



**LYCÉE LOUIS
MASSIGNON**
ليسيه لوي مسينيون

ÉTABLISSEMENT
EN GESTION DIRECTE



aefe
Agence pour
l'enseignement français
à l'étranger

RENOVATION OF BLOCK B' FOR FRENCH SCHOOL (LYCEE LOUIS MASSIGNON)

CONCRETE REPAIRS AND STRUCTURAL REINFORCEMENT

**PLOT (26_27), SECTOR (E40)
ABU DHABI ISLAND
EMIRATE OF ABU DHABI
UNITED ARAB EMIRATES**

**VOLUME 5 – Part 2 of 7
M/s Apave International
Report Adh/PB17.039 dated October 20th, 2017**

HP Project No. 1782

**Revision 1
April 18th, 2025**

INSPECTION REPORT

« Technical Diagnosis »

**Lycée Louis-Massignon
Abu Dhabi**

Evaluation of Existing Structure of
the Gymnasium, Swimming Pool and Auditorium

Report ref. Adh/B17.039

Visit date: 26/08/2017

Report date: 20/10/2017

Proposal Adh/PB16.08a

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Dear Sirs,

Please find enclosed the technical diagnosis report regarding the evaluation of the existing structure of the Gymnasium, Swimming Pool and the Auditorium at Lycée Louis-Massignon in Abu Dhabi.

This report consists of 89 pages numbered from 2 to 13 and on pages 15, 72, 87 and 88.

Please feel free to contact us for any further information and/or comments.

Best Regards,

Address of the Visited Installation :

Lycée Louis-Massignon
Abu Dhabi, UAE

Inspector :

Patrick TAYAH

Project Manager :

Georges RIZK

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1. PREFACE

Apave International – Abu Dhabi was assigned to evaluate the concrete and reinforcement conditions, in the existing structural elements at the Gymnasium, Swimming Pool and Auditorium of Lycée Louis-Massignon located in Abu Dhabi, UAE. The purpose of the investigation is to assess the current status of the concrete and steel in the structural elements and provide mitigation plan for the repair.

The investigation aims also to assess the edge wood beam condition in the roof of the swimming pool. The mitigation plan will provide corrective measures to repair the elements and prevent future deterioration.

The report documents and interprets our visual examination and evaluation of the test results for the extracted concrete samples, with a comparison to previously obtained core results in 2006 and 2016, as well as Apave's previous campaign in February 2017. The test results on the wooden beam of the swimming pool are also included.

The inspection was conducted on the 26th of August 2017. During the inspection, Apave and Al Hoty-Stanger Laboratories were present.

2. VISUAL INSPECTION

The target structures comprise the following:

- A Gymnasium and a Swimming Pool, with structural elements in reinforced concrete and a wood roof ceiling
- An Auditorium with all the structural elements in reinforced concrete.

We took notice that the 3 buildings were constructed in 1985.

The location of the concrete cores is shown in the drawing in Appendix A, where previous laboratory test results were also added.

The dimensions of the elements were not recorded since the study does not cover any structural study for its serviceability and design verification.



Fig. 1- Test Location 1



Fig. 2- Test Location 2. We can see also where the previous core was extracted in 2006

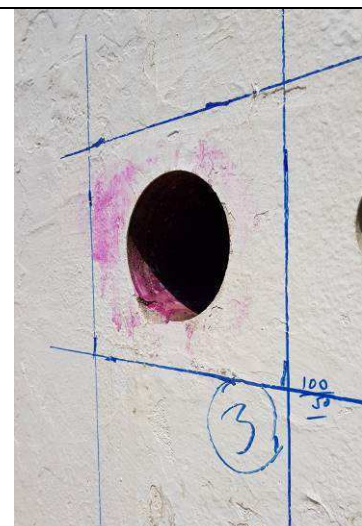


Fig. 3- Test Location 3 with Carbonation Depth



Fig. 4- Test Location 8 with Carbonation Depth

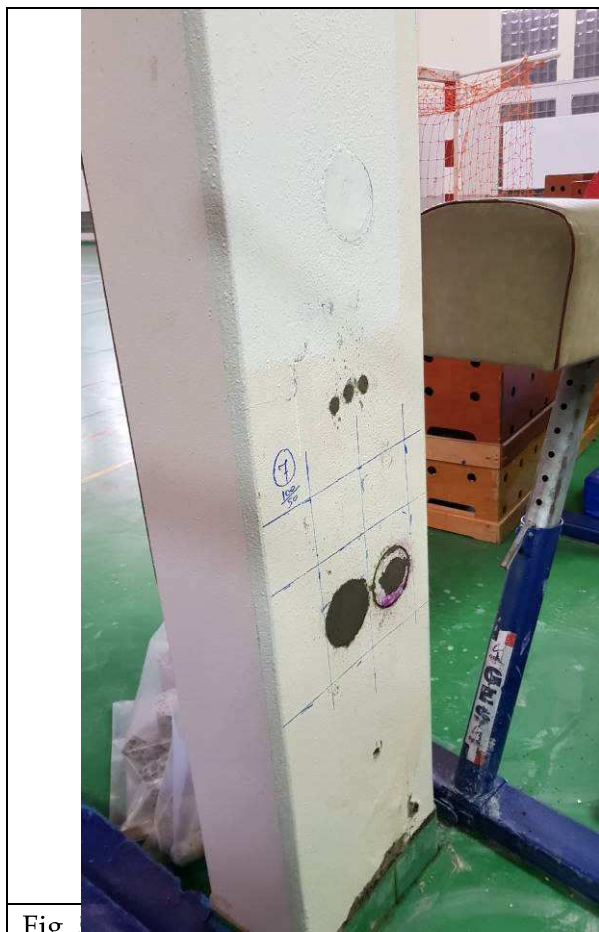


Fig. 5 Test Location 7 closed

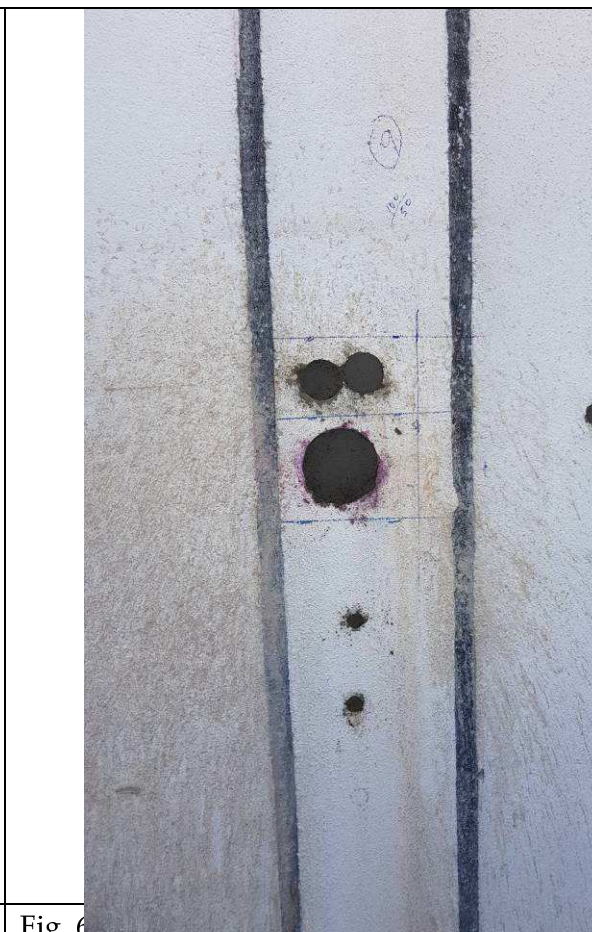


Fig. 6 Test Location 5 closed

It is worth noting that during our visit we did not notice any major cracks or spalling in the concrete, except in one area where the outside columns of the auditorium showed some concrete defects, as seen in the images below. However, major similar defects had been reported by Bureau Veritas back in 2006.

The absence of apparent defects could be due to painting or other maintenance works done in the last few years. During the repair works, an inspection of the chipped concrete will be needed to determine the presence of cracks or spalling and assess the extent of the defect and accordingly provide adapted repairs.







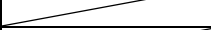
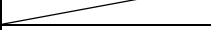
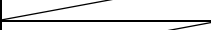
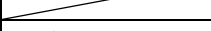
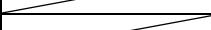
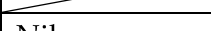

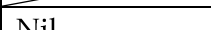








3. CONCRETE CORES TEST METHODOLOGY, RESULTS & ANALYSIS

Nineteen (19) locations were spotted for extraction of concrete cores. 2 cores were extracted from each location using impregnated diamond drilling bits, 1 with a diameter of 100 mm for compressive strength, and 1 with a diameter of 75mm with chemical analysis. The concrete cores were labelled at jobsite for identification.

Apave has requested to perform the following tests on the concrete elements as listed in the below table. The tests results can be found in Appendix B.

Table 1: Summary of tests results

Core Ref.	Depth (mm)	Carbonation Depth (mm)	Chloride (% by weight)	Sulphate (% by weight)	Compressive Strength (MPa)
Gymnasium					
Core 1	0 - 25	Nil	0.05	0.38	6
	50 – 75		0.03	0.34	
	125 - 150		0.02	0.32	
Core 2	0 - 25	Nil	0.06	0.36	16.5
	50 – 75		0.02	0.33	
	125 - 150		0.02	0.32	
Core 3	0 - 25	Nil	0.06	0.37	11.5
	50 – 75		0.03	0.34	
	125 - 150		0.03	0.32	
Core 4	0 - 25	Nil	0.05	0.33	11.0
	50 – 75		0.03	0.32	
	125 - 150		0.02	0.30	
Core 5	0 - 25	Nil	0.04	0.36	9.5
	50 – 75		0.02	0.34	
	125 - 150		0.02	0.32	
Core 6	0 - 25	Nil	0.06	0.37	8.0
	50 – 75		0.02	0.33	
	125 - 150		0.02	0.32	
Core 7	0 - 25	Nil	0.05	0.37	7.0
	50 – 75		0.03	0.35	
	125 - 150		0.02	0.32	
Core 8	0 - 25	Nil	0.04	0.36	16.0
	50 – 75		0.02	0.34	
	125 - 150		0.02	0.32	
Swimming Pool					
Core 9	0 - 25	Nil	0.07	0.40	13.0
	50 – 75		0.03	0.34	
	125 - 150		0.02	0.30	
Core 10	0 - 25	Nil	0.06	0.35	14.0
	50 – 75		0.03	0.33	
	125 - 150		0.02	0.31	

Core 11	0 - 25	Nil	0.08	0.39	11.5
	50 – 75		0.05	0.36	
	125 - 150		0.02	0.33	
Core 12	0 - 25	Nil	0.07	0.35	13.0
	50 – 75		0.03	0.33	
	125 - 150		0.02	0.30	
Core 13	0 - 25	Nil	0.06	0.34	11.0
	50 – 75		0.04	0.32	
	125 - 150		0.02	0.30	
Core 14	0 - 25	Nil	0.08	0.39	21.0
	50 – 75		0.04	0.36	
	125 - 150		0.02	0.32	
Auditorium					
Core 15	0 - 25	Nil	0.07	0.38	8.5
	50 – 75		0.03	0.35	
	125 - 150		0.02	0.32	
Core 17	0 - 25	Nil	0.07	0.36	8.0
	50 – 75		0.04	0.33	
	125 - 150		0.02	0.30	
Core 18	0 - 25	Nil			6.0
	50 – 75				
	125 - 150				
Core 20	0 - 25	Nil	0.05	0.38	10.0
	50 – 75		0.04	0.34	
	125 - 150		0.02	0.32	
Core 22	0 - 25	Nil	0.04	0.35	14.7
	50 – 75		0.03	0.33	
	125 - 150		0.02	0.32	

The strength results were variable between 6.0 and 21.0 MPa. Apart from the 21.0MPa result, all other results are considered to be very low.

