Natural stone test methods - Petrographic examination

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EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

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Käsitlusala: This European Standard specifies methods for making technical petrographic descriptions of natural stone, except for roofing slates. For this product, the method for the petrographic examination is defined in EN 12326 –2. Although chemical and physical methods of analysis are required for petrographic classification of some stone types, these methods will not be described in this standard.	**Scope:** This European Standard specifies methods for making technical petrographic descriptions of natural stone, except for roofing slates. For this product, the method for the petrographic examination is defined in EN 12326 –2. Although chemical and physical methods of analysis are required for petrographic classification of some stone types, these methods will not be described in this standard.

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Natural stone test methods - Petrographic examination

Méthodes d'essai de pierres naturelles - Examen pétrographique

Prüfverfahren für Naturstein - Petrographische Prüfung

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Foreword

This document (EN 12407:2007) has been prepared by Technical Committee CEN/TC 246 “Natural stones”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2007, and conflicting national standards shall be withdrawn at the latest by September 2007.

This document supersedes EN 12407:2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

A petrographic description of natural stone is important not only for the purposes of petrographic classification but also in order to highlight features influencing its chemical, physical and mechanical behaviour. In the same way the determination of the stone's origin could be necessary (e.g. in the case of restoration of historical monuments). It is therefore essential to characterize the natural stones not only from the point of view of their mineral components and of their fabric and structure but also in terms of any features as: colour, presence of veins, of fossils, of discontinuities, etc.

To ensure that the petrographic classification is objective, it is essential that the characterization of the material be, as far as possible, quantitative.

1 Scope

This European Standard specifies methods for making technical petrographic descriptions of natural stone, except for roofing slates. For this product, the method for the petrographic examination is defined in EN 12326 –2. Although chemical and physical methods of analysis are required for petrographic classification of some stone types, these methods will not be described in this standard.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12670, *Natural stone – Terminology*

EN 12440, *Natural stone – Denomination criteria*

3 Principle

First a macroscopic description of the sample is undertaken. The macroscopic description may involve a visual inspection aided by a hand lens or a stereoscopic microscope. Then one or more thin sections prepared from the sample are examined using a petrographic microscope in order to give a microscopic description of the sample; where appropriate an additional polished section shall be prepared.

4 Apparatus

4.1 Hand lens or stereoscopic microscope (if required)

4.2 Rock cutter with sliding guide, water cooled and with a vertical diamond disk 3 mm thick

4.3 Electrical heating plate

4.4 Glass plate 300 mm x 400 mm x 10 mm

4.5 Bristle brush

4.6 Multiple rectifier for thin slides for 16 slides, water cooled and semiautomatic stop. Thin sections can also be prepared by hand by a thin slides preparation expert

4.7 Electric solder

4.8 Multi Form mold 40 mm and plastic cup

4.9 Grinding and polishing machine

4.10 Petrographic microscope

4.11 Point counter or image analysis (if required)