Analytical Quality Control (AQC) Checklist

TEST LABORATORY:	**REPORT REF**:	**ISSUED**:
PRODUCT:		**DWI REF**: 56.4.
We confirm that this report conforms with the appropriate requirements as set out below.		**Date**:

AQC checklist	Limits	BS EN Clause	Test Protocols	Comment or confirmatory reference
Test conditions				
Cementitious Material, area tested	1.3 to 1.9 dm^{-1}	BS6920-2.1 (5.1.2)	**3** A6.3	
Ratio of surface area to volume to be between 5.0 dm-1 and 40 dm-1	> 0.5 dm^{-1}	12873-1 (7.3)	**2**: 4.1	
The test water is RO or distilled of low conductivity	EC < 2mS/m	12873-1 (5.1.2)	N/A	
The test water has low TOC	< 0.2mg/l	12873-1 (5.1.2)	N/A	
Chlorinated test water with a free chlorine concentration	1±0.2 mg/l	12873-1 (5.1.3)	N/A	
test methods used				
AQC general				
There is an outline of the analytical method †			**2**: 5.5.2	
Established methods have validated performance data †			**2**: 5.5.2.2	
New methods have a preliminary performance data			**2**: 5.5.2.3	
Calibration procedures and curves are provided			**2**: 7.3.3	
There are two samples spiked at low level with each batch			**2**: 5.5.2	
Performance of GC-MS system				
Method validation for the GC-MS and description †			**2** 5.4	
Limit of detection for the deuterated standards and their derivation †		15768 (9.3) B		
All internal standards are detected in the TIC chromatogram	9 standards			
Recoveries for deuterated naphthalene, phenanthrene & squalane are satisfactory and tabulated.	>50 %			
The internal standards in the GC test solution are not saturated		15768 (9.2)		
GC-MS can resolve a difference in m/z of 1 at highest mass	Mass Range 0 – 650 u	15768 (3.12)		
The temperature ramp is not too fast	< 12 ºC/min			
Asymmetry factors of phenol & naphthalene peaks in the test solution are satisfactory	0.67 - 2.0	15768 (8.3)		
Benzene is separated from the solvent				
Intensity of internal standards in the test solution is close to the set up values	within 30 %			
Squalane retention time (RT)	35 - 45 min			
Recovery for deuterated benzene is tabulated for all samples.	>50%	15768 (6.3)		
The absolute values of the deuterated standards are tabulated and graphically plotted		15768 (11.2)		
Mass calibration is satisfactory, or the spectrometer has been recalibrated		15768 (9.1)		
There is an AQC standard every 6 samples		15768 (8.4)		
Reporting GC-MS				
An annotated TIC chromatogram of the GC test solution for each analytical occasion		15768 (11.2)		
An annotated TIC chromatogram for each solvent extract				
The basis on which peaks are identified is described †				
Indications of the origin of all peaks considered not to originate from the test piece				
A mass spectrum of each compound originating from the test piece, along with the corresponding nearest matching library spectrum				
All peaks on the TIC chromatogram with a peak area >50% of naphthalene have a retention time or scan no. cross-referenced to its MS scan		15768 (10.3 &11.2)		
Each compound detected is identified positively, tentatively or if unknown or no identification, with the four largest MS peaks listed				
Each compound detected is quantified by reference to the appropriate internal standard		15768 (10.1)		
Conversion factor for migration rates is recorded			**2**: 6.2	

† The DWI will accept reference to a separate report, so long as they are provided with a controlled copy that is less than 5 years old and subject to annual review.

Revision History: V1.0 – Separated from Protocol 2 with all test references updated.

Chlorine				
Chlorine demand				
Chlorine AQC †				
TOC				
The method is sensitive †	lod ≤ 0.1 mg/l		**2**: 5.3	
The method is precise, with a standard deviation of <0.1 mg/l or rsd < 10% †	rsd < 10%		**2**: 5.3	
TOC control chart † and results of AQC standards for the batches reported				
Specific Determinand				
The method is sensitive †	lod ≤ 1ug/l		**2**: 5.5.1	
The method is validated?			**2**: 5.5.2.2	
The method is new and has limited validation?			**2**: 5.5.2.3	

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