When comparing the values with previously obtained values from Bureau Veritas in 2006, we notice that in general the results are in line. However, Delma's coring test results obtained in 2016 are not in line with either Apave or Bureau Veritas.

As for the Schmidt Hammer test results obtained from Delma in 2016, this testing method is considered to be less accurate than the core testing, especially that it is sensitive to the surface of the concrete and the composition of the concrete at the location of the test (aggregate, air bubbles, steel, etc.). Therefore these results were not included in our assessment.

Chemical Test Results:

The chloride ions are a major contributing factor in the corrosion of steel in concrete, provided sufficient moisture and oxygen are present. Sulphate salts enter the concrete and attack the cementing materials. If evaporation takes place from a surface exposed to air, the sulphate ions can concentrate near that surface and increase the potential for causing deterioration.

The test results from the laboratory provide us with the content as % by weight in the concrete. These values were converted to percentage by weight in the cement where all the reactions take place.

The conversion was made by multiplying % in concrete results by the average density of the concrete samples (2220 kg/m³), then dividing them by the assumed cement content of (400 kg/m³).

The percentage by weight of chloride in cement was compared with a maximum acceptable limit of 0.2% set as per Table 3.1, ACI 222.

The percentage by weight of sulphate in cement was compared with a maximum acceptable limit of 3%.

Table 2: Chloride & Sulfate tests results

Core ref.	Depth, mm	% in Concrete		% by wt of cement	
		Chloride	Sulphate	Chloride	Sulphate
Core 1	0 - 25	0.05	0.38	0.28	2.11
	50 - 75	0.03	0.34	0.17	1.89
	125 - 150	0.02	0.32	0.11	1.78
Core 2	0 - 25	0.06	0.36	0.33	2.00
	50 - 75	0.02	0.33	0.11	1.83
	125 - 150	0.02	0.32	0.11	1.78
Core 3	0 - 25	0.06	0.37	0.33	2.05
	50 - 75	0.03	0.34	0.17	1.89
	125 - 150	0.03	0.32	0.17	1.78
Core 4	0 - 25	0.05	0.33	0.28	1.83
	50 - 75	0.03	0.32	0.17	1.78
	125 - 150	0.02	0.30	0.11	1.67
Core 5	0 - 25	0.04	0.36	0.22	2.00
	50 - 75	0.02	0.34	0.11	1.89
	125 - 150	0.02	0.32	0.11	1.78
Core 6	0 - 25	0.06	0.37	0.33	2.05
	50 - 75	0.02	0.33	0.11	1.83
	125 - 150	0.02	0.32	0.11	1.78
Core 7	0 - 25	0.05	0.37	0.28	2.05
	50 - 75	0.03	0.35	0.17	1.94
	125 - 150	0.02	0.32	0.11	1.78
Core 8	0 - 25	0.04	0.36	0.22	2.00
	50 - 75	0.02	0.34	0.11	1.89
	125 - 150	0.02	0.32	0.11	1.78
Core 9	0 - 25	0.07	0.40	0.39	2.22
	50 - 75	0.03	0.34	0.17	1.89
	125 - 150	0.02	0.30	0.11	1.67

Core 10	0 - 25	0.06	0.35	0.33	1.94
	50 – 75	0.03	0.33	0.17	1.83
	125 - 150	0.02	0.31	0.11	1.72
Core 11	0 - 25	0.08	0.39	0.44	2.16
	50 – 75	0.05	0.36	0.28	2.00
	125 - 150	0.02	0.33	0.11	1.83
Core 12	0 - 25	0.07	0.35	0.39	1.94
	50 – 75	0.03	0.33	0.17	1.83
	125 - 150	0.02	0.30	0.11	1.67
Core 13	0 - 25	0.06	0.34	0.33	1.89
	50 – 75	0.04	0.32	0.22	1.78
	125 - 150	0.02	0.30	0.11	1.67
Core 14	0 - 25	0.08	0.39	0.44	2.16
	50 – 75	0.04	0.36	0.22	2.00
	125 - 150	0.02	0.32	0.11	1.78
Core 15	0 - 25	0.07	0.38	0.39	2.11
	50 – 75	0.03	0.35	0.17	1.94
	125 - 150	0.02	0.32	0.11	1.78
Core 17	0 - 25	0.07	0.36	0.39	2.00
	50 – 75	0.04	0.33	0.22	1.83
	125 - 150	0.02	0.30	0.11	1.67
Core 20	0 - 25	0.05	0.38	0.28	2.11
	50 – 75	0.04	0.34	0.22	1.89
	125 - 150	0.02	0.32	0.11	1.78
Core 22	0 - 25	0.04	0.35	0.22	1.94
	50 – 75	0.03	0.33	0.17	1.83
	125 - 150	0.02	0.32	0.11	1.78

We notice that the chloride is above the limit in the outer 25mm in all the samples, up to 50mm in some samples. Sulphate results are within the acceptable limit.

4. CONCRETE CARBONATION DEPTH

Carbonation occurs when concrete is exposed to carbon dioxide (CO₂). Carbonation can result in deterioration and a decrease in the pH of the cement paste leading to corrosion of reinforcement near the surface.

The depth of carbonation test is important for old reinforced concrete structures. If carbonation is a contributing factor to the deterioration of a given structure and it is not accounted for, one can expect future premature damage after repairs are completed (ACI 222). Carbonation of concrete reduces concrete's alkalinity, thereby permitting corrosion of embedded steel.

The depth of carbonation in concrete is measured by applying a solution of phenolphthalein. The depth of carbonation is then compared to the minimum concrete cover for the different structural elements.

The carbonation results were all nil in the concrete columns. Some traces were found in the plaster in some locations.

5. STEEL ANALYSIS

A total of 7 samples of steel were taken from different locations in the buildings to be tested. The chemical and physical properties of the steel tests show acceptable results. Results are detailed in Appendix C. Steel bars were found to be in good condition.

6. CONCLUSION FOR CONCRETE ELEMENTS INSPECTED

Based on the above tests results, the following interpretation can be concluded:

1. For all structural elements:
 - a. The obtained compressive strength values are very low.
 - b. The chloride tests results showed high value up to a depth between 25 mm and 50mm.
 - c. The sulphate and carbonation depth results are within the acceptable ranges
2. The repair methodology will be as stated generally in Appendix D. However, the contractor shall submit his methodology and materials for approval.

7. SWIMMING POOL WOOD BEAM

The edge beam of the swimming pool showing degradation was tested for moisture. The test was performed by taking 3 readings at each location and averaging them. The locations mentioned below are the distances from the edge of the beam on the damaged side. The first location corresponds to the middle of the damaged area, and then moving away from it (tests results can be found in Appendix E).

Location (m)	Moisture Content (%)
1	10.7
2	13.0
3	14.5
4	15.0

The percentage of moisture content was compared with the average moisture content required of 20% for external uses (BS 5268). As indicated from the above results, the moisture content is below the 20%, with results showing very dry at the location of the damage.



Fig. 7- Wooden Beam Testing



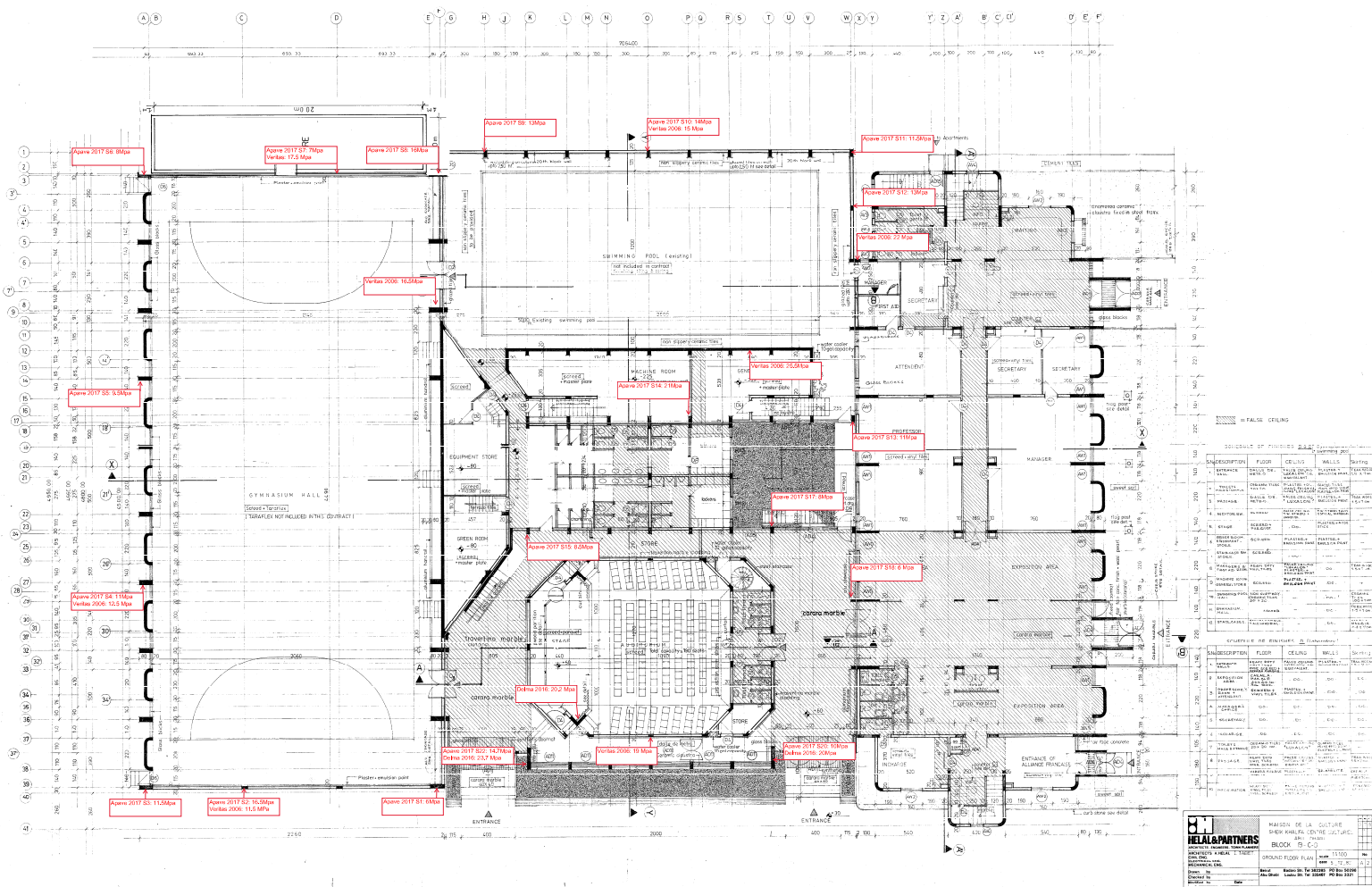
Fig. 8- Wood Beam of Swimming Pool

8. CONCLUSION FOR WOOD BEAM OF SWIMMING POOL

Based on the test results and our observations on site, we recommend the following for the wood beam at the edge of the swimming pool roof structure:

1. A repair using U steel plates covering the damaged area to take over the load should be considered.
2. These plates need to be fixed inside the unaltered part of wood, after removal of rotten wood layer and supported by the existing wall.
3. The complete design and execution details of these plates shall be provided by a structural engineer.
4. The roof waterproofing shall be entirely redone, with the removal of the existing waterproofing membrane and the application of suitable membrane.
5. Proper water evacuation shall be considered for the entire roof, with water from the roof evacuated properly, especially away from the edge beam.
6. Wood beam to be coated with a special protection coat, i.e. a primer coat and a varnishing coat, which will protect from rot and provide a water-repellent effect and then properly protected by a protection box so that it is not exposed to outside conditions anymore.

