

HELLENIC REPUBLIC MINISTRY OF DEVELOPMENT GENERAL SECRETARIAT FOR RESEARCH AND INNOVATION



Ag. Paraskevi, 17/01/2025 Our Ref.: TERP/414/635/2025

DIRECTORATE OF EDUCATION, REGULATORY PLANNING,INFRASTRUCTURE AND RESEARCH (DERSYE)DEPARTMENT OF ENVIRONMENTAL RADIOACTIVITY SUPERVISIONResponsible: Dr. C. PotiriadisTelephone: 2106506779Email: constantinos.potiriadis@eeae.gr

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CERTIFICATE OF MEASUREMENT

Ref.: a) Law 4310/2014 (Volume A, Folio No. 258) "Research, Technological Development and Innovation and other provisions", in particular Chapter E (art. 39-46) (A' 258).
b) P.D. 67/2022 (A' 173) "Organization of the Hellenic Atomic Energy Commission (EEAE)".
c) Presidential Decree No. 101 - 20/11/2018 Adaptation of Greek legislation to Council Directive 2013/59/ Euratom of 5 December 2013 laying down basic safety standards for their protection risks arising from ionizing radiation and repealing the Directives 89/618 /Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom (EE L13/17.1.2014) - Adoption of Radiation Protection Regulations.

SAMPLE CODE NUMBER	BM001160125 BM002160125					
SAMPLE TYPE	Two (2) samples of building materials (PP2 BL20 347/24, PP4 PP4010					
	340/24)					
DATE OF RECEIPT	13/01/2025					
DATE OF MEASUREMENT	16/01/2025 - 17/01/2025					
OUR REF.:	635 - 15/01/2025					
TYPE OF MEASUREMENT	Gamma-spectroscopic analysis according to the following standard method:					
	• ISO 20042:2019. Measurement of radioactivity — Gamma-ray emitting					
	radionuclides — Generic test method using gamma-ray spectrometry.					

SAMPLE PREPARATION

All the samples are homogenized and packed in the standard boxes of the Environmental Radioactivity Supervision Department of 205 ml or 100 ml. In the case of filters or smear tests, samples were prepared and measured in calibrated geometries.

The Department of the Environmental Radioactivity Supervision of the Greek Atomic Energy Commission is accredited by the Hellenic Accreditation Council under the terms of the ELOT EN ISO/IEC 17025 Standard, to carry out tests, as specified in the Scope of the Accreditation "Radioactivity measurements in samples by gamma spectroscopic analysis, based on a High Purity Germanium Detector (HPGe)".



RESULTS

- All samples are measured in a gamma-spectroscopic system based on a high-purity germanium detector.
- The duration of measurement is >20 h.
- The measurements are presented in the table below. The minimum detection limits were calculated by the Curie method. The expanded uncertainty is given in a confidence level of 95%.
- The results of the measurements refer exclusively to every measured sample.

Sample Code	Sample Description	Ra-226 (Bq/kg) max	U-238 (Bq/kg)	Ra-228 (Bq/kg)	Th-228 (Bq/kg)	K-40 (Bq/kg)
BM001160125	PP2 BL20 347/24	30±7	19 ± 4	16±3	16±2	334 ± 62
BM002160125	PP4 PP4010 340/24	28 ± 7	24± 5	17 ± 2	17 ± 2	360 ± 40

Bringing into consideration of the exclusion or release values of (c) relevant, the results of the measurements of the samples of building materials (PP2 BL20 347/24, PP4 PP4010 340/24), as presented in the table above, demonstrate that the sample does not require further radiological evaluation.

The Head of Department of Environmental Radioactivity Supervision

Dr. C. Potiriadis

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