKS

We request approval of the following material to be used in the above works :

- Material Proposed : GRC FOR ARCHITRAVE
- Complies with Spec :  Yes  No  Alt.Material Form Attached
- Description and Location of use : 100mm Wide GRC with White Primer Paint, Top Coat Colour to Match ST-03; To be Installed on the External Wall
- Contract Specification Reference : Specifications Volume 1 Sec 09 06 01 - Schedule for Interior and Exterior Materials, Finishes; Sec 03 49 00 - Glass Fiber Reinforced Concrete
- Manufacturer : Voraco - Bahrain
- Product Code : GRC-01
- Local Supplier / Agent : Voraco - Bahrain
- Estimated delivery period : 4 Weeks
- Estimated date required at site : 01-Nov-16
- Enclosures – Sample / Cat / Test Results etc : GRC Section Sample Incorporated with Comments

NASS CONTRACTING CO. W.L.L.  
 KFCD PROJECT  
 15 NOV 2016  
 RECEIVED BY: *[Signature]*

Note: Model No. / Product Codes need to be highlighted on the attached catalogue

For the Contractor :  
 Name: **Simon Hill** Designation: **Senior Project Manager** Signed: *[Signature]* Date: **09-Oct-16**

Comments by MSCEB: **FIXING DETAILS NOT PROVIDED PL SUBMIT FOR OUR REVIEW. ENSURE CORNER TRIMS (METAL) ARE PROVIDED FOR ALL CORNERS**

Employer Rep: *As Commented*  
 Comments: *by MSCEB. APH 13/11/16*

- A) Approved  B) Approved subject to comments   
*APPROVED IN PRINCIPLE SUBJECT TO FIXING DETAIL REVIEW.*  
 C) Revise & Resubmit, Material can be used  D) Not Approved

- No Objection   
 Rejected

Signed: *[Signature]* Date: **29.10.16**

Sign: *[Signature]* Date: .....

CC: AECOM,HAJ  
 Received by Contractor: ..... Date: .....

Note: The above approval does not relieve the Contractor from his responsibilities to ensure that the material to be used shall be in accordance with specification and IFC drawings requirements.



# REQUEST FOR MATERIAL APPROVAL

MAC Ref. No	110251-G.1.4-694 - 1
Category	( ARCHITECTURAL )
Date :	27-Sep-16
Prev. MAC Ref. No.:	MAC 694 R0
Date	04-Sep-16

**Project :** KING FAISAL CORNICHE DEVELOPMENT

**To :** MSCEB, (Juffair Office)

**Attn :** Mr. Vijay Kumar, Sr. Project Manager

**From :** Nass Contracting Co. WLL



**Works :** GRC WORKS

We request approval of the following material to be used in the above works :

**ADVANCE COPY**

- 1 Material Proposed : GRC FOR ARCHITRAVE
- 2 Complies with Spec :  Yes  No  Alt. Material Form Attached
- 3 Description and Location of use : 100mm Wide GRC with White Primer Paint, Top Coat Colour to Match ST-03; To be Installed on the External Wall
- 4 Contract Specification Reference : Specifications Volume 1 Sec 09 06 01 - Schedule for Interior and Exterior Materials, Finishes; Sec 03 49 00 - Glass Fiber Reinforced Concrete
- 5 Manufacturer : Voraco - Bahrain
- 6 Product Code : GRC-01
- 7 Local Supplier / Agent : Voraco - Bahrain
- 8 Estimated delivery period : 12 Weeks
- 9 Estimated date required at site : 01-Nov-16
- 10 Enclosures – Sample / Cat / Test Results etc : Full Specifications of GRC Composition, Angle Properties and Items to be Used for GRC Installation to Structure and New 125x100mm GRC Section Sample

Note: Model No. / Product Codes need to be highlighted on the attached catalogues.

For the Contractor :

Name: **Simon Hill** Designation: **Senior Project Manager** Signed: Date: **27-Sep-16**

Comments by MSCEB

*PLEASE REFER OUR COMMENTS IN ENCLOSED COMMENTS SHEET.*

Employer Rep:

Comments:

- A) Approved
- B) Approved subject to comments *14*
- C) Revise & Resubmit, Material can be used
- D) Not Approved

No Objection

Rejected

Signed: Date: **08-10-16**

Sign..... Date.....

CC: AECOM,HAJ

Received by Contractor:

Date:.....

Note: The above approval does not relieve the Contractor from his responsibilities to ensure that the material to be used shall be in accordance with specification and IFC drawings requirements.





PROJECT NAME : DANAT AL LAWZI - PACKAGE 2

TO : THE SUPERVISING OFFICER'S : GULF HOUSE ENGINEERING

FROM : THE CONTRACTOR : AL HEDAYA CONTRACTING CO.W.L.L

**INSPECTION REQUEST FORM**

**IR**

IR NO. : IR-A-27      DATE : 27-03-2018      Contract No. : EP201401NPLZ

SUBJECT : GRC DESIGN - EXTERNAL WALL VILLA 2S (MOCK UP VILLA 87)

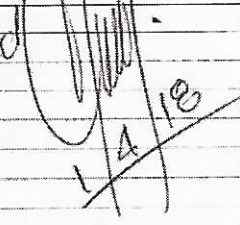
We have the pleasure to request inspection for the work stated hereunder and confirm that all necessary works have been satisfactorily completed under the terms of the contract and provided as required in the Drawings and specifications.