APPENDIX A – CORE LOCATIONS



APPENDIX B – CORE LOGS AND TESTS RESULTS

TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-1
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Gymnasium
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31289	-	-	-
Client REFERENCE NUMBER	#1	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	152/150	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.654	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2110	-	-	-
MAXIMUM LOAD, kN	45.8	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	6.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.

Zubair Ahmad

Zubair Ahmad
Head of Physical / Mechanical Department
/ms



End of Report

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

**COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000**

Report Date: 30.08.17

Report no. : A17-369076-2
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Gymnasium
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31290	-	-	-
Client REFERENCE NUMBER	#2	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	162/158	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.919	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2440	-	-	-
MAXIMUM LOAD, kN	129.0	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	16.5	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

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Zubair Ahmad

Head of Physical / Mechanical Department

/ms



-End of Report-

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-3
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Gymnasium
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31291	-	-	-
Client REFERENCE NUMBER	3	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	160/155	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.754	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2230	-	-	-
MAXIMUM LOAD, kN	90.3	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	11.5	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-4
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Gymnasium
Tested by /Location : MPM/JAF - AUH


AHSL REFERENCE NUMBER	31292	-	-	-
Client REFERENCE NUMBER	4	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	153/141	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.699	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2160	-	-	-
MAXIMUM LOAD, kN	87.0	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	11.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-5
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Gymnasium
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31293	-	-	-
Client REFERENCE NUMBER	5	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	155/151	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.750	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2230	-	-	-
MAXIMUM LOAD, kN	75.9	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	9.5	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

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APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-6
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Gymnasium
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31294	-	-	-
Client REFERENCE NUMBER	6	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	161/150	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.667	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2120	-	-	-
MAXIMUM LOAD, kN	64.5	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	8.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

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APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-7
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Gymnasium
Tested by /Location : MPM/JAF - AUH


AHSL REFERENCE NUMBER	31295	-	-	-
Client REFERENCE NUMBER	7	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	115/106	-	-	-
DIAMETER (mm)	75	-	-	-
LENGTH AFTER TRIMMING (mm)	75	-	-	-
MASS, (kg)	735	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2220	-	-	-
MAXIMUM LOAD, kN	30.8	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	7.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-8
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Gymnasium
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31296	-	-	-
Client REFERENCE NUMBER	8	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	148/141	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.773	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2260	-	-	-
MAXIMUM LOAD, kN	126.2	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	16.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

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APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-9
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Swimming Pool
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31297	-	-	-
Client REFERENCE NUMBER	9	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	161/155	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.812	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2310	-	-	-
MAXIMUM LOAD, kN	100.5	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	13.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

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APAVE INTERNATIONAL ABU DHABI

**COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000**

Report Date: 30.08.17

Report no. : A17-369076-10
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Swimming Pool
Tested by /Location : MPM/JAF - AUH


AHSL REFERENCE NUMBER	31298	-	-	-
Client REFERENCE NUMBER	10	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	151/146	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.816	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2310	-	-	-
MAXIMUM LOAD, kN	111.9	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	14.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

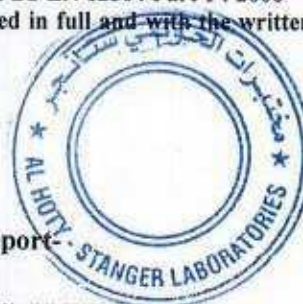
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APAVE INTERNATIONAL ABU DHABI

**COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000**

Report Date: 30.08.17

Report no. : A17-369076-11
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Swimming Pool
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31299	-	-	-
Client REFERENCE NUMBER	11	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	161/155	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.736	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2210	-	-	-
MAXIMUM LOAD, kN	91.4	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	11.5	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

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APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-12
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Swimming Pool
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31300	-	-	-
Client REFERENCE NUMBER	12	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	151/146	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.747	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2240	-	-	-
MAXIMUM LOAD, kN	100.9	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	13.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1: 2000

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-13
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Swimming Pool
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31301	-	-	-
Client REFERENCE NUMBER	13	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	158/143	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.685	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2150	-	-	-
MAXIMUM LOAD, kN	88.2	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	11.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

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APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-14
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Swimming Pool
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31302	-	-	-
Client REFERENCE NUMBER	14	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	138/126	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.846	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2350	-	-	-
MAXIMUM LOAD, kN	163.7	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	21.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-15
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Swimming Pool
Tested by /Location : MPM/JAF - AUH


AHSL REFERENCE NUMBER	31303	-	-	-
Client REFERENCE NUMBER	15	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	106/96	-	-	-
DIAMETER (mm)	75	-	-	-
LENGTH AFTER TRIMMING (mm)	75	-	-	-
MASS, (kg)	707	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2130	-	-	-
MAXIMUM LOAD, kN	38.3	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	8.5	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-16
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Swimming Pool
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31304	-	-	-
Client REFERENCE NUMBER	17	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	131/125	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.641	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2090	-	-	-
MAXIMUM LOAD, kN	63.9	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	8.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-17
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Auditorium
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31305	-	-	-
Client REFERENCE NUMBER	18	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	138/131	-	-	-
DIAMETER (mm)	75	-	-	-
LENGTH AFTER TRIMMING (mm)	75	-	-	-
MASS, (kg)	717	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2160	-	-	-
MAXIMUM LOAD, kN	26.6	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	6.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-18
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Auditorium
Tested by /Location : MPM/JAF - AUH


AHSL REFERENCE NUMBER	31306	-	-	-
Client REFERENCE NUMBER	20	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	147/133	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.702	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2190	-	-	-
MAXIMUM LOAD, kN	76.8	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	10.0	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

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APAVE INTERNATIONAL ABU DHABI
COMPRESSIVE STRENGTH OF CONCRETE CORES
BS EN 12504: PART 1 : 2000

Report Date: 30.08.17

Report no. : A17-369076-19
Project no. : Not Applicable
Project name : Lycee Louis Massignon School
Project location : Abu Dhabi
Project client : Apave International
Consultant : Not Applicable
Contractor : Not Applicable
Client ref./request : Not given
Coring date : 26.08.17
Date received : 28.08.17/10:50 Hrs
Sampled by : AHSL Rep.
Date of test : 30.08.17
Sample description as identified by the client : Concrete Core
Sample location : Auditorium
Tested by /Location : MPM/JAF - AUH

AHSL REFERENCE NUMBER	31307	-	-	-
Client REFERENCE NUMBER	22	-	-	-
STRUCTURE CORED	Column	-	-	-
DIRECTION OF CORING	Horizontal	-	-	-
POSITION OF REINFORCEMENT	Nil	-	-	-
(a) as received from nearest end (mm)	Nil	-	-	-
(b) after preparation from nearest end (mm)	Nil	-	-	-
BAR DIA. (mm)	Nil	-	-	-
CONDITION OF CORE AS RECEIVED	Satisfactory	-	-	-
APPEARANCE OF CONCRETE	Normal	-	-	-
DISTRIBUTION OF AGGREGATES	Normal	-	-	-
NOMINAL SIZE OF COARSE AGG. (mm)	20	-	-	-
LENGTH AS RECEIVED max./ min (mm)	162/153	-	-	-
DIAMETER (mm)	100	-	-	-
LENGTH AFTER TRIMMING (mm)	100	-	-	-
MASS, (kg)	1.754	-	-	-
VISUAL ASSESSMENT OF VOIDS (%)	Nil	-	-	-
PRESENCE OF CRACKS	Nil	-	-	-
DURATION IN WATER	40 Hrs.	-	-	-
END PREPARATION	Grinding	-	-	-
DENSITY (Saturated), kg/m ³ (Based on measured dimensions)	2230	-	-	-
MAXIMUM LOAD, kN	115.8	-	-	-
COMPRESSIVE STRENGTH, N/mm ²	14.7	-	-	-
TYPE OF FRACTURE	Satisfactory	-	-	-

Remarks : None.

Test method variation : None.

AHSL certifies that the above tests were carried out in accordance with BS EN 12504 Part 1 : 2000

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-1
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Gymnasium Hall-1
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-2
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Gymnasium Hall-2
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-3
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Gymnasium Hall-3
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-4
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Gymnasium Hall-4
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-5
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Gymnasium Hall-5
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-6
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Gymnasium Hall-6
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-7
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Gymnasium Hall-7
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-8
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Gymnasium Hall-8
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-9
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Swimming Pool-9
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-10
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Swimming Pool-10
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-11
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Swimming Pool-11
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-12
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Swimming Pool-12
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-13
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Auditorium-13
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm	:	Nil
--------------------------	---	-----

Remarks : None.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.



Zubair Ahmad
Head of Physical / Mechanical Department
/ms



—End of Report—

Page 1 of 1

TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-14
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Auditorium-14
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.

Zubair Ahmad

Zubair Ahmad
Head of Physical / Mechanical Department
/ms



---End of Report---

Page 1 of 1

TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-15
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Auditorium-15
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.

Zubair Ahmad

Zubair Ahmad
Head of Physical / Mechanical Department
/ms



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Page 1 of 1

TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-16
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Auditorium-17
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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Zubair Ahmad
Head of Physical / Mechanical Department
/ms



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Page 1 of 1

TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17


Report number	: A17-369077-17
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Auditorium-18
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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Zubair Ahmad
Head of Physical / Mechanical Department
/ms



—End of Report—

Page 1 of 1

TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-18
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Auditorium-20
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

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Zubair Ahmad
Head of Physical / Mechanical Department
/ms



---End of Report---

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

DETERMINATION OF DEPTH OF CARBONATION
CONCRETE SOCIETY TECHNICAL REPORT NO. 38 CLAUSE 4.8

Report date: 04.09.17

Report number	: A17-369077-19
Project number	: Not Applicable
Project name	: Lycee Louis- Massignon School
Project client	: Apave International Abu Dhabi
Consultant	: Not Applicable
Project location	: Abu Dhabi
Contractor	: Not Applicable
Client Ref no.	: Not given
Sample description as identified by client	: Concrete
Date of test	: 26.08.17
Test location	: Auditorium-22
Tested by, name / location	: ASP- AUH

Results :

Depth of carbonation, mm : Nil

Remarks : None.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.



