

**AMBER CONSULTING COMPANY**  
P. O. Box 567  
Pittsford, Vermont 05763  
802-775-1650 tholson@sover.net

**January 20, 2025**

**Cupa Pizarras SA**

Attn: Belén Díaz López  
CIF: A-32225427  
A Medua s/n  
32330 Sobradelo de  
Valdeorras (Ourense)  
Spain

Dear Belén:

Cupa 14 Roofing Slate from Las Fuentes quarry in Benuza, Leon, Spain, was tested per ASTM specifications. A final summary of the results is as follows:

1. Water Absorption, C121-20, **0.118% (ASTM max. for S1 slate is 0.25%).**
2. Flexure, C120-19. Breaking Load **656 lbs, Ave. thickness 0.265 in. (ASTM min. for S1 slate is 575 lbs)**
3. Weather Resistance, C217-20, **0.0006 in. (ASTM max. for S1 slate is 0.002 in.)**

Tables 1, 2 and 3 list the individual test results. From the specimens tested, this variety of roofing slate qualifies as a S1 grade slate (75+ projected life) per the requirements of ASTM C406-15 (Specification for Roofing Slate).

Modulus of Rupture tests were conducted on a Tinius Olsen Testing Machine calibrated January 2023. 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.

If there are any questions or concerns, please do not hesitate to contact me.

Very truly yours,



Thomas H. Olson  
Test Engineer

**ASTM C406-15 ROOFING SLATE TEST RESULTS**

Slate Type: Cupa 14 Roofing Slate  
 For: Cupa Pizarras SA  
 Quarry: Las Fuentes Benuza (León), Spain  
 Specimen Nominal Size: C120 4x5 in, C121 4x4 in, C217 2x4 in.

**TABLE 1- Water Absorption-C121**

Specimen No.	Absorption (%)
14CP1A	0.192
14CP2A	0.176
14CP3A	0.167
14CP4A	0.198
14CP5A	0.212
14CP6A	0.182
<b>Average</b>	<b>0.188% (S1 max 0.250%)</b>

**TABLE 2- Flexural Strength- C120**

Specimen No.	Breaking Load (lbs.)	Thickness (in.)
14CP1R	696	0.258
14CP2R	685	0.281
14CP3R	720	0.278
14CP4R	630	0.261
14CP5R	601	0.240
14CP6R	604	0.250
14CP7R	590	0.268
14CP8R	713	0.273
14CP9R	683	0.265
14CP10R	637	0.272
<b>Average</b>	<b>656 lbs.</b>	<b>0.265 in.(S1 min. 575 lbs)</b>

**TABLE 3- Weather Resistance-C217**

Specimen No.	Depth of Softening (in.)
14CP1W	0.0006
14CP2W	0.0004
14CP3W	0.0007
<b>Average</b>	<b>0.0006 in (S1 max 0.0020 in.)</b>