



TECHNICAL SERVICES

R29708

AC 10 EME2 bin – MIXTURE EVALUATION

BLACKHILLS QUARRY, COVE, ABERDEEN.

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Date: 04/10/2010
 Material: AC 10 EME2 base/bin
 Specification: BS594987 / TRL636
 Plant: Blackhills, Cove, Aberdeen.

Constituents	
Coarse Aggregate:	Leiths, Blackhills Quarry, Cove.
Fine Aggregate:	Leiths, Blackhills Quarry, Cove.
Limestone Filler:	Howies, Torlundy.
Binder:	Nynas, Nypave FX20

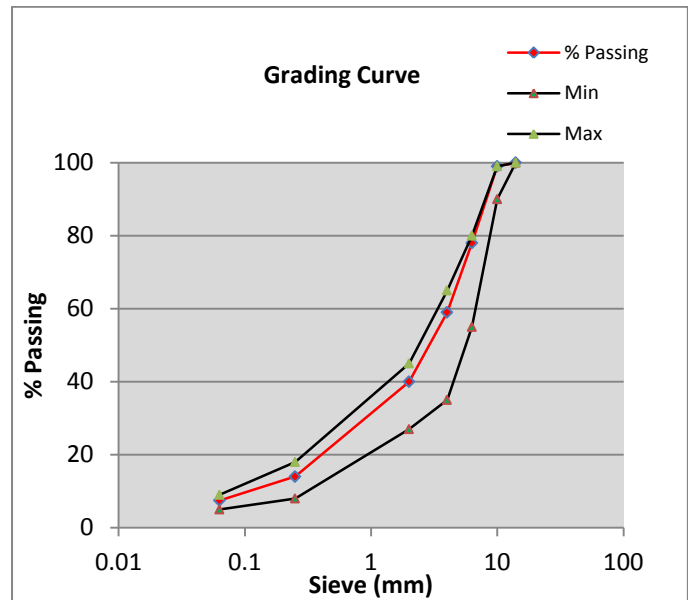
Composition	%
10/20	0
6/14	0
4/10	23.5
2/6	23.5
0/4 Fines	42.3
Filler	4.7
Binder Content (UK)	6.0
Total	100

Target Grading		Limits
Sieve (mm)	% Passing	
14	100	100
10	99	90 - 99
6,3	78	60 - 80
4	59	35 - 65
2	40	27 - 45
0,250	14	8 - 18
0,063	7.5	5 - 9

Bitumen Properties	
Bitumen Grade	Nynas Nypave FX20
Penetration(1/10mm)	17
Softening Point (°C)	67.7

Aggregate	
Combined Aggregate Density	(Mg/m ³) 2.64

Mixture	
Binder Richness Modulus	3.7
Binder Content (ppc)	6.4%
Bulk Density (Air & water)	(Mg/m ³) 2.304
Maximum Density (BS EN 12697 - 5)	(Mg/m ³) 2.415



Mixture Performance				
Test	Standard	Description	Result	Specification
Gyratory (PCG)	BS EN 12697 - 31: 2007	Percentage voids at 100 gyrations (weighed in Air & Water)	4.6	≤ 6%
Duriez	NFP-98-251-1	Resistance at 18°C (MPa) Retained strength ratio	19.4 0.81	- r/R ≥ 0.75
Wheel Tracking (Large)	BS EN 12697 - 22: 2003	% rut depth after 30000 cycles at 60°C	3.0	≤ 7.5%
Stiffness Modulus	BS EN 12697 - 26: 2004	ITSM 20°C at 2.5Hz	11.4	≥ 5.5 GPa
Fatigue	BS EN 12697 - 24: 2004	Deformation at 10 ⁶ cycles	ε6-NR	E6 ≥ 130μdef

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