Zubair Ahmad
Head of Physical / Mechanical Department
/ms



—End of Report—

Page 1 of 1

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

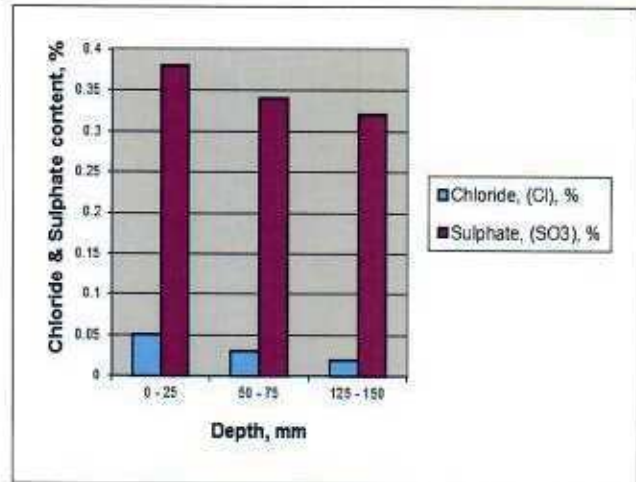
Report date: 07.09.17

Report number : A17 - 369135 - 1A ~ 1C	Source : Site
Project number : Not specified	
Project name : Lycée Louis Massignon School	Sample location : Lycée Louis Massignon School, Gymnasium Hall
Project client : Lycée Louis - Massignon	
Project location : Abu Dhabi	Sampled by : AHSL Rep
Coordinates : Not specified	Sampling date : 26.08.17
	Sampling method : Not Specified
Consultant : Not specified	Sample delivered by : AHSL Rep
Contractor : Not specified	Date/time sample received : 26.08.17
Client ref./request no. : P.O No.Adh/PO17.009	Date tested : 30.08.17 ~ 07.09.17
Sample description as identified by the client : Concrete Core #1	Tested by/Location : SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.05	0.38
50 - 75	0.03	0.34
125 - 150	0.02	0.32



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.

Ajish Mathew
Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



--End of report--

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

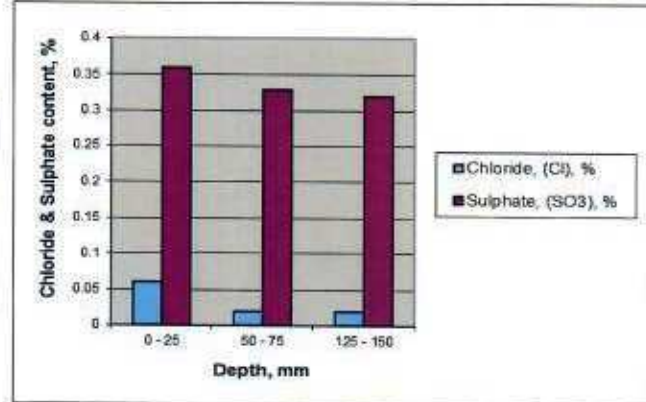
Report date: 07.09.17

Report number	: A17 - 369135 - 2A ~ 2C	Source	: Site
Project number	: Not specified	Sample location	: Lycée Louis Massignon School, Gymnasium Hall
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Rep
Project client	: Lycée Louis - Massignon	Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not Specified
Coordinates	: Not specified	Sample delivered by	: AHSL Rep
Consultant	: Not specified	Date/time sample received	: 26.08.17
Contractor	: Not specified	Date tested	: 30.08.17 ~ 07.09.17
Client ref./request no.	: P.O No.Adh/PO17.009	Tested by/Location	: SP - AUH
Sample description as identified by the client	: Concrete Core #2		

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.06	0.36
50 - 75	0.02	0.33
125 - 150	0.02	0.32

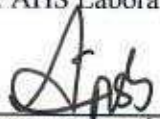


Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



End of report--

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

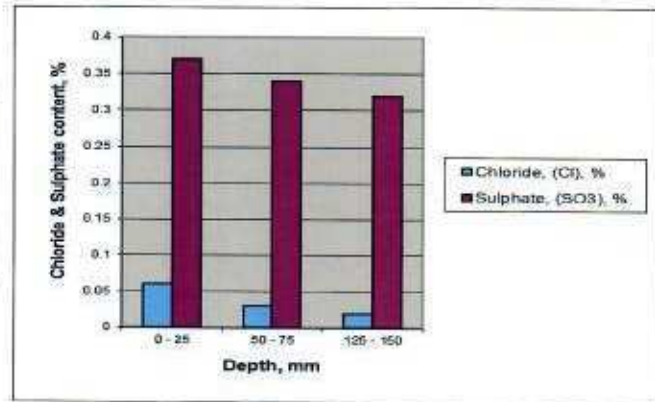
Report date: 07.09.17

Report number : A17 - 369135 - 3A ~ 3C	Source : Site
Project number : Not specified	
Project name : Lycée Louis Massignon School	Sample location : Lycée Louis Massignon School, Gymnasium Hall
Project client : Lycée Louis - Massignon	
Project location : Abu Dhabi	Sampled by : AHSL Rep
Coordinates : Not specified	Sampling date : 26.08.17
Consultant : Not specified	Sampling method : Not Specified
Contractor : Not specified	Sample delivered by : AHSL Rep
Client ref./request no. : P.O No.Adh/PO17.009	Date/time sample received : 26.08.17
Sample description as identified by the client : Concrete Core #3	Date tested : 30.08.17 ~ 07.09.17
	Tested by/Location : SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.06	0.37
50 - 75	0.03	0.34
125 - 150	0.02	0.32




Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



--End of report--

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

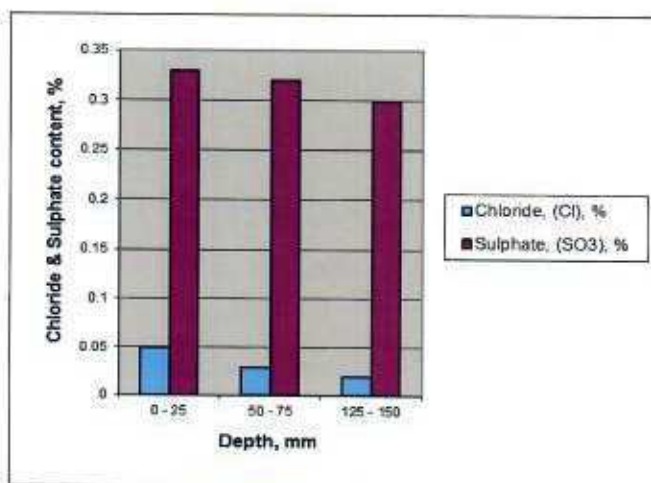
Report date: 07.09.17

Report number	: A17 - 369135 - 4A ~ 4C	Source	: Site
Project number	: Not specified		
Project name	: Lycée Louis Massignon School	Sample location	: Lycée Louis Massignon School, Gymnasium Hall
Project client	: Lycée Louis - Massignon		
Project location	: Abu Dhabi	Sampled by	: AHSL Rep
Coordinates	: Not specified	Sampling date	: 26.08.17
Consultant	: Not specified	Sampling method	: Not Specified
Contractor	: Not specified	Sample delivered by	: AHSL Rep
Client ref./request no.	: P.O No.Adh/PO17.009	Date/time sample received	: 26.08.17
Sample description as identified by the client	: Concrete Core #4	Date tested	: 30.08.17 ~ 07.09.17
		Tested by/Location	: SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.05	0.33
50 - 75	0.03	0.32
125 - 150	0.02	0.30

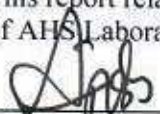


Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



-End of report-

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

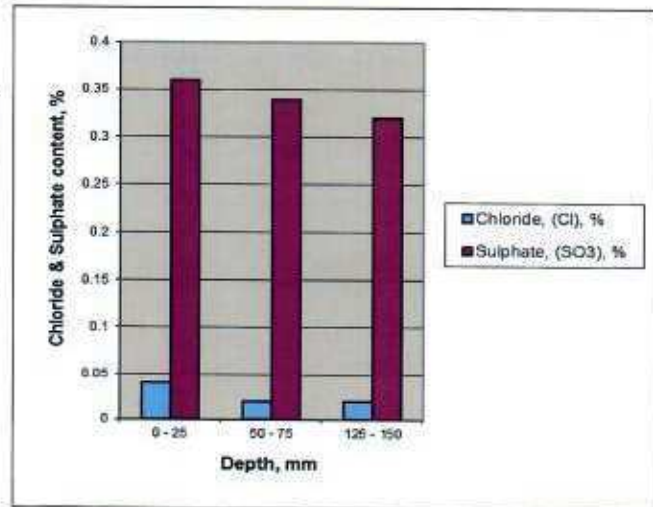
Report date: 07.09.17

Report number	: A17 - 369135 - 5A ~ 5C	Source	: Site
Project number	: Not specified		
Project name	: Lycée Louis Massignon School	Sample location	: Lycée Louis Massignon School, Gymnasium Hall
Project client	: Lycée Louis - Massignon		
Project location	: Abu Dhabi	Sampled by	: AHSL Rep
Coordinates	: Not specified	Sampling date	: 26.08.17
		Sampling method	: Not Specified
Consultant	: Not specified	Sample delivered by	: AHSL Rep
Contractor	: Not specified	Date/time sample received	: 26.08.17
Client ref./request no.	: P.O No.Adh/PO17.009	Date tested	: 30.08.17 ~ 07.09.17
Sample description as identified by the client	: Concrete Core #5	Tested by/Location	: SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.04	0.36
50 - 75	0.02	0.34
125 - 150	0.02	0.32



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

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Ajish Mathew
Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



--End of report--

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

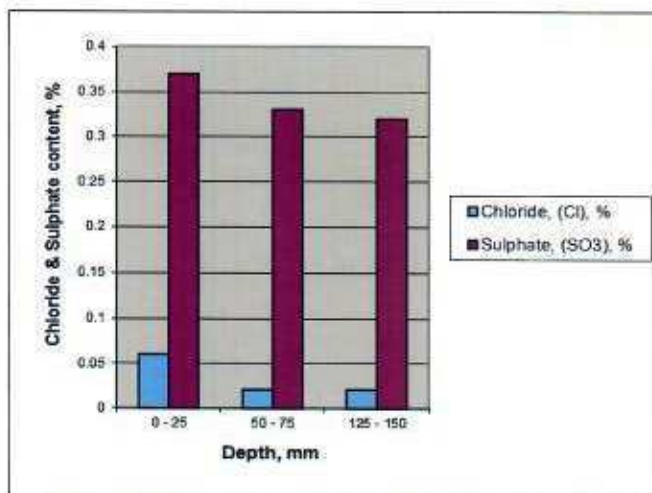
Report date: 07.09.17

Report number : A17 - 369135 - 6A ~ 6C	Source : Site
Project number : Not specified	
Project name : Lycée Louis Massignon School	Sample location : Lycée Louis Massignon School, Gymnasium Hall
Project client : Lycée Louis - Massignon	
Project location : Abu Dhabi	Sampled by : AHSL Rep
Coordinates : Not specified	Sampling date : 26.08.17
	Sampling method : Not Specified
Consultant : Not specified	Sample delivered by : AHSL Rep
Contractor : Not specified	Date/time sample received : 26.08.17
Client ref./request no. : P.O No.Adh/PO17.009	Date tested : 30.08.17 ~ 07.09.17
Sample description as identified by the client : Concrete Core #6	Tested by/Location : SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
% by weight		
0 - 25	0.06	0.37
50 - 75	0.02	0.33
125 - 150	0.02	0.32

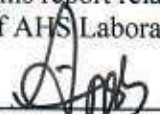


Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



--End of report--

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

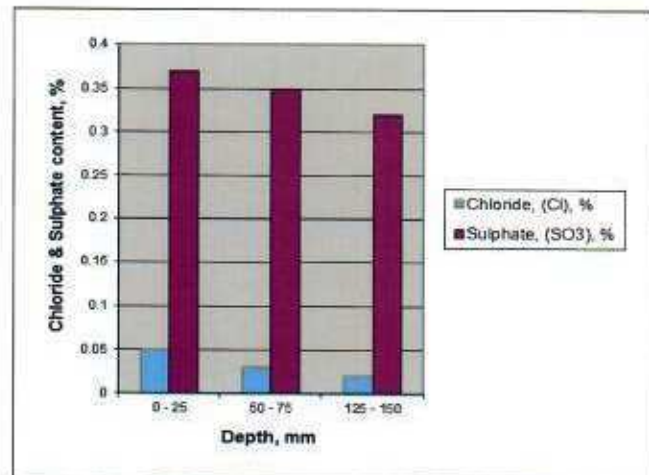
Report date: 07.09.17

Report number	: A17 - 369135 - 7A ~ 7C	Source	: Site
Project number	: Not specified		
Project name	: Lycée Louis Massignon School	Sample location	: Lycée Louis Massignon School, Gymnasium Hall
Project client	: Lycée Louis - Massignon		
Project location	: Abu Dhabi	Sampled by	: AHSL Rep
Coordinates	: Not specified	Sampling date	: 26.08.17
Consultant	: Not specified	Sampling method	: Not Specified
Contractor	: Not specified	Sample delivered by	: AHSL Rep
Client ref./request no.	: P.O No.Adh/PO17.009	Date/time sample received	: 26.08.17
Sample description as identified by the client	: Concrete Core #7	Date tested	: 30.08.17 ~ 07.09.17
		Tested by/Location	: SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.05	0.37
50 - 75	0.03	0.35
125 - 150	0.02	0.32



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.

