



REPORT

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Water absorption and resistance to alkali acc EN 13 580

(1 appendix)

1 Assignment

Testing of *OFF Ask* on concrete. Tests carried out in accordance with the procedures of EN 13580 *Products and systems for the protection and repair of concrete structures – Test methods – Water absorption and resistance to alkali for hydrophobic impregnations.*

2 Test schedule

The test objects and scope of the test are shown in table 1. The test programme started in Mars 2015. Final testing concluded on May 2015.

Table 1. Test schedule for treated and untreated concrete samples

Property	Method	Test object	
		Measurements (mm)	Number
Water absorption and resistance to alkali	EN 13 580:2002	100x100x100	3 treated 3 untreated

The concrete and the test samples "Type C (0,45)" were produced and stored at CBI Swedish Institute for Concrete Technology in Borås in accordance with the directions of EN 1766.

OFF Ask, batchnr 150302 which arrived at CBI in Borås 2015-03-03, was applied by CBI in accordance with the manufacturer's recommendations. The amount of finish applied was checked by weighing. CBI has no other information relating to the substance and sampling.

3 Results and Comments

Figure 1 shows the absorption ratio (AR) and absorption ratio after exposure to alkali (AR_{alk}). The test results is shown in appendix 1.

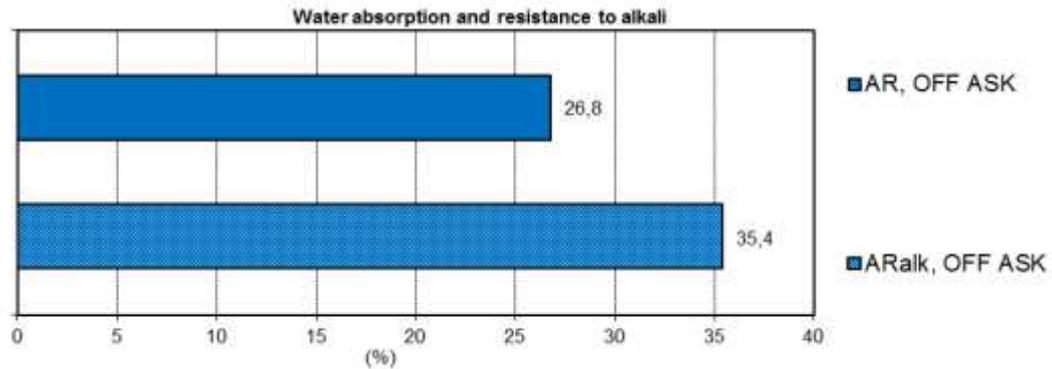


Figure 1. Absorption ratio (AR) and Absorption ratio after exposure to alkali (AR_{alk})

The tested product *OFF Ask* is not approved according to the requirements (<15%) in VTT-R-01292-14/EN table 3.4.

The Swedish Cement and Concrete Research Institute (CBI) Testing & Control

Performed by

Examined by

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Cathrine Ewertson

Appendices

1 Test results

This is a translation from the Swedish original document. In the event of any dispute as to the content of the document, the Swedish text shall take precedence.