PROJECT MANAGER/ ENGINEER : Mohammed Haneef

ID	INSPECTION CHECK LIST	CONTRACTOR CLEARANCE/ SIGNATURE
1.	Lines & Grades /	
2.	Compaction /	
3.	Fomworks & Supports /	
4.	Repairs & Spacers /	
5.	Electrical /	(see attached photo)- Inspection on 27/3/2018 @ 10 AM
6.	Telephone/T.V. antenna /	
7.	Roof drains / Sewer lines /	
8.	Water lines H & C /	
9.	Other Mechanical /	
10.	Equipments / Tools /	
11.	Others /	

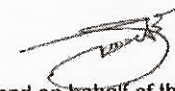
Signed for and on behalf of the Contractor:  NAME: Mohammed Haneef  
DATE: 27-03-2018

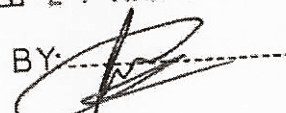
Supervising Officer's Comments and Instructions:


→ GRC Design Approved Approved  1/4/18

→ Material & finishing must comply as per the specs.

→ MIR required prior to installation

Signed for and on behalf of the Supervising Officer's:  NAME: Vignesh. U  
DATE of INSPECTION: 01/4/18

**RECEIVED**  
27 MAR 2018  
BY: 

Ref. No: 110250-G.1.1- 032 DATE: 23.03.2016 REV: 0	<b>PROJECT: BDF MOSQUE @ M-09</b>	
	<b>DOCUMENT TRANSMITTAL</b>	

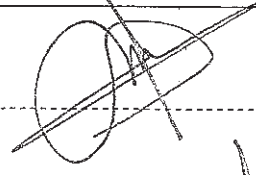

<b>To: BDF HOSPITAL @ RIFFA</b>  <b>Attention: Mr. Major Hayyan – Heads of Projects</b>	<b>From: NASS CONTRACTING CO. W.L.L</b> P.O.Box 669, Manama, KINGDOM OF BAHRAIN Phone: +973 17 708333 Fax: +973 17 701714
---	--

PLEASE FIND ATTACHED THE FOLLOWING DOCUMENTS FOR YOUR INFORMATION, OR AS NOTED BELOW.

**Subject/ Document Description: VERSES FROM QURAN DESIGN**

Document Ref. No.	Rev.	No. of Copies	Document Details/ Title	Document Type/Size	Purpose			
					Information	Approval	Review	Records
TEXT TYPE 1	0	1	GRC PANEL-VERSES FROM QURAN		✓			
TEXT TYPE 2	0	1	GRC PANEL-VERSES FROM QURAN		✓			
TEXT TYPE 3	0	1	GRC PANEL-VERSES FROM QURAN		✓			
<u>TEXT TYPE 4</u>	0	1	GRC PANEL-VERSES FROM QURAN		✓			
TEXT TYPE 5	0	1	GRC PANEL-VERSES FROM QURAN		✓			
TEXT TYPE 6	0	1	GRC PANEL-VERSES FROM QURAN		✓			

**COMMENTS:**  
*Approved Text type 4*

For Nass Contracting:	Name: <u>Sayed Murtadha</u>	Signed: 	Date: <u>23.03.2016</u>
Recipient:	Name: <u>Maj. Hayyan</u>	Signed: 	Date: <u>30/3/16</u>

**Please sign to acknowledge receipt of listed documentation and return a copy to NASS CONTRACTING.**



RECEIVED ON :

28/05/18 @ 10:45 am.

*Subin*  
A360.



### WORK INSPECTION REQUEST

Contractor: UAT- JV	To: Architecture 360°	Ref. No. 31-11-IR-02
Project Title: Muharraq Central Market Dev. Main Building		Date: 27-05-2018

The work / material below is available for your inspection at. 11:00 am on 28-05-2018

1. Trade	Arch. <input checked="" type="checkbox"/>	Struct. <input type="checkbox"/>	M&E <input type="checkbox"/>
----------	---	----------------------------------	------------------------------

2. Location	Grid 14-15 on Front Elevation
-------------	-------------------------------

3. Scope	1. GRC Screen 1mx4.995m, 30mm Thk – 1 Num
----------	---

Main Contractor Signature: <i>Ali</i> 27/5/2018 for Electrical. O.K.	Sub-Contractor Signature: <i>SK Suresh</i> Signed: Suresh Kumar (Projects Co-ordinator) 377 22514
---	--

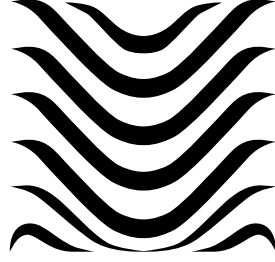
Consultant's Comments	Inspected on 28/05/18 @ 2:15 pm.

<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Approved with comments	<input type="checkbox"/> Rejected
Signature: <i>Subin</i>	Date:	

Note: This approval does not relieve the Contractor of his contractual obligations and proper supervision of his works

# فوراكو

جيسوم جي آر سي • ديڪور



# VORACO

GYPSUM • GRC • DECOR


C. R. : 78983 - 02

10

CV & CRPEP DOCUMENT

# CRPEP LICENSE OF DIRECTOR

مجلس تنظيم مزاولة المهن الهندسية  
The Council for Regulating the  
Practice of Engineering Professions



**Registration No.:** EPP/C3737/AE/01-A  
**Name:** VORA MAHESH KUMAR MOHANLAL  
**Comp/Est.:** VORA CONSULTANT WLL  
**Discipline:** ARCHITECTURE  
**Category :** (CAT.A.)  
**Nationality:** INDIAN  
**Issue Date:** 01.01.2018 **Valid Until:** 31.12.2018

The holder is allowed to practice engineering for this company and as categorized

**License Type:**

BN  Bahraini Engineering Office.  
FB  Foreign Branch Office.  
C  Contractors.  
GOV  Government Engineer.  
GC  GCC Branch.  
JV  Joint Venture.  
FT  American Office.  
 Other.