Ajish Mathew

Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



—End of report—

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

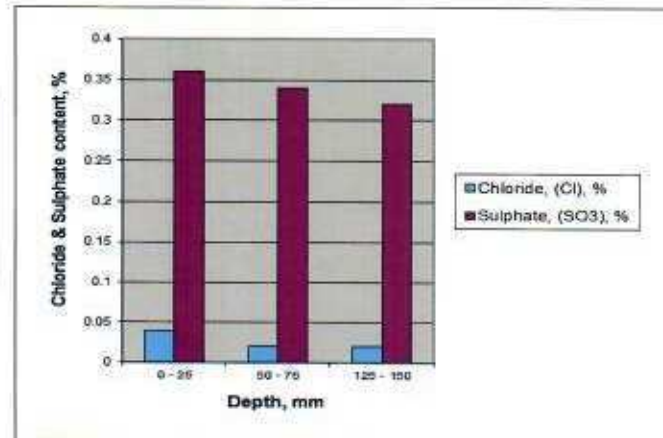
Report date: 07.09.17

Report number : A17 - 369135 - 8A ~ 8C	Source : Site
Project number : Not specified	
Project name : Lycée Louis Massignon School	Sample location : Lycée Louis Massignon School, Gymnasium Hall
Project client : Lycée Louis - Massignon	
Project location : Abu Dhabi	Sampled by : AHSL Rep
Coordinates : Not specified	Sampling date : 26.08.17
Consultant : Not specified	Sampling method : Not Specified
Contractor : Not specified	Sample delivered by : AHSL Rep
Client ref./request no. : P.O No.Adh/PO17.009	Date/time sample received : 26.08.17
Sample description as identified by the client : Concrete Core #8	Date tested : 30.08.17 ~ 07.09.17
	Tested by/Location : SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.04	0.36
50 - 75	0.02	0.34
125 - 150	0.02	0.32



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

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Ajish Mathew
Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



--End of report--

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

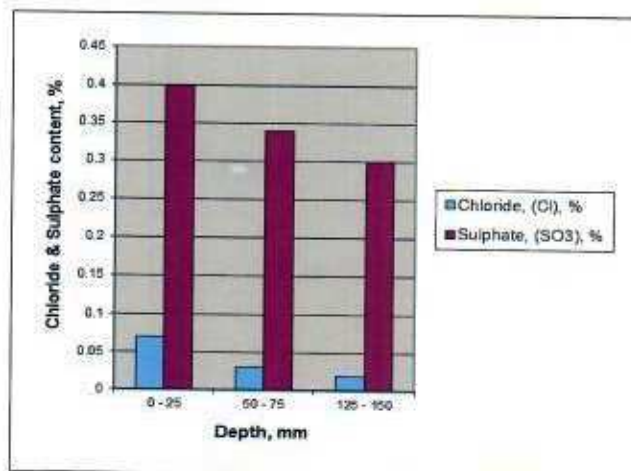
Report date: 07.09.17

Report number : A17 - 369135 - 9A ~ 9C	Source : Site
Project number : Not specified	Sample location : Lycée Louis Massignon School, Swimming Pool
Project name : Lycée Louis Massignon School	Sampled by : AHSL Rep
Project client : Lycée Louis - Massignon	Sampling date : 26.08.17
Project location : Abu Dhabi	Sampling method : Not Specified
Coordinates : Not specified	Sample delivered by : AHSL Rep
Consultant : Not specified	Date/time sample received : 26.08.17
Contractor : Not specified	Date tested : 30.08.17 ~ 07.09.17
Client ref./request no. : P.O No.Adh/PO17.009	Tested by/Location : SP - AUH
Sample description as identified by the client : Concrete Core #9	

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.07	0.40
50 - 75	0.03	0.34
125 - 150	0.02	0.30



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.

Ajish Mathew
Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



End of report--

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

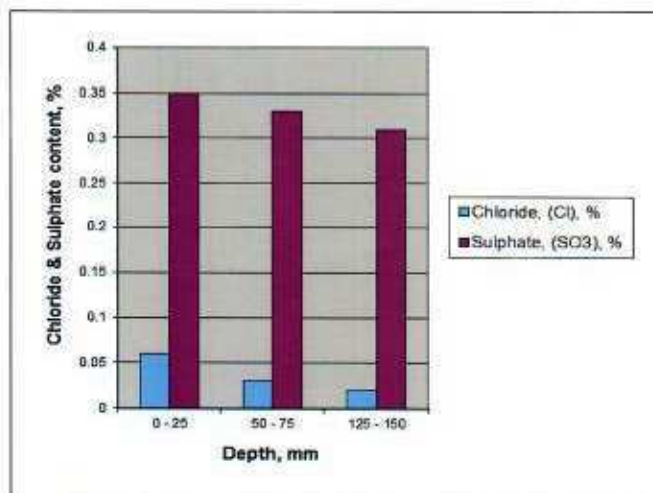
Report date: 07.09.17

Report number : A17 - 369135 - 10A ~ 10C	Source : Site
Project number : Not specified	
Project name : Lycée Louis Massignon School	Sample location : Lycée Louis Massignon School, Swimming Pool
Project client : Lycée Louis - Massignon	
Project location : Abu Dhabi	Sampled by : AHSL Rep
Coordinates : Not specified	Sampling date : 26.08.17
	Sampling method : Not Specified
Consultant : Not specified	Sample delivered by : AHSL Rep
Contractor : Not specified	Date/time sample received : 26.08.17
Client ref./request no. : P.O No.Adh/PO17.009	Date tested : 30.08.17 ~ 07.09.17
Sample description as identified by the client : Concrete Core #10	Tested by/Location : SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.06	0.35
50 - 75	0.03	0.33
125 - 150	0.02	0.31

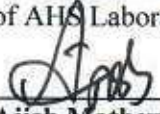


Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



—End of report—

TEST REPORT

CLIENT

APAVE INTERNATIONAL

**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

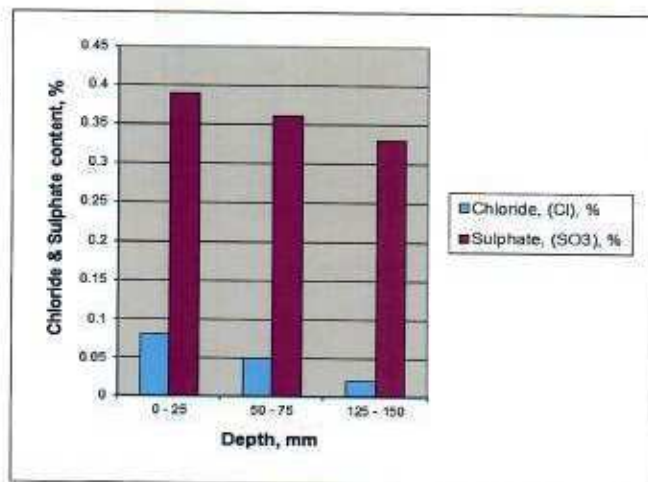
Report date: 07.09.17

Report number	: A17 - 369135 - 11A ~ 11C	Source	: Site
Project number	: Not specified	Sample location	: Lycée Louis Massignon School, Swimming Pool
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Rep
Project client	: Lycée Louis - Massignon	Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not Specified
Coordinates	: Not specified	Sample delivered by	: AHSL Rep
Consultant	: Not specified	Date/time sample received	: 26.08.17
Contractor	: Not specified	Date tested	: 30.08.17 ~ 07.09.17
Client ref./request no.	: P.O No.Adh/PO17.009	Tested by/Location	: SP - AUH
Sample description as identified by the client	: Concrete Core #11		

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.08	0.39
50 - 75	0.05	0.36
125 - 150	0.02	0.33



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.

Ajish Mathew
Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



End of report--

TEST REPORT

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**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

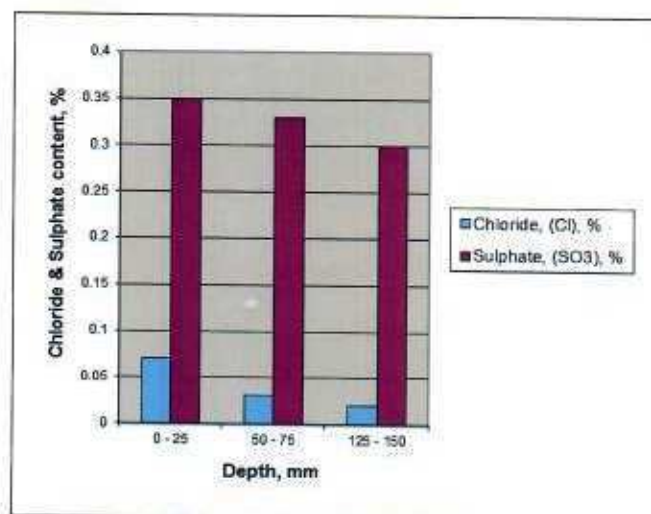
Report date: 07.09.17

Report number	: A17 - 369135 - 12A ~ 12C	Source	: Site
Project number	: Not specified	Sample location	: Lycée Louis Massignon School, Swimming Pool
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Rep
Project client	: Lycée Louis - Massignon	Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not Specified
Coordinates	: Not specified	Sample delivered by	: AHSL Rep
Consultant	: Not specified	Date/time sample received	: 26.08.17
Contractor	: Not specified	Date tested	: 30.08.17 ~ 07.09.17
Client ref./request no.	: P.O No.Adh/PO17.009	Tested by/Location	: SP - AUH
Sample description as identified by the client	: Concrete Core #12		

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.07	0.35
50 - 75	0.03	0.33
125 - 150	0.02	0.30



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.

