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REPORT

LEAD (Pb) AND CADMIUM (Cd) CONTENT OF FORNA BAKING PANEL MATERIAL

for

**KOPYES YAPI TEKNOLOJİLERİ
SAN. ve TİC. LTD. ŞTİ.**

This report has been prepared in accordance with regulations of ITU Revolving Funds Directorate.

NOVEMBER, 2021
ISTANBUL-TURKEY

1. INTRODUCTION

This report was prepared upon a written request by Kopyes Yapı Teknolojileri San. ve Tic. Ltd. Şti. to the Dean of the ITU Faculty of Mines dated 03.11.2021. The sample was delivered to us in person by authorized company personnel for determining "Lead (Pb) and Cadmium (Cd) content" of the composite material (FORNA Baking Panel Material) that belongs to the company to report it whether it complies with the limit values stipulated in the relevant standard (ISO 6486-2 / 1999).

Within the scope of the report; the results obtained by determining the "geochemical" properties of the related composite material sample by the analysis carried out using the ITU Mining Faculty, Department of Geological Engineering JAL laboratories and the results are presented below.

2. SAMPLE PREPARATION

Splits from the corners of panel sample (25 cm x 25 cm) (Photo 1) were dried in an oven at 105°C for 12 hours. The dried samples were crushed and then reduced to <75-micron size by grinding at 1200 min⁻¹ in a Retsch RS200 vibratory disc mill and homogenized.

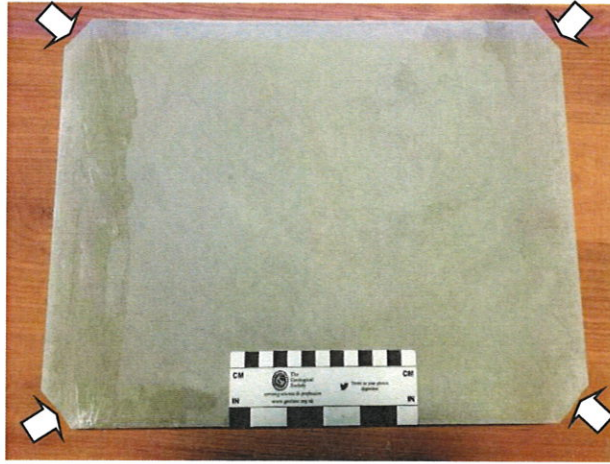


Photo 1. Macroscopic view of FORNA baking panel and sampled parts.

3. GEOCHEMICAL ANALYSIS

Geochemical (Major and Trace Elements) Analysis of the subject composite material were carried out in ITU Geochemical Research Laboratory (ITU-JAL) with Bruker S8 Tiger WD-XRF device.

Major oxides (QUANT EXPRESS) and trace elements (GEOQUANT) are analyzed using Bruker S8 Tiger brand XRF device. 1/10 binder (powder wax) + 5.5 grams from the sample mixture for major oxides, with a pressure of 250 kN / 30 secs in Herzog TP 40 / 2d hydraulic manual pellet maker on powder boric acid filling in small aluminum cups, the sample mixture is turned into 4 x 0.5 cm sized discoidal tablet. The results of geochemical analysis of the subject composite material are given by Table 1.

Table 1: Results of geochemical analysis of the composite (Forna Baking Panel) material.

Content	Concentration
Na ₂ O	0.32%
MgO	0.88%
Al ₂ O ₃	1.88%
SiO ₂	65.51%
K ₂ O	0.25%
CaO	22.67%
TiO ₂	0.09%
MnO	0.02%
Fe ₂ O ₃	1.12%
SO ₃	1.67%
Cl	0.03%
Cr ₂ O ₃	0.54%
Sr	141 ppm
Zr	85 ppm
Pb	nd**
Cd	nd**
LOI	5.00%
TOPLAM	100.01%

*LOI: Loss on Ignition

**nd: non-detected.

4. EVALUATION & CONCLUSION

According to the results of the analysis, the content of *lead (Pb) and Cadmium (Cd)* in the composition of the related composite material (*FORNA Baking Panel Material*) according to the relevant standard (*ISO 6486-2 / 1999; Ceramic ware, glass-ceramic ware and glass dinnerware in contact with food —Release of lead and cadmium —Part 2: Permissible limits*) has been found to be none thus complying with the prescribed limit values.

Yours Sincerely,

05.11.2021

Prof. Dr. Emin ÇİFTÇİ

İMZA TASDİK OLUNUR
Rapor içeriğinin sorumluluğu
İmza Sahiplerine aittir.