

## **Declaration of Performance 004.001s**

1. Unique identification code of the product type:

**Natural Roofing Slate**

2. Type, Batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4) of the CPR:

## **Standard Q009**

3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer:

**Slate & stone products for discontinuous roofing & cladding**

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under article 11(5):

**Cembrit Ltd  
57 Kellner Road  
London  
SE28 OAX  
Registered No. GB 1968377**

5. Where applicable, name and contact of the authorised representative whose mandate covers the task specified in Article 12(2):

**Not Applicable**

6. System of assessment and verification of constancy of performance of the construction product as set out in CPR Annex V:

**System 4**

7. In case of the declaration of performance concerning a construction product covered by a harmonised standard:

**BS EN 12326-1**

8. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued

**Not Applicable**

## 9. The Accompanying Commercial Document Part 1

Cembrit Standard Q009					
EN 12326-1:2014					
Number of this commercial document	004.001s		Date of issue	01.07.2016	
Commercial document issued by; <b>Cembrit Ltd., 57 Kellner Road, London SE28 0AX</b>					
Location of the mine or quarry: Sobradelo De V., Spain					
This document records the conformity of the product described below and is incomplete without the explanation of the meaning of the test results and the requirements of EN 12326-1:2014. The tests referred to and the criteria are contained in EN 12326-1:2014 & EN12326-2:2011					
Date of sampling 1.05.2016			Date of testing 15.05.2016		
Product description and commercial name	Cembrit Standard Q009 Natural Roofing Slate				Conformity
Relation between bedding and cleavage	Beds Parallel to Cleavage				
1 Dimensional tolerances:					
Format	Rectangular				
Deviation from declared length	±1mm				Complies
Deviation from declared width	±1mm				Complies
Deviation from squareness	<1%				Complies
Deviation from straightness of edges	<1 %				Complies
Slate type for deviation from flatness	Very flat	Flat	Non-flat	Special	
Deviation from flatness			X		
2 Thickness: 4-5 mm					
Nominal thickness and variation of individual thickness against nominal thickness	4.5 mm ±35%				
3 Strength:					
Characteristic MoR	Transverse	57 MPa	Longitudinal	59 MPa	
Mean failure load	Transverse		Longitudinal		
4 Water absorption	0.22 % Code W1(≤0,6)				Complies
5 Freeze thaw:	Mean modulus of rupture values, transverse and longitudinal, before and after the freeze/thaw test (if W1(>0,6)), or not required				NR
6 Thermal cycle test:	Code T1				Complies
7 Carbonate content	0.20 %				Complies

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8 Sulfur dioxide exposure tests:	≤ 20% apparent calcium carbonate:	Code S1	Complies
	> 20% apparent calcium carbonate:	Depth of softening mm	NR
9 Non-carbonate carbon content		0.50 %	Complies
10 External fire performance		Deemed to satisfy	Complies
11 Reaction to fire		Deemed to satisfy class A1	Complies
12 Release of dangerous substances		None in conditions of use as roofing or external cladding	NR

10. The performance of the product identified in points 1 & 2 is in conformity with the declared point 9.

The declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4 .

Signed for and on behalf of the manufacturer: Cembrit Ltd, 57 Kellner Road, London SE28 OAX

Date: 1<sup>st</sup> July 2016

(signature)   
Philip Wilden

Date of sampling and testing	If more than one date is applicable to sampling or testing they should be indicated against the individual test results					
Product description	Slate for roofing and external cladding or carbonate slate for roofing and external cladding  Slate type and origin					
1 Dimensional tolerances.						
Length and width			Maximum deviation $\pm 5$ mm			
Deviation from squareness			Maximum deviation $\pm 1$ % of the length			
Deviation from straightness of edges			Slate length $\leq 500$ mm Permitted deviation $\leq 5$ mm.			
			Slate length $> 500$ mm Permitted deviation $\leq 1$ % of the length			
Flatness: The limits of deviation from flatness are defined for four types of slate. The bevelled edges shall be applied to the convex face. Slates with deviation from flatness in excess of the limit may be used for special applications.			Slate type	Maximum deviation from flatness as a % of the slate length.		
			Very flat	< 0,9		
			Flat	< 1,0		
			Normal	< 1,5		
			Non-flat	< 2,0		
2 Thickness: The basic nominal thickness is determined as a function of the bending strength using the equations given in 3 below, local climate conditions and traditional construction techniques. The basic nominal thickness is increased in relation to the slate's performance in the appropriate sulfur dioxide test (if required) as shown in 7 & 8 below.						
3 Strength: Longitudinal and transverse bending strength and modulus of rupture: There is no limit for bending strength or modulus. However the basic nominal thickness is determined as a function of the bend strength using the equations given below, local climate conditions and traditional construction techniques.						
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <math display="block">e_l = X \cdot \sqrt{\frac{l}{R_{cl}}}</math> <p>and</p> <math display="block">e_t = X \cdot \sqrt{\frac{b}{R_{ct}}}</math> </div> <div style="width: 50%;"> <p>Where</p> <p><math>e_{cl}</math> is the longitudinal thickness, in millimetres (mm);</p> <p><math>e_{ct}</math> is the transverse thickness, in millimetres (mm);</p> <p><math>l</math> is the length of the slate, in millimetres (mm);</p> <p><math>b</math> is the width of the slate, in millimetres (mm);</p> <p><math>R_l</math> is the characteristic longitudinal modulus of rupture in mega Pascals (MPa);</p> <p><math>R_t</math> is the characteristic transverse modulus of rupture in mega Pascals (MPa)</p> <p><math>X</math> is a constant determined as a function of climate and the traditional construction techniques in root Newton millimetres (<math>N^{1/2} \cdot mm^{1/2}</math>). It may be different for each equation and is selected for the country of use according to the table below</p> </div> </div>						
National X factors	Country	Transverse	Longitudinal	Country	Transverse	Longitudinal
	Belgium	1,0	1,0	Czech Republic	1,2	1,2
	Ireland	0,9	1,1	Italy	1,2	1,2
	France	1,0	1,0	Spain	1,0	1,0
	Germany	1,2	1,2	UK	0,9	1,1
Those Member States which have not declared a national value should select a value or a pair of values in relation to their countries climate and traditional construction techniques. It should not be less than the minimum value or pair of values given above.						
$e_l$ and $e_t$ are determined by using the length $l$ and the width $b$ of the slates. The maximum value determined is the basic individual thickness of the slate, $e_{bi}$ . The basic individual thickness is increased in relation to the slates performance in the appropriate sulfur dioxide test as shown in 7 and 8 below.						