Ajish Mathew
Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



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TEST REPORT

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**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

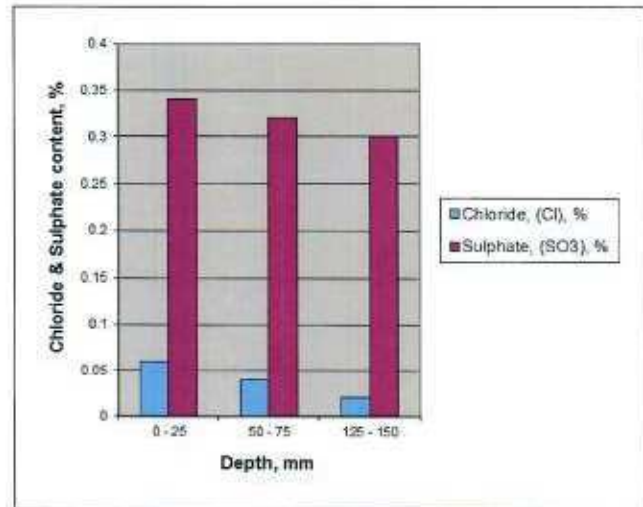
Report date: 07.09.17

Report number	: A17 - 369135 - 13A ~ 13C	Source	: Site
Project number	: Not specified	Sample location	: Lycée Louis Massignon School, Swimming Pool
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Rep
Project client	: Lycée Louis - Massignon	Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not Specified
Coordinates	: Not specified	Sample delivered by	: AHSL Rep
Consultant	: Not specified	Date/time sample received	: 26.08.17
Contractor	: Not specified	Date tested	: 30.08.17 ~ 07.09.17
Client ref./request no.	: P.O No.Adh/PO17.009	Tested by/Location	: SP - AUH
Sample description as identified by the client	: Concrete Core #13		

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.06	0.34
50 - 75	0.04	0.32
125 - 150	0.02	0.30



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.

Ajish Mathew
Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



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TEST REPORT

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**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

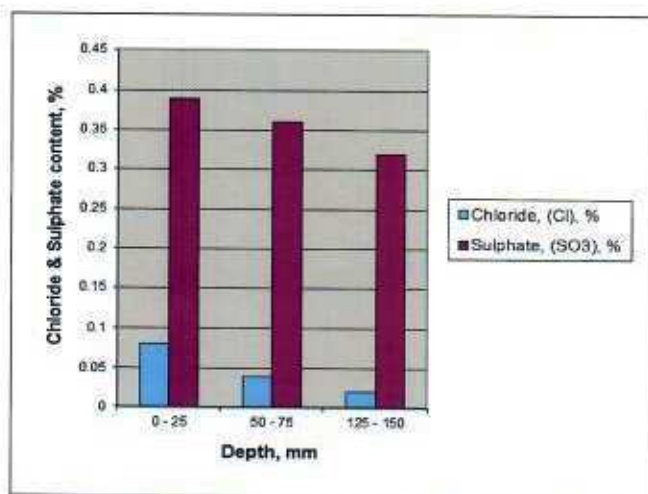
Report date: 07.09.17

Report number	: A17 - 369135 - 14A ~ 14C	Source	: Site
Project number	: Not specified	Sample location	: Lycée Louis Massignon School, Swimming Pool
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Rep
Project client	: Lycée Louis - Massignon	Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not Specified
Coordinates	: Not specified	Sample delivered by	: AHSL Rep
Consultant	: Not specified	Date/time sample received	: 26.08.17
Contractor	: Not specified	Date tested	: 30.08.17 ~ 07.09.17
Client ref./request no.	: P.O No.Adh/PO17.009	Tested by/Location	: SP - AUH
Sample description as identified by the client	: Concrete Core #14		

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.08	0.39
50 - 75	0.04	0.36
125 - 150	0.02	0.32

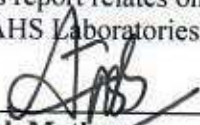


Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

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Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



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**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

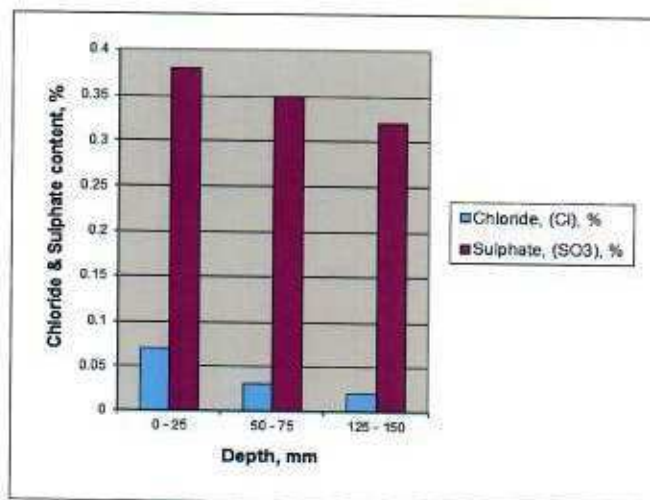
Report date: 07.09.17

Report number	: A17 - 369135 - 15A ~ 15C	Source	: Site
Project number	: Not specified	Sample location	: Lycée Louis : Massignon School, Swimming Pool
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Rep
Project client	: Lycée Louis - Massignon	Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not Specified
Coordinates	: Not specified	Sample delivered by	: AHSL Rep
Consultant	: Not specified	Date/time sample received	: 26.08.17
Contractor	: Not specified	Date tested	: 30.08.17 ~ 07.09.17
Client ref./request no.	: P.O No.Adh/PO17.009	Tested by/Location	: SP - AUH
Sample description as identified by the client	: Concrete Core #15		

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.07	0.38
50 - 75	0.03	0.35
125 - 150	0.02	0.32



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

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Ajish Mathew
Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



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TEST REPORT

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**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

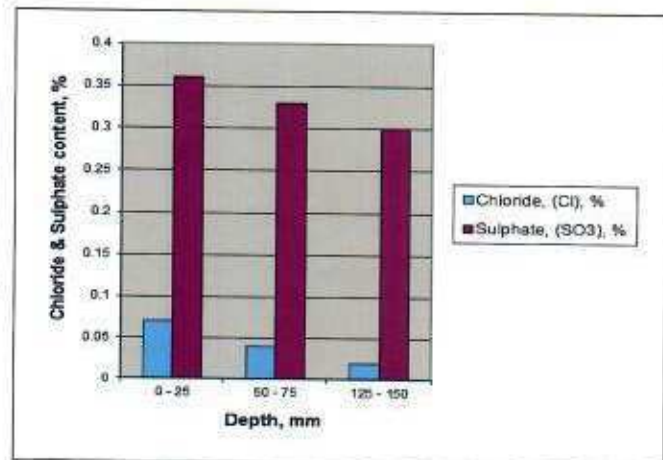
Report date: 07.09.17

Report number	: A17 - 369135 - 16A ~ 16C	Source	: Site
Project number	: Not specified	Sample location	: Lycée Louis Massignon School, Swimming Pool
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Rep
Project client	: Lycée Louis - Massignon	Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not Specified
Coordinates	: Not specified	Sample delivered by	: AHSL Rep
Consultant	: Not specified	Date/time sample received	: 26.08.17
Contractor	: Not specified	Date tested	: 30.08.17 ~ 07.09.17
Client ref./request no.	: P.O No.Adh/PO17.009	Tested by/Location	: SP - AUH
Sample description as identified by the client	: Concrete Core #17		

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.07	0.36
50 - 75	0.04	0.33
125 - 150	0.02	0.30

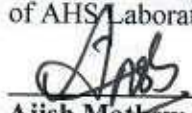


Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

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Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



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**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

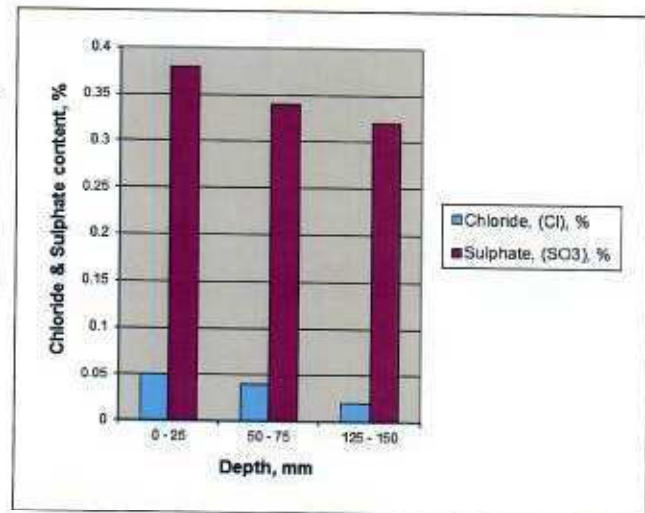
Report date: 07.09.17

Report number	: A17 - 369135 - 17A ~ 17C	Source	: Site
Project number	: Not specified	Sample location	: Lycée Louis Massignon School, Swimming Pool
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Rep
Project client	: Lycée Louis - Massignon	Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not Specified
Coordinates	: Not specified	Sample delivered by	: AHSL Rep
Consultant	: Not specified	Date/time sample received	: 26.08.17
Contractor	: Not specified	Date tested	: 30.08.17 ~ 07.09.17
Client ref./request no.	: P.O No.Adh/PO17.009	Tested by/Location	: SP - AUH
Sample description as identified by the client	: Concrete Core #20		

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.05	0.38
50 - 75	0.04	0.34
125 - 150	0.02	0.32

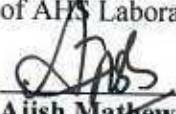


Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHSL Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



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TEST REPORT

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**ACID SOLUBLE CHLORIDE & SULPHATE SALTS
IN CONCRETE SAMPLES
BS 1881: PART 124: M.10.2 & 10.3: 1988**

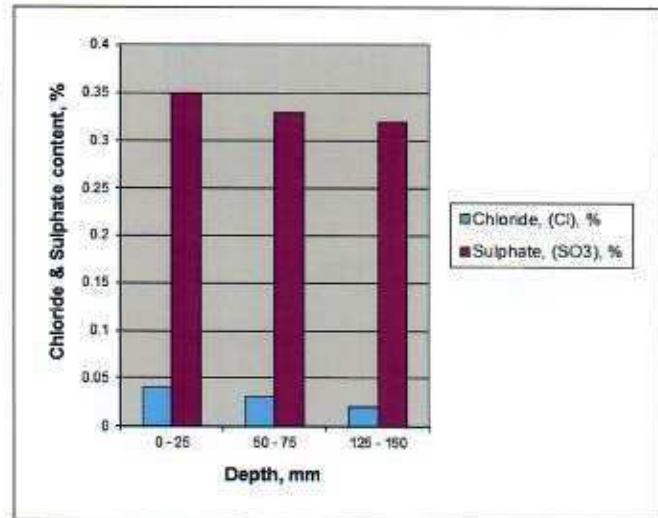
Report date: 07.09.17

Report number	: A17 - 369135 - 18A ~ 18C	Source	: Site
Project number	: Not specified		
Project name	: Lycée Louis Massignon School	Sample location	: Lycée Louis Massignon School, Swimming Pool
Project client	: Lycée Louis - Massignon		
Project location	: Abu Dhabi	Sampled by	: AHSL Rep
Coordinates	: Not specified	Sampling date	: 26.08.17
Consultant	: Not specified	Sampling method	: Not Specified
Contractor	: Not specified	Sample delivered by	: AHSL Rep
Client ref./request no.	: P.O No.Adh/PO17.009	Date/time sample received	: 26.08.17
Sample description as identified by the client	: Concrete Core #22	Date tested	: 30.08.17 ~ 07.09.17
		Tested by/Location	: SP - AUH

Sample preparation method: BS 1881: Part 124; Clause 4.5: 1988

Results:

Depth in mm	Chloride (Cl)	Sulphate (SO ₃)
	% by weight	
0 - 25	0.04	0.35
50 - 75	0.03	0.33
125 - 150	0.02	0.32



Remarks: Chloride & Sulphate content are not reported in % by weight of cementitious material.

