

## CERTIFICATE OF ANALYSIS

Client:	VITRA KARO SAN. VE TIC. A.S. 4 Eylül Mah. Osman Ruşçuk Cad. No: 13 11300 Bozüyük-Bilecik	Work Order:	24MIS39
		Date Received:	January 08, 2024
		Date Analyzed:	March 05-07, 2024
		Date Reported:	March 08, 2024
Submitted By:	Murat Nebi	Analysis:	Respirable Crystalline Silica by FT-IR (Quartz and Cristobalite), Respirable Particulates
Client's reference:	20X20 COLORDOT ANTRASIT MAT R10A NR (24MIS39-04)	Reference Procedure:	NIOSH 0600, NIOSH 7602

### 1 INTRODUCTION

Tile sample ID 20X20 COLORDOT ANTRASIT MAT R10A NR from Vitra Karo was delivered to LCS Laboratory Inc. to evaluate crystalline silica concentration within respirable dust produced during dry cutting of the sample. With confirmation from the client, the sample was cut with a high-speed diamond saw in dry cutting mode. The tile was tested in received form. Respirable dust produced from cutting of the tile was sampled in triplicate. The scope of testing was discussed and approved by the client before the commencement of the project.

### 2 METHODOLOGY

The sample to be cut was fixed within a custom-made dust box, where the cutting took place. As the tile was cut by a high-speed diamond saw, respirable fraction of airborne dust produced was collected on pre-weighed PVC cassettes equipped with cyclones following NIOSH 7602 methodology. Gravimetric analysis was performed following NIOSH 0600 methodology to determine the total respirable dust collected from three different areas within the dust box. Respirable fraction was then analyzed following NIOSH 7602 methodology to determine the amount of crystalline silica within the respirable dust produced.

### 3 RESULTS FOR SAMPLE 20X20 COLORDOT ANTRASIT MAT R10A NR

Subsample	Net Weight of Respirable Dust ( $\mu\text{g}$ )	Quartz ( $\mu\text{g}$ ) <sup>1)</sup>	Cristobalite ( $\mu\text{g}$ ) <sup>1)</sup>	Quartz in Respirable Dust (% by wt.)	Cristobalite in Respirable Dust (% by wt.)
1	855	139	<5	16.3	<0.6
2	1155	154	<5	13.3	<0.4
3	1440	201	<5	14.0	<0.4
<b>Average</b>				14.5	<0.5

**Notes:**

- 1) Detection limit for quartz and cristobalite is 5  $\mu\text{g}/\text{sample}$

The average percentage of respirable quartz was calculated to be 14.5% by weight within the respirable dust fraction. The average percentage of respirable cristobalite was calculated to be <0.5% by weight within the respirable dust fraction.

The results above pertain only to the sample of tile supplied by the client. The results provide an indication of respirable crystalline silica produced during dry cutting of the sample.

The interpretation of analytical results in this report should be discussed in conjunction with local regulations relevant to the client and/or the consumer.



Analyst: Raisa Stadnichenko, Ph.D.



Analyst: Matthew Hoffman, MSc.



Reviewer: Stepan Reut, Ph.D.