

BRE Test Report

Testing of Errisbeg Sandstone

Prepared for: Charlie Cafferty
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1 Introduction

Following instruction from Charlie Cafferty (ThinStone Ireland Ltd) BRE has completed testing of a sandstone described as Errisbeg Sandstone.

The samples were delivered to BRE's Stone Testing Laboratory on the 22/12/2023.

This report provides a factual account of the testing carried out on the samples received.

2 Test programme

BRE has carried out the following tests:

BS EN 1936:2006, Natural stone test methods. Determination of apparent density*, and open porosity*

BS EN 13755:2008, Natural stone test methods. Determination of water absorption at atmospheric pressure*

* BRE has UKAS accreditation for these tests.



3 Test Results

Given below is a summary of the test results, full details can be found in the Appendix.

Test	Standard	Result	Unit
Apparent density	BS EN 1936	2440	kg/m ³
Open porosity	BS EN 1936	8.4	% by volume
Water absorption at atmospheric pressure	BS EN 13755	2.0	% by weight



Appendix A Detailed Test Results



BS EN 1936: 2006: Determination of open porosity and apparent density

Name of Stone:	Errisbeg Sandstone	Petrographic Nature:	Sandstone
Block No:	Data not supplied	Anisotropic Features:	None
Supplier:	ThinStone	Country of Origin:	Data not supplied
Dimensions (mm):	50 x 50 x 18	Project Reference:	P127110
Surface Finish:	Sawn	Preparation:	BS EN 1936
Date Tested:	03/01/2024	05/01/2024	Tested by: I. Rance

BRE No.	Md	Mh	Ms	Apparent Density	Open Porosity
	g	g	g	kg.m ⁻³	%
P127110/24/					
251	127.49	79.54	131.80	2440	8.2
252	107.56	67.11	111.01	2450	7.9
253	142.39	88.91	147.21	2440	8.3
254	109.56	68.50	113.35	2440	8.5
255	117.33	73.32	121.44	2430	8.5
256	111.51	69.66	115.47	2430	8.7
			Mean	2440	8.4

* The calculation of apparent density assumes the density of water to be 998 kg.m⁻³ at 20°C
 Open Porosity is defined as the ratio of volume of open pores to the apparent volume of the specimen
 Apparent Density is defined as the ratio of the mass of the dry specimen to its apparent volume

Mean open porosity (p_o): **8.4** %

Mean apparent density (ρ_b): **2440** kg.m⁻³

Approved by:

Date:

23/01/2024

Name:

Dr Martyn Webb

Position:

Principal Consultant

Built Environment Team





BS EN 13755: 2008: Determination of water absorption at atmospheric pressure

Name of Stone:	Errisbeg Sandstone	Petrographic Nature:	Sandstone
Block No	Data not supplied	Anisotropic Features:	None
Supplier:	ThinStone	Country of Origin:	Data not supplied
Dimensions (mm):	50 x 50 x 18	Project Reference:	P127110
Surface Finish:	Sawn	Preparation:	BS EN 13755
Date Tested:		Tested by:	I. Rance

BRE No.	Dry mass	Wet mass	Wet mass	Difference (ms-mi2)	Water Absorption
	1 hr md	48 hrs mi2	72 hrs ms		
P127110/24/	g	g	g	%	%
241	88.51	90.29	90.32	0.031	2.0
242	93.49	95.48	95.49	0.009	2.1
243	117.49	119.76	119.79	0.027	2.0
244	133.88	136.69	136.72	0.026	2.1
245	107.27	109.41	109.43	0.027	2.0
246	97.78	99.76	99.78	0.022	2.0

Mean **2.0**

Mean Water Absorption (A_b): 2.0 %

Approved by:  Date: 23/01/2024

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