Test method variation: None

AHSL certifies that the above test was carried out in accordance with Part 124 of BS 1881: 1988.

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Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



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APPENDIX C – STEEL TESTS RESULTS

TEST REPORT

APAVE INTERNATIONAL ABU DHABI

**TENSILE & BEND TEST OF STEEL BARS
ASTM A 615/A 615M-16**

Report date: 30.08.17

Report number	: A17-369078-1~2	Source	: Not Given
Project number	: Not Given	Supplier	: Not Given
Project name	: Lycee Louis - Massignon School	Sample location	: At Site, (Swimming Pool)
Project client	: Not Given	Sampling date / time	: 26.08.17
Project Location	: Abu Dhabi	Sample delivered by	: AHSL Rep.
Consultant	: Not Given	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not Given	Date tested	: 29.08.17
Material grade	: Not Given	Test method	: ASTM A370-2016
Client ref. / req. no.	: Not Given	Tested by/Location	: NAB/CAR - AUH
Sample description	: 10mm Ø Steel Rebar - S 4	Marking on sample	: Not Given
as identified by client	(Swimming Pool)		

Sample no. A17-369078	1	2
Mass per meter (kg/m)	0.577	--
Nominal cross section area (mm ²)	71	--
Yield strength (MPa)	465	--
Tensile strength (MPa)	723	--
Elongation in 8 inch (%)	11.0	--
Bend test result	--	Passed

Remarks : None
Test method variation : None.

AHSL certifies that the above test was carried out in accordance with ASTM A 615/A 615M-16
This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Zubair Ahmad
Head of Physical/Mechanical Department
/mbrk



End of Report

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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

TENSILE & BEND TEST OF STEEL BARS
ASTM A 615/A 615M-16


Report date: 30.08.17

Report number	: A17-369079-1~2	Source	: Not Given
Project number	: Not Given	Supplier	: Not Given
Project name	: Lycee Louis - Massignon School	Sample location	: At Site, (Swimming Pool)
Project client	: Not Given	Sampling date / time	: 26.08.17
Project Location	: Abu Dhabi	Sample delivered by	: AHSL Rep.
Consultant	: Not Given	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not Given	Date tested	: 29.08.17
Material grade	: Not Given	Test method	: ASTM A370-2016
Client ref. / req. no.	: Not Given	Tested by/Location	: NAB/CAR - AUH
Sample description	: 10mm Ø Steel Rebar - S 5	Marking on sample	: Not Given
as identified by client	(Swimming Pool)		

Sample no. A17-369079	1	2
Mass per meter (kg/m)	0.580	--
Nominal cross section area (mm ²)	71	--
Yield strength (MPa)	454	--
Tensile strength (MPa)	723	--
Elongation in 8 inch (%)	11.0	--
Bend test result	--	Passed

Remarks : None
Test method variation : None.

AHSL certifies that the above test was carried out in accordance with ASTM A 615/A 615M-16
This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Zubair Ahmad
Head of Physical/Mechanical Department
/mbrk

End of Report



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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

**TENSILE & BEND TEST OF STEEL BARS
ASTM A 615/A 615M-16**

Report date: 30.08.17

Report number	: A17-369080-1~2	Source	: Not Given
Project number	: Not Given	Supplier	: Not Given
Project name	: Lycee Louis - Massignon School	Sample location	: At Site, (Gymnasium Hall)
Project client	: Not Given	Sampling date / time	: 26.08.17
Project Location	: Abu Dhabi	Sample delivered by	: AHSL Rep.
Consultant	: Not Given	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not Given	Date tested	: 29.08.17
Material grade	: Not Given	Test method	: ASTM A370-2016
Client ref. / req. no.	: Not Given	Tested by/Location	: NAB/CAR - AUH
Sample description	: 8mm Ø Steel Rebar - S 1	Marking on sample	: Not Given
as identified by client	(Gymnasium Hall)		

Sample no. A17-369080	1	2
Mass per meter (kg/m)	0.386	--
Nominal cross section area (mm ²)	50.3	--
Yield strength (MPa)	471	--
Tensile strength (MPa)	709	--
Elongation in 8 inch (%)	11.0	--
Bend test result	--	Passed

Remarks : None
Test method variation : None.

AHSL certifies that the above test was carried out in accordance with ASTM A 615/A 615M-16
This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Zubair Ahmad
Head of Physical/Mechanical Department
/mbrk



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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

**TENSILE & BEND TEST OF STEEL BARS
ASTM A 615/A 615M-16**


Report date: 30.08.17

Report number	: A17-369081-1~2	Source	: Not Given
Project number	: Not Given	Supplier	: Not Given
Project name	: Lycee Louis - Massignon School	Sample location	: At Site, (Gymnasium Hall)
Project client	: Not Given	Sampling date / time	: 26.08.17
Project Location	: Abu Dhabi	Sample delivered by	: AHSL Rep.
Consultant	: Not Given	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not Given	Date tested	: 29.08.17
Material grade	: Not Given	Test method	: ASTM A370-2016
Client ref. / req. no.	: Not Given	Tested by/Location	: NAB/CAR - AUH
Sample description	: 8mm Ø Steel Rebar - S 2	Marking on sample	: Not Given
as identified by client	(Gymnasium Hall)		

Sample no. A17-369081	1	2
Mass per meter (kg/m)	0.388	--
Nominal cross section area (mm ²)	50.3	--
Yield strength (MPa)	471	--
Tensile strength (MPa)	712	--
Elongation in 8 inch (%)	15.0	--
Bend test result	--	Passed

Remarks : None
Test method variation : None.

AHSL certifies that the above test was carried out in accordance with ASTM A 615/A 615M-16
This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Zubair Ahmad
Head of Physical/Mechanical Department
/mbrk



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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

TENSILE & BEND TEST OF STEEL BARS
ASTM A 615/A 615M-16


Report date: 30.08.17

Report number	: A17-369082-1~2	Source	: Not Given
Project number	: Not Given	Supplier	: Not Given
Project name	: Lycee Louis - Massignon School	Sample location	: At Site, (Gymnasium Hall)
Project client	: Not Given	Sampling date / time	: 26.08.17
Project Location	: Abu Dhabi	Sample delivered by	: AHSL Rep.
Consultant	: Not Given	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not Given	Date tested	: 29.08.17
Material grade	: Not Given	Test method	: ASTM A370-2016
Client ref. / req. no.	: Not Given	Tested by/Location	: NAB/CAR - AUH
Sample description	: 8mmØ Steel Rebar - S 3	Marking on sample	: Not Given
as identified by client	(Gymnasium Hall)		

Sample no. A17-369082	1	2
Mass per meter (kg/m)	0.384	--
Nominal cross section area (mm ²)	50.3	--
Yield strength (MPa)	452	--
Tensile strength (MPa)	704	--
Elongation in 8 inch (%)	11.0	--
Bend test result	--	Passed

Remarks : None
Test method variation : None.

AHSL certifies that the above test was carried out in accordance with ASTM A 615/A 615M-16
This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Zubair Ahmad
Head of Physical/Mechanical Department
/mbrk



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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

TENSILE & BEND TEST OF STEEL BARS
ASTM A 615/A 615M-16


Report date: 30.08.17

Report number	: A17-369083-1~2	Source	: Not Given
Project number	: Not Given	Supplier	: Not Given
Project name	: Lycee Louis - Massignon School	Sample location	: At Site, (Auditorium)
Project client	: Not Given	Sampling date / time	: 26.08.17
Project Location	: Abu Dhabi	Sample delivered by	: AHSL Rep.
Consultant	: Not Given	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not Given	Date tested	: 29.08.17
Material grade	: Not Given	Test method	: ASTM A370-2016
Client ref. / req. no.	: Not Given	Tested by/Location	: NAB/CAR - AUH
Sample description	: 8mmØ Steel Rebar - S 6	Marking on sample	: Not Given
as identified by client	(Auditorium)		

Sample no. A17-369083	1	2
Mass per meter (kg/m)	0.371	--
Nominal cross section area (mm ²)	50.3	--
Yield strength (MPa)	494	--
Tensile strength (MPa)	700	--
Elongation in 8 inch (%)	10.0	--
Bend test result	--	Passed

Remarks : None
Test method variation : None.

AHSL certifies that the above test was carried out in accordance with ASTM A 615/A 615M-16
This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Zubair Ahmad
Head of Physical/Mechanical Department
/mbrk



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TEST REPORT

APAVE INTERNATIONAL ABU DHABI

TENSILE & BEND TEST OF STEEL BARS
ASTM A 615/A 615M-16


Report date: 30.08.17

Report number	: A17-369084-1~2	Source	: Not Given
Project number	: Not Given	Supplier	: Not Given
Project name	: Lycee Louis - Massignon School	Sample location	: At Site, (Auditorium)
Project client	: Not Given	Sampling date / time	: 26.08.17
Project Location	: Abu Dhabi	Sample delivered by	: AHSL Rep.
Consultant	: Not Given	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not Given	Date tested	: 29.08.17
Material grade	: Not Given	Test method	: ASTM A370-2016
Client ref. / req. no.	: Not Given	Tested by/Location	: NAB/CAR - AUH
Sample description	: 8mmØ Steel Rebar - S 7	Marking on sample	: Not Given
as identified by client	(Auditorium)		

Sample no. A17-369084	1	2
Mass per meter (kg/m)	0.361	--
Nominal cross section area (mm ²)	50.3	--
Yield strength (MPa)	446	--
Tensile strength (MPa)	650	--
Elongation in 8 inch (%)	11.0	--
Bend test result	--	Passed

Remarks : None
Test method variation : None.

AHSL certifies that the above test was carried out in accordance with ASTM A 615/A 615M-16
This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Zubair Ahmad
Head of Physical/Mechanical Department
/mbrk



End of Report

Page 1 of 1

TEST REPORT

CLIENT

APAVE INTERNATIONAL ABU DHABI

CHEMICAL ANALYSIS OF STEEL

Report date: 03.09.17

Report number	: A17 - 369078 - 3	Source	: Site
Project number	: Not specified	Sampling location	: Swimming Pool S4
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Representative
		Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not specified
		Sample delivered by	: AHSL Representative
Consultant	: Not specified	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not specified	Date tested	: 30.08.17 ~ 03.09.17
Client ref./request no.	: Not specified	Tested by/Location	: SP - AUH
Sample description as identified by client	: 10mm Ø Steel Rebar	Test method	: ASTM E 415 - 08
		Material grade	: ASTM A 615

Results:

Parameters	Results (% by weight)	Specification limits as per ASTM A 615
Carbon (C) [‡]	0.60	--
Manganese (Mn) [‡]	0.73	--
Phosphorous (P) [‡]	0.018	0.06 (max.)
Sulphur (S) [‡]	0.033	--

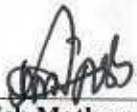
[‡]ENAS accredited parameters.

Remarks : The above tested sample meets the specification limits as per ASTM A 615.

