

AMBER CONSULTING COMPANY

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September 22, 2015

**DEL CASTILLO SLATE**

be natural®  
Spain

Dear Mr. Calvo,

ASTM C406 testing of **DEL CASTILLO** Roofing Slate from Segovia (Spain) was completed on September 21<sup>st</sup>. A summary of the results are as follows:

1. Water Absorption, C121-09.  
0.091% (ASTM max. for S1 slate is 0.25%).
2. Flexure (Breaking Load), C120-12.  
991 lbs, thickness 0.292 in. (ASTM min. for S1 slate is 575 lbs.).
3. Weather Resistance (Depth of Softening), C217-09.  
0.0002 in. (ASTM max. for S1 slate is 0.002 in.)

Tables 1, 2 and 3 list the individual tests results. From the specimens tested, **DEL CASTILLO** Roofing Slate qualifies as a **S1 grade** (75+ year projected life) per the requirements of ASTM C406-10 (Specification for Roofing Slate).

Modulus of Rupture tests were conducted on a Tinius Olsen Testing Machine calibrated January 2014. The Weather Resistance tests were conducted using the hand scraping method. Thickness measurements were taken at three (3) different locations along the scrape track. The average depth of softening was recorded.

Please let us know if we can be of further assistance.

Very truly yours,

Thomas H. Olson  
Test Engineer

Enclosure: Page 2 (Results)

## TEST RESULTS

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**DEL CASTILLO Roofing Slate** Quarry: **Del Castillo** Location: **Segovia, Spain**

TABLE 1- WATER ABSORPTION

Specimen No.	Absorption %
SEC1A	0.115
SEC2A	0.075
SCC3A	0.067
SEC4A	0.104
SEC5A	0.082
SEC6A	0.102
<b>Average</b>	<b>0.091% (S1 max 0.25%)</b>

TABLE 2- FLEXURE

Specimen No.	Breaking Load lbs	Thickness in
SEC1R	1067	0.300
SEC2R	1045	0.295
SEC3R	1001	0.295
SEC4R	1239	0.317
SEC5R	1106	0.304
SEC6R	902	0.297
SEC7R	1061	0.269
SEC8R	736	0.287
SEC9R	730	0.256
SEC10R	1019	0.299
<b>Average</b>	<b>991 lbs.</b>	<b>0.292 in. (S1 min 575lbs)</b>

TABLE 3- WEATHER RESISTANCE

Specimen No.	Depth of Softening inches
SEC1W	0.0003
SEC2W	0.0001
SEC3W	0.0003
<b>Average</b>	<b>0.0002 in. (S1 max 0.002 in)</b>