



HELIOPOLIS
Concrete Technology Centre

مركز هليوبوليس لتكنولوجيا الخرسانة
Design - Quality Control - Testing

Client : - Green Build Egypt
Subject : - Compliance of Chemical Admixture sample to ASTM C 494
Date : - 23rd February 2019
Our Ref. : -Tests/Admixtures/ASTMC494

Dear Sir,

Reference is made to the a/m subject. Please find attached, attachment 1, the testing results for the compliance, in terms of slump, time of setting and compressive strength of the submitted high range water reducing retarding chemical admixture sample, FLOWCRETE G360.

According to the carried-out tests and available results up to age of testing, the supplied and tested chemical admixture sample, FLOWCRETE G360, fulfills the ASTM C494: Type G requirements.

Best regards,

Consulting Eng.

Prof. Dr. Hossam Hassan



Attachments: -

Att. 01: The testing results report, (No. of pages: 03- page).
Att. 02: The manufacturer data sheet, (No. of pages: 02- page).

The testing sample is delivered by the client



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Att. 1: The testing results report.
(No. of pages: 03- page)

Table 1: Concrete mixes proportions.

Concrete Mix	Constituent Materials Proportions						
	Cement (Kg/m³)	Free Water (L/m³)	Aggregate, (Kg/m³)			Chem. Admix. % weight of cement)	W/C Ratio
			Fine	Coarse I	Coarse II		
Control Mix	400	190	675	455	680	----	0.46
Mix with FLOWCRETE G360	400	160	675	455	680	1.0%	0.41

* OPC complies with CEM I cement to ESS: 4756-1/2005 – grade 42.5N.

** Fine and coarse aggregate complies with ASTM C 33.



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Table 2: Testing results.

PROPERTY (Testing Standard)	RESULTS	
	Control Mix	Mix with FLOWCRETE G360 Admixture
1- Slump, mm (ASTM C 143)	105	95
2- Initial Time of Setting, hr. – min. (ASTM C 403)	04 - 15	06 - 30
3- Final Time of Setting, hr. – min. (ASTM C 403)	06 - 45	09 - 15
4- Cube Compressive Strength, kg/cm ²		
1-day	122	156
3-day	228	292
7-day	289	359
28-day	382	443



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Table 3: The ASTM requirements and the attained results compared to the control mix.

PROPERTY (ASTM Requirements: Compared to control Mix)	The effect of the chemical admixture on the concrete physical properties compared to the control mix (FLOWCRETE G360)
1- Water Content, (Max. 88%)	84
2- Initial Time of Setting, (At least 1.00 hr. later Nor more than 3.30hr later)	+ 2.0: 15
3- Final Time of Setting (Not more than 3:30hr later)	+ 2.0: 30
4- Compressive Strength, (Min. %) 1-day: 125 3-day: 125 7-day: 115 28-day: 110	128 128 124 116



-03/03-