Test method variation: None

AHSL certifies that the above tests were carried out in accordance with ASTM E 415 - 08.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories
/am



TEST REPORT

CLIENT

APAVE INTERNATIONAL ABU DHABI

CHEMICAL ANALYSIS OF STEEL

Report date: 03.09.17

Report number	: A17 - 369079 - 3	Source	: Site
Project number	: Not specified	Sampling location	: Swimming Pool S5
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Representative
Project location	: Abu Dhabi	Sampling date	: 26.08.17
Consultant	: Not specified	Sampling method	: Not specified
Contractor	: Not specified	Sample delivered by	: AHSL Representative
Client ref./request no.	: Not specified	Date/time sample received	: 28.08.17/1050 Hrs.
Sample description	: 10mm Ø Steel Rebar	Date tested	: 30.08.17 ~ 03.09.17
as identified by client		Tested by/Location	: SP - AUH
		Test method	: ASTM E 415 - 08
		Material grade	: ASTM A 615

Results:

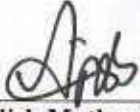
Parameters	Results (% by weight)	Specification limits as per ASTM A 615
Carbon (C) [‡]	0.49	--
Manganese (Mn) [‡]	0.66	--
Phosphorous (P) [‡]	0.017	0.06 (max.)
Sulphur (S) [‡]	0.028	--

[‡]ENAS accredited parameters.

Remarks : The above tested sample meets the specification limits as per ASTM A 615.
Test method variation: None

AHSL certifies that the above tests were carried out in accordance with ASTM E 415 - 08.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories
/am



TEST REPORT

CLIENT

APAVE INTERNATIONAL ABU DHABI

CHEMICAL ANALYSIS OF STEEL

Report date: 03.09.17

Report number	: A17 - 369080 - 3	Source	: Site
Project number	: Not specified	Sampling location	: Gymnasium Hall S1
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Representative
		Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not specified
		Sample delivered by	: AHSL Representative
Consultant	: Not specified	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not specified	Date tested	: 30.08.17 ~ 03.09.17
Client ref./request no.	: Not specified	Tested by/Location	: SP - AUH
Sample description as identified by client	: 8mm Ø Steel Rebar	Test method	: ASTM E 415 - 08
		Material grade	: ASTM A 615

Results:

Parameters	Results (% by weight)	Specification limits as per ASTM A 615
Carbon (C) [‡]	0.55	--
Manganese (Mn) [‡]	1.24	--
Phosphorous (P) [‡]	0.022	0.06 (max.)
Sulphur (S) [‡]	0.054	--


[‡]ENAS accredited parameters.

Remarks : The above tested sample meets the specification limits as per ASTM A 615.

Test method variation: None

AHSL certifies that the above tests were carried out in accordance with ASTM E 415 - 08.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories
/am



TEST REPORT

CLIENT

APAVE INTERNATIONAL ABU DHABI

CHEMICAL ANALYSIS OF STEEL

Report date: 03.09.17

Report number	: A17 - 369081 - 3	Source	: Site
Project number	: Not specified	Sampling location	: Gymnasium Hall S2
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Representative
Project location	: Abu Dhabi	Sampling date	: 26.08.17
Consultant	: Not specified	Sampling method	: Not specified
Contractor	: Not specified	Sample delivered by	: AHSL Representative
Client ref./request no.	: Not specified	Date/time sample received	: 28.08.17/1050 Hrs.
Sample description as identified by client	: 8mm Ø Steel Rebar	Date tested	: 30.08.17 ~ 03.09.17
		Tested by/Location	: SP - AUH
		Test method	: ASTM E 415 - 08
		Material grade	: ASTM A 615

Results:

Parameters	Results (% by weight)	Specification limits as per ASTM A 615
Carbon (C) [#]	0.50	--
Manganese (Mn) [#]	0.97	--
Phosphorous (P) [#]	0.019	0.06 (max.)
Sulphur (S) [#]	0.041	--

[#]ENAS accredited parameters.

Remarks : The above tested sample meets the specification limits as per ASTM A 615.

Test method variation: None

AHSL certifies that the above tests were carried out in accordance with ASTM E 415 - 08.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.



Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories

/am



--End of report--

TEST REPORT

CLIENT

APAVE INTERNATIONAL ABU DHABI

CHEMICAL ANALYSIS OF STEEL

Report date: 03.09.17

Report number	: A17 - 369082 - 3	Source	: Site
Project number	: Not specified	Sampling location	: Gymnasium Hall S3
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Representative
		Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not specified
		Sample delivered by	: AHSL Representative
Consultant	: Not specified	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not specified	Date tested	: 30.08.17 ~ 03.09.17
Client ref./request no.	: Not specified	Tested by/Location	: SP - AUH
Sample description	: 8mm Ø Steel Rebar	Test method	: ASTM E 415 - 08
as identified by client		Material grade	: ASTM A 615

Results:

Parameters	Results (% by weight)	Specification limits as per ASTM A 615
Carbon (C) [‡]	0.48	--
Manganese (Mn) [‡]	0.87	--
Phosphorous (P) [‡]	0.017	0.06 (max.)
Sulphur (S) [‡]	0.033	--

[‡]ENAS accredited parameters.

Remarks : The above tested sample meets the specification limits as per ASTM A 615.
Test method variation: None

AHSL certifies that the above tests were carried out in accordance with ASTM E 415 - 08.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.



Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories



TEST REPORT

CLIENT

APAVE INTERNATIONAL ABU DHABI

CHEMICAL ANALYSIS OF STEEL

Report date: 03.09.17

Report number	: A17 - 369083 - 3	Source	: Site
Project number	: Not specified	Sampling location	: Auditorium S6
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Representative
Project location	: Abu Dhabi	Sampling date	: 26.08.17
Consultant	: Not specified	Sampling method	: Not specified
Contractor	: Not specified	Sample delivered by	: AHSL Representative
Client ref./request no.	: Not specified	Date/time sample received	: 28.08.17/1050 Hrs.
Sample description as identified by client	: 8mm Ø Steel Rebar	Date tested	: 30.08.17 ~ 03.09.17
		Tested by/Location	: SP - AUH
		Test method	: ASTM E 415 - 08
		Material grade	: ASTM A 615

Results:

Parameters	Results (% by weight)	Specification limits as per ASTM A 615
Carbon (C) [#]	0.39	--
Manganese (Mn) [#]	0.66	--
Phosphorous (P) [#]	0.020	0.06 (max.)
Sulphur (S) [#]	0.017	--

[#]ENAS accredited parameters.

Remarks : The above tested sample meets the specification limits as per ASTM A 615.

Test method variation: None

AHSL certifies that the above tests were carried out in accordance with ASTM E 415 - 08.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.

Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories

/am



End of report

TEST REPORT

CLIENT

APAVE INTERNATIONAL ABU DHABI

CHEMICAL ANALYSIS OF STEEL

Report date: 03.09.17

Report number	: A17 - 369084 - 3	Source	: Site
Project number	: Not specified	Sampling location	: Auditorium S7
Project name	: Lycée Louis Massignon School	Sampled by	: AHSL Representative
		Sampling date	: 26.08.17
Project location	: Abu Dhabi	Sampling method	: Not specified
		Sample delivered by	: AHSL Representative
Consultant	: Not specified	Date/time sample received	: 28.08.17/1050 Hrs.
Contractor	: Not specified	Date tested	: 30.08.17 ~ 03.09.17
Client ref./request no.	: Not specified	Tested by/Location	: SP - AUH
Sample description	: 8mm Ø Steel Rebar	Test method	: ASTM E 415 - 08
as identified by client		Material grade	: ASTM A 615

Results:

Parameters	Results (% by weight)	Specification limits as per ASTM A 615
Carbon (C) [#]	0.37	--
Manganese (Mn) [#]	0.97	--
Phosphorous (P) [#]	0.038	0.06 (max.)
Sulphur (S) [#]	0.022	--

[#]ENAS accredited parameters.

Remarks : The above tested sample meets the specification limits as per ASTM A 615.

Test method variation: None

AHSL certifies that the above tests were carried out in accordance with ASTM E 415 - 08.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.

Ajish Mathew
Head of Chemistry Department
For Al Hoty Stanger Laboratories

/am



APPENDIX D – REPAIR METHODOLOGY

The below is a recommended methodology for all structural elements (columns and beams); alternatives such as reinforcement using steel elements or carbon fiber can be considered. For any adopted repair methodology, justification, method statement and details are to be provided by the design consultant or the contractor.

The proposed general methodology consists in removing the concrete cover and replacing it while increasing elements' dimensions (jacketing). The jackets shall be designed considering it will support the entire load instead of the existing elements.

Footings shall be inspected and tested before works. Based on the results and taking into consideration the supported elements' works, adequate repair / strengthening shall be provided.

This is applicable for all the structural elements:

1. Contractor to excavate and check status of foundations and, where needed, provide repair, strengthening or dimension increase compatible with the supported elements' repair.
2. The contractor shall provide the materials for approval before proceeding with any work. The materials shall have at least 25MPa compressive strength or the design strength whichever is greater.
3. The contractor shall take care of probing and providing enough scaffolds before the shipping of concrete. The contractor shall remove the concrete cover.
4. The contractor shall notify any observed cracks and/or signs of steel corrosion upon removal of plaster and cover. Concrete repair methodology to be applied if necessary.
5. The steel reinforcement shall be exposed. All corroded rebars shall be removed and replaced. Remove all loose surface rust / oxidation by means of wire brushing, grit blasting or high water pressure or dry ice blasting. Wipe surfaces down with a wetted cloth to remove any final traces of oxidation (dust).
6. For columns, dimensions shall be increased by jacketing and addition of steel and ties, as well as providing adequate distribution of the load of the beams or other vertical loads on the new bearing part of the columns.
7. For beams, it is important to ensure adequate repair is implemented by jacketing, carbon fiber or steel beams and a correct transfer of loads to the new bearing part of the vertical elements.
8. Execution details and drawings including the steel reinforcement needed, elements' sizes, etc. shall be provided for Engineer's approval prior to execution of works.
9. The prepared surface shall be saturate surface dry. It is at the Engineer's recommendation during inspection to request for bonding agent.
10. The Contractor shall follow the materials supplier recommendation and the Engineer requirements for batching, mixing and placing concrete.
11. The application shall follow the form and place technique. The placement can be via pouring, pumping or placing the concrete at different levels.
12. The contractor shall obtain samples from each day of application for strength verification. The samples shall be tested at 7 and 28 day.
13. The contractor shall provide his methodology for final approval.
14. Curing of repaired area shall be continuous using plain, clean and potable water for at least 7 days.

APPENDIX E – WOOD TEST RESULTS

TEST REPORT

APAVE INTERNATIONAL ABU DHABI
DETERMINATION OF MOISTURE CONTENT OF WOOD
ASTM D 4442-92

Report Date: 28.08.17


Report number	: A17-369085-1	Supplier / Source	: Not Given
Project number	: Not Given	Sample location	: Swimming Pool
Project name	: Lycee Louis- Massignon School	Sampled by	: AHSL Rep.
Project client	: Not Given	Date tested	: 26.08.17
Project location	: Abu Dhabi	Tested by / location	: KA / AUH
Consultant	: Not Given		
Contractor	: Not Given		
Client ref. / req. no.	: Not Given		
Sample description as identified by client	: Wood		

Test Results:

Test location	Moisture content (%)
Swimming Pool	10.7
	13.0
	14.5
	15.0

Remarks : Test witnessed by Consultant Rep.
Test method variation : None

AHSL certifies that the above test was carried out in accordance with ASTM D 4442-92
This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Testing Laboratories.


Zubair Ahmad
Head of Physical / Mechanical Department
/ dck



--End of report--

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