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Porterswood House Porters Wood St Albans Herts AL3 6PQ United Kingdom

## Water Absorption of Roofing Slate ASTM 121-90 (Reapproved 1999)

84963 - Cupa 14 Roofing Slate

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Client Details	Cupa Pizarras SA			
	La Medua s/n, 32330 Sobradelo de Valdeorras			
Contact Name	Hernando Espinosa de los Monteros			
Order Reference	CIF: A 32 22 54 27	Order Date	07-04-06	

Sample Details			
Sample Type	CUPA 14 slate	No Samples Received	8
Sampled By	Las Fuentes	Sampling Date	Not advised
STATS Batch No	5240	No Samples Tested	6
Receipt Date	07-04-06	Test Date Period	11-04-06 to 18-04-06

Methods				· · · · · · · · · · · · · · · · · · ·	
Preparation	ASTM C121-94. 3 specimens of 102mm x 51mm sawn from slate				
Test	ASTM C217-94 test for roofing slate.  Depth of softening assessed by hand scraping method (C217-94 Section 9)				
Deviations	None				
Specification	ASTM C406-06				
Acceptance Criteria	Classification S1 S2 S3				
	Water Absorption Max. (%)	0.25	0.36	0.45	

Sample Number	Initial dry weight (g)	Saturated weight (g)	Water absorption (%)
SL2B	171.88	172.08	0.12
SL3B	163.52	163.73	0.13
SL4B	197.54	197.80	0.13
SL5C	144.62	144.83	0.15
SL6B	194.88	195.14	0.13
SL7A	181.36	181.63	0.15
		Mean:	0.14

Assessment against criteria Complies with Class S1

Certification			
Certificate prepared by		Certificate reviewed by	
I.J. Blan	chard	Ma	
Dr lan G Blanch	ard	Dr lan Sims	
Senior Construction Materials Scientist		Director	
Tested by	IGB	Certificate issue date	21-Apr-06

The results given in this certificate relate only to those samples submitted and specimens tested and to any materials properly represented by those samples and specimens. Any opinions and interpretations are outside the scope of UKAS accreditation

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## Weathering Resistance of Roofing Slate ASTM C217-94 (Reapproved 1999)

84963 - Cupa 14 Roofing Slate

Client Details	Cupa Pizarras SA			
	La Medua s/n, 32330 Sobradelo de Valdeorras			
Contact Name	Hernando Espinosa de los Monteros	· · · · · · · · · · · · · · · · · · ·		
Order Reference	CIF: A 32 22 54 27 Order Date	07-04-06		

Sample Details			······································
Sample Type	CUPA 14 slate	No Samples Received	8
Sampled By	Las Fuentes	Sampling Date	Not advised
STATS Batch No	5240	No Samples Tested	3
Receipt Date	07-04-06	Test Date Period	11-04-06 to 18-04-06

Methods				<del></del>
Preparation	ASTM C217-94. 3 specimens of 102mm x 51mm sawn from slate			
Test	ASTM C217-94 test for roofing slate. Depth of softening assessed by hand scraping method (C217-94 Section 9)			
Deviations	None			
Specification	ASTM C406-06			
Acceptance Criteria	Classification	S1	\$2	S3
	Depth of Softening max (mm)	0.05	0.20	0.36

## Results

Sample Number	Initial slate thickness (mm)	Scraped thickness pre-Immersion (mm)	Thickness after immersion (mm)	Scraped thickness post- immersion (mm)	Depth of Softening (mm)
SL6C	5.687	5.658	5.681	5.666	0
SL7B	6.237	6.183	6.206	6.196	0
SL8A	5.645	5.611	5.629	5.570	0.025
				Mean:	0.01

Assessment against criteria Complies with S1

Certification			
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I. J. Bla	nchard	Les	
Dr lan G Blancha	ırd	Dr lan Sims	
Senior Construction	on Materials Scientist	Director	
Tested by	IGB	Certificate issue date	21-Apr-06

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## Modulus of Rupture of Roofing Slate ASTM C120-00

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	La Medua s/n, 32330 So	bradelo de Valdeorras			
Contact Name	Hernando Espinosa de I	Hernando Espinosa de los Monteros			
Order Reference	CIF: A 32 22 54 27	Order Date	07-04-06		

Sample Details			. , , , , , , , , , , , , , , , , , , ,
Sample Type	CUPA 14 slate	No Samples Received	8
Sampled By	Las Fuentes	Sampling Date	Not advised
STATS Batch No	5240	No Samples Tested	6
Receipt Date	07-04-06	Test Date Period	19-04-06

Methods	
Preparation	ASTM C120-00. 6 specimens of 102mm x 102mm sawn from slate
Test	ASTM C120-00 test for roofing slate. Span at test = 51mm All specimens tested with load across grain of slate
Deviations	None
Specification	ASTM C406-06
Acceptance Criteria	Slates of grade S1, S2 and S3 all require minimum breaking load of 2558N

Res	ul	ts
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Sample Number	Thickness (mm)	Width (mm)	Breaking Load (N)	Modulus of Rupture (MPa)
SL1A	6.59	102.5	3088	53.1
SL2A	6.29	104.0	2830	52.6
SL3A	6.87	102.8	3510	55.3
SL4A	5.17	104.1	2732	75.1
SL5A	6.25	102.1	2832	54.3
SL6A	6.03	103.4	2878	58.6
		Mean:	2978	58.2

Assessment against criteria Complies with breaking load for \$1, \$2 or \$3

Certification				
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If Blancha	To de la constantina	eller		
Dr lan G Blanchard		Dr lan Sims		
Senior Construction Materials Scientist		Director		
Tested by	IGB	Certificate issue date	21-Apr-06	

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