

TEST REPORT

CLIENT NAME	:	GCG CONSULTANCY & CONTRACTING PTE LTD
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ACCOUNT CHARGEABLE TO	:	GCG CONSULTANCY & CONTRACTING PTE LTD
PROJECT CODE	:	PT12386
PROJECT TITLE	:	HDB MATERIAL LISTING
SUBJECT	:	A. COMPRESSIVE STRENGTH OF CONCRETE CUBE B. WATER GAIN & WATER PENETRATION RATIO C. WATER ABSORPTION D. WATER SOLUBLE CHLORIDE (CHLORIDE CONTENT)
TEST STANDARD	:	A. BS EN 12390-3: 2019 B. HDB TEST METHOD FOR WATER PENETRATION AND WEIGHT GAIN AS AT 1 APRIL 1992 / (EL-A-OP-CMT-SIN-MD218) C. BS 1881-122: 2011+A1:2020 D. BS EN 480-10: 2009
JOB REF.	:	T26-03032
PRODUCT TYPE	:	LIQUID ADMIXTURE (COATING)
PRODUCT NAME	:	POWER SEAL SG TM
CLIENT SAMPLE REF.	:	CONTROL MIX vs. TREATED MIX
DATE RECEIVED	:	18-Dec-2025
DATE OF REPORT	:	20-Feb-2026
TOTAL PAGES	:	8 (INCLUDING COVER PAGE)
ANNEX A	:	PHOTO OF ADMIXTURE
ANNEX B	:	CONCRETE MIX DESIGN
ANNEX C	:	PHOTOS OF HALVED TEST SPECIMENS
REMARKS	:	For Treated Mix, POWER SEAL SG TM is applied on concrete specimens.

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TEST RESULTS :

A. Compressive Strength of Concrete Cubes (BS EN 12390-3: 2019)

Cube Ref.	Cube Size (mm)	Date Cast	Age	Date Test	Mass (kg)	Density (kg/m ³)	Max. Load (kN)	Compressive Strength (MPa)	Ave. Compressive Strength (MPa)
CONTROL-1	100	23-Dec-25	7 days	30-Dec-25	2.3219	2320	327.4	32.7	32.2
CONTROL-2	100	23-Dec-25	7 days	30-Dec-25	2.3554	2360	328.9	32.9	
CONTROL-3	100	23-Dec-25	7 days	30-Dec-25	2.3419	2340	310.8	31.1	
CONTROL-4	100	23-Dec-25	28 days	20-Jan-26	2.3502	2350	409.7	41.0	41.0
CONTROL-5	100	23-Dec-25	28 days	20-Jan-26	2.3414	2340	401.4	40.1	
CONTROL-6	100	23-Dec-25	28 days	20-Jan-26	2.3307	2330	418.9	41.9	
TREATED-1	100	23-Dec-25	7 days	30-Dec-25	2.3228	2320	330.1	33.0	32.3
TREATED-2	100	23-Dec-25	7 days	30-Dec-25	2.3288	2330	320.5	32.0	
TREATED-3	100	23-Dec-25	7 days	30-Dec-25	2.3270	2330	318.7	31.9	
TREATED-4	100	23-Dec-25	28 days	20-Jan-26	2.3421	2340	418.1	41.8	41.1
TREATED-5	100	23-Dec-25	28 days	20-Jan-26	2.3392	2340	410.1	41.0	
TREATED-6	100	23-Dec-25	28 days	20-Jan-26	2.3441	2340	405.5	40.5	

Remarks :

1. Sample condition when received : Satisfactory
2. Moisture condition at test : Saturated

TEST RESULTS (Cont'd):

B. Water Gain & Water Penetration Ratio (EL-A-OP-CMT-SIN-MD218)

Sample Reference		Control Mix			Treated Mix		
Specimens Reference		1	2	3	1	2	3
Date Cast		23-Dec-2025			23-Dec-2025		
Age in Days		28			28		
Date Test		20-Jan-26			20-Jan-26		
Test Pressure (kgf/cm ²)		0.2					
Duration (hrs)		6					
Weight Gain after 6 hours of Water Penetration (g)		14.2	22.9	45	4.8	7.8	7.5
Average Weight Gain (g)		27.4			6.7		
Weight Gain Comparative Ratio		0.24					
Depth of Water Penetration (mm)	Maximum	41.2	35.0	35.8	8.1	8.2	8.8
	Minimum	33.3	23.8	28.7	6.1	6.1	6.5
	Mean	36.7	30.3	33.5	6.8	7.5	7.5
Depth of Water Penetration Comparative Ratio		0.22					
HDB Requirement for Water Gain & Water Penetration Ratio		< 0.25					

TEST RESULTS (Cont'd) :

C. Water Absorption (BS 1881-122: 2011+A1:2020)

Sample Ref.	Control Mix			Treated Mix		
	1	2	3	1	2	3
Date Cast	23/Dec/2025			23/Dec/2025		
Specimens' Condition When Received	Satisfactory			Satisfactory		
Coring Direction	Perpendicular			Perpendicular		
Ave. Specimen Length (mm)	75.34	74.72	75.27	75.32	74.55	76.22
Ave. Specimen Diameter (mm)	74.71	74.55	74.56	74.77	74.68	74.74
Date in Oven (3 Days)	16/Jan (10AM) to 19/Jan (10AM)			16/Jan (10AM) to 19/Jan (10AM)		
Date in Dry Airtight Vessel (1 day)	19/Jan (10AM) to 20/Jan (10AM)			19/Jan (10AM) to 20/Jan (10AM)		
Test Age (Days)	28			28		
Mass of Oven-Dried Specimen (kg)	0.7002	0.6870	0.6936	0.7105	0.6958	0.6863
Mass of Wet Specimen (kg)	0.7350	0.7201	0.7288	0.712	0.6976	0.6878
Dry Density (kg/m ³)	2120	2106	2110	2148	2131	2053
Water Absorption before Correction (%)	4.97	4.82	5.07	0.21	0.26	0.22
Water Absorption after Correction (%) *	5.0	4.8	5.1	0.2	0.3	0.2
Average Water Absorption after Correction (%)	5.0			0.2		
Water Absorption Ratio	0.04					
HDB Requirement for Water Absorption Ratio	< 0.25					

REMARKS:

$$1)^* \text{ Correction Factor} = \frac{\text{Volume (mm}^3\text{)}}{\text{Surface Area (mm}^2\text{)} \times 12.5}$$

TEST RESULTS (Cont'd) :

D. Water Soluble Chloride (Chloride Content) - (BS EN 480-10: 2009)

Client Sample Ref.			POWER SEAL SG TM	
Property	Unit	Test Method	Results	HDB Criteria
Water Soluble Chloride by Mass of Admixture ^(a)	%, m/m	BS EN 480-10: 2009	0.04	Cl < 2% by mass of admixture or Cl < 0.03% by mass of cement

^(a) The measurement was carried out using Mettler-Toledo T50M Terminal Titrator with DM141-SC Silver-Ring Electrode. Method 1 was used.

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ANNEX A
PHOTO OF ADMIXTURE



ANNEX B
CONCRETE MIX DESIGN

Ref.	Control Mix	Treated Mix
Cement (kg/m ³)	410	410
Coarse Aggregate (kg/m ³)	885	885
Fine Aggregate (kg/m ³)	785	785
Water (l/m ³)	225	225
POWER SEAL SG TM	0	Coating on surface

ANNEX C
PHOTOS OF HALVED TEST SPECIMENS



CONTROL - 1



TREATED - 1



CONTROL - 2



TREATED - 2



CONTROL - 3



TREATED - 3