Appendix 1

Alkaliresistens, SS-EN 13 580										
Vattenlagring	Datum	REF	OFF ASK			OFF ASK anlager			REF i 105±5 C	
		3 af vor 0,45	3 af vor 0,45			3 af vor 0,45			2 af vor 0,45	
Vägningsloed	2015-03-20	W₁₀₅	AR-R1	2459,2	AR-OA1	2450,2	AR-OAE1	2442,9	AR-RT1	2445,7
Placering i 2±2C, 60±10 RF	10:00		AR-R2	2415,3	AR-OA2	2434,2	AR-OAE2	2443,3	AR-RT2	2427,7
Placering i 105±5 C			AR-R3	2451,1	AR-OA3	2455,5	AR-OAE3	2452,4	AR-RT3	2455,6
				2452,9		2452,0		2448,3		2445,7
Vägning efter tokning i 105±5 C	2015-03-23	W₁₀₅							AR-RT1	2393,7
									AR-RT2	2303,0
									AR-RT3	2338,2
										5,2
Vägning 2±2C, 60±10 RF	2015-03-20	W₂	AR-R1	2444,4	AR-OA1	2443,4	AR-OAE1	2435,4		
			AR-R2	2408,8	AR-OA2	2426,4	AR-OAE2	2437,5		
			AR-R3	2444,9	AR-OA3	2456,0	AR-OAE3	2446,2		
				2432,7		2443,6		2439,7		
Vägning 2±2C, 60±10 RF	2015-03-21	W₂	AR-R1	2443,5	AR-OA1	2427,3	AR-OAE1	2434,4		
			AR-R2	2407,8	AR-OA2	2442,4	AR-OAE2	2436,6		
			AR-R3	2443,8	AR-OA3	2456,0	AR-OAE3	2446,2		
				2431,7		2442,6		2438,7		
Vägning 2±2C, 60±10 RF	2015-03-22	W₂	AR-R1	2442,9	AR-OA1	2441,9	AR-OAE1	2433,9		
			AR-R2	2407,3	AR-OA2	2426,7	AR-OAE2	2436,6		
			AR-R3	2443,2	AR-OA3	2457,5	AR-OAE3	2444,5		
				2431,1		2442,0		2438,1		
Vägning 2±2C, 60±10 RF	2015-03-23	W₂	AR-R1	2442,6	AR-OA1	2441,6	AR-OAE1	2433,6		
			AR-R2	2407,0	AR-OA2	2426,4	AR-OAE2	2436,4		
			AR-R3	2442,9	AR-OA3	2457,2	AR-OAE3	2444,2		
				2430,8		2441,7		2437,8		
Fuktivitet (5,0±0,5)		M		4,6		5,0		4,9		
Applicering I										
Ca 75 g/m ²	2015-03-20	W ₂			AR-OA1	2441,6	AR-OAE1	2433,6		
Kl. 10:40		W ₂				2446,7		2436,1		
						4,1		4,6		
					AR-OA2	2426,4	AR-OAE2	2436,7		
						2430,7		2440,1		
						4,4		4,4		
					AR-OA3	2457,2	AR-OAE3	2444,2		
						2461,6		2446,5		
						4,4		4,3		
Applicering II										
Ca 55 g/m ²	2015-03-23	W ₂			AR-OA1	2442,7				
Kl. 12:40		W ₂				2446,8				
						3,1				
					AR-OA2	2427,3				
						2436,5				
						3,2				
					AR-OA3	2458,2				
						2461,6				
						3,5				
Förberedning, obekantfärdighet										
	2015-03-20									
	2015-03-20									
Absorption I, i avj. vatten										
Behandlade provkroppar placeras i separerat vatten i separata bägere										
Vägning	2015-04-08	I₁	AR-R1	2444,4	AR-OA1	2443,7	AR-OAE1	2436,4		
Kl. 09:20			AR-R2	2408,4	AR-OA2	2426,8	AR-OAE2	2436,3		
			AR-R3	2445,2	AR-OA3	2456,7	AR-OAE3	2446,4		
				2433,0		2444,0		2440,3		
Vägning efter 140,00 h	2015-04-08	I₂	AR-R1	2445,5						
Kl. 10:20			AR-R2	2419,9						
			AR-R3	2445,8						
				2434,4						
Vägning efter 240,1 h	2015-04-09	I₂			AR-OA1	2446,6	AR-OAE1	2436,2		
Kl. 09:20					AR-OA2	2436,6	AR-OAE2	2436,6		
					AR-OA3	2461,4	AR-OAE3	2447,8		
						2446,8		2441,9		
			I₁₀₅	$(\frac{gH_2O}{gM} \cdot 10^4)$		8,10		8,31		
			I₁₀₅	$(\frac{gH_2O}{gM} \cdot 10^4)$	22,76					
			AR	%		26,79		26,20		
Absorption II, i KOH										
	2015-04-09									
Kl. 12:40										
Behandlade provkroppar placeras i separata bägere med KOH (5,0 g/l) i 21±0,1 dygn. Därefter tokas och vägs till vikort (±2 g) uppfyllda										
Vägning efter 21±0,1 d	2015-04-30				AR-OA1	2447,1	AR-OAE1	2440,0		
Kl. 08:30					AR-OA2	2432,0	AR-OAE2	2441,4		
					AR-OA3	2459,0	AR-OAE3	2446,6		
						2447,4		2443,7		
						3,5		3,5		
(±2 g avj.)	2015-05-04				AR-OA1	2442,6	AR-OAE1	2436,3		
Kl. 08:05					AR-OA2	2426,6	AR-OAE2	2436,4		
					AR-OA3	2456,9	AR-OAE3	2447,0		
						2443,3		2440,6		
						-6,7		0,3		
(±2 g avj.)										
Absorption III, i avj. vatten										
Behandlade provkroppar placeras i separerat vatten										
Vägning	2015-05-04	I₁			AR-OA1	2442,6	AR-OAE1	2436,3		
Kl. 13:20					AR-OA2	2426,6	AR-OAE2	2436,4		
					AR-OA3	2456,9	AR-OAE3	2447,0		
						2443,3		2440,6		
Vägning efter 240,1 h	2015-05-05	I₂			AR-OA1	2446,4	AR-OAE1	2436,5		
Kl. 13:20					AR-OA2	2430,3	AR-OAE2	2440,0		
					AR-OA3	2461,3	AR-OAE3	2448,1		
						2446,7		2442,2		
			I₁₀₅	$(\frac{gH_2O}{gM} \cdot 10^4)$		8,663		8,579		
			ARalk	%		25,4		24,0		