

**REVIEWER'S FORM  
for thesis evaluation**



**1. Identification of the student**

Student:	Vivek Namdev
Thesis:	A new laboratory test to assess the resistance of porous materials to salt crystallization: Assessment of natural stone painted with limewashes
1 <sup>st</sup> Institution:	Universidade do Minho
2 <sup>nd</sup> Institution:	Czech Technical University in Prague
Academic year:	2021/2022

**2. Identification of the reviewer**

Name:	Prof. Ing. Milena Pavlíková, Ph.D.
Institution:	Czech Technical University in Prague
Position:	professor

**3. Fulfillment of thesis goals**

excellent	X	above aver.	<input type="checkbox"/>	average	<input type="checkbox"/>	below aver.	<input type="checkbox"/>	weak	<input type="checkbox"/>
Comments:									
<p>The main goal of the submitted thesis was the evaluation of the test recently developed by the RILEM ASC Technical Committee in natural stone treated with one type of limewash. The second goal of the thesis was to evaluate the performance of the stone treated with pure limewash and limewash together with linseed oil towards the resistance to salt crystallization. It can be stated the thesis goals were achieved. The reliability of the newly developed test procedure by RILEM Technical Committee 271-ASC was verified, moreover, this method was compared with the exiting test standard EN12370 to assess the resistance of porous materials to the salt crystallization. The damage due to salt crystallization was assessed with both destructive and non-destructive tests.</p>									

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**4. Academic/scientific/technical quality**

excellent X      above aver.       average       below aver.       weak

Comments:

The chosen procedure and solution methods correspond to the assignment of the thesis, which is primarily focused on experimentation. The standard tests recommended by RILEM Technical Committee 271-ASC and EN12370 were applied. To achieve results destructive and non-destructive methods were used. The material loss and salt efflorescence were measured, the deterioration and damage progression in stone specimens was regularly monitored using non-destructive ultrasonic pulse velocity device, the salt distribution was analysed using ion chromatography and scanning electron microscopy.

The experiments realization was very time consuming, a lot of results and extensive data collection were obtained, which represent a valuable information source important for understanding natural stones behaviour and damage due to salt crystalization.

**5. Formal arrangement of the thesis and level of language**

excellent X      above aver.       average       below aver.       weak

Comments:

The language level of the work corresponds to the usual standard of thesis. From the point of view of the formal arrangement, there is nothing to criticize. The format of the presented graphs and tables is uniform and appropriately chosen.

**6. Further comments**

I can regard the presented thesis greatly; it is necessary to highlight above all the large scale of the experimental work carried out.

I have only one comment. The determination of porosity and bulk density is not very time consuming and device-intensive, so, it should be better to state them than to quote them from the previous work.

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**7. Grade: A (excellent)**

Use the following scale

A (excellent)	B (very good)	C (good)	D (satisfactory)	E (sufficient)	F (fail)
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Prague

July 21, 2022

The Reviewer,

prof. Ing. Milena Pavlíková, Ph.D.