

Results:

1. Chemical analysis, quantitative, according to DIN 51001 and DIN EN ISO 12677

sample preparation: - milling of the talc stones and preparation of a mixed sample
 - preparation of a melted sample tablet

method: - X-ray fluorescence analysis according to DIN EN ISO 12677

	mean value in mass-%	standard deviation in mass-%
SiO₂	62,51	0,2
Al₂O₃	0,26	0,2
Fe₂O₃	0,25	0,02
TiO₂	0,03	0,02
CaO	0,07	0,02
MgO	32,26	0,02
K₂O	< 0,02	0,02
Na₂O	< 0,02	0,02
LOI at 1000°C	4,61	0,02

The complete protocol of the analysis can be found attached to this report.

2. Total sulphur content

sample preparation: - drying of the sample at 110 °C
 - preparation of a pressed powder tablet (6g sample material + 2g pressing agent)

method: - X-ray fluorescence analysis according to DIN 51001

	Total sulphur content in ppm
talc / steatite 08/2021	0,02

Limit of detection: sulphur: approx. 100ppm

The complete protocol of the analysis can be found attached to this report.

3. Colour values L*a*b and whiteness according to DIN 5033, parts 1-3 and 7-9

testing device: Minolta Spectrophotometer CM 600d

sample preparation: - preparation of a pressed tablet with the milled powder

Colour values:

L* (D65)	98,71
a* (D65)	0,03
b* (D65)	0,73
whiteness according to Berger	92,51
whiteness R_y (D65)	96,71
brightness R₄₅₇ (TAPPI)	95,69
brightness (ISO)	95,69

4. Moisture content

testing device: moisture analyser
sample preparation: - milled sample material

Moisture content	0,06 %
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5. pH value

sample preparation: - preparing an eluate over 24h
 - determination of pH value with a measuring probe

pH value	9,43
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6. Oil absorption according to DIN ISO 787-5, repeat determination

sample preparation: - milling of the sample for 3 min in a planetary ball mill
test medium: - refined linseed oil (RUCOLINOL); acid value 4 - 5
grain size distribution - d₁₀: 7,59 µm
by CILAS: - d₅₀: 31,15 µm
 - d₉₀: 79,11 µm

sample mass [g]	volume of oil needed [ml]	oil absorption [ml oil / 100g sample]
10	3,0	30
10	3,1	31
mean value		30,5

Summary of the testing results:

Chemical analysis:

SiO₂	62,51 %
Al₂O₃	0,26 %
Fe₂O₃	0,25 %
TiO₂	0,03 %
CaO	0,07 %
MgO	32,26 %
K₂O	< 0,02 %
Na₂O	< 0,02 %
LOI at 1000°C	4,61 %
Total sulphur content	0,02 ppm

Physical analysis:

L*	98,71
a*	0,03
b*	0,73
Whiteness according to Berger	92,51
Whiteness R_y	96,71
Brightness R₄₅₇ (TAPPI)	95,69
Brightness (ISO)	95,69
Moisture content	0,06 %
pH value	9,43
Oil absorption	30,5 %

M.Eng. Nicole Wagler
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 KI Keramik-Institut GmbH

Meißen, 18.08.2021

Protocol of Analysis: Talkstein /Steatit 08/2021

Our Sample-No. 470/01/21

KT: 636-21

Method: XRF-Analysis according to DIN 12677

Customer: PDM Parthian GmbH

Arrival: 8/3/2021

Sampling: by customer, date unknown

Chemical analysis of dried sample

	mean val. standard deviation	
	weight%	weight%
SiO ₂	62,51	0.2
Al ₂ O ₃	0,26	0.2
Fe ₂ O ₃	0,25	0.02
TiO ₂	0,03	0.02
CaO	0,07	0.02
MgO	32,26	0.02
K ₂ O	< 0,02	0.02
Na ₂ O	< 0,02	0.02

LOI (1000 °C)	4,61	0,02
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Protocol

Analysis of sulfur

Our Sample No.: R470/21/05
Method: X-Ray Spectrometry by according to DIN 51001
Customer: PDM Parthian GmbH
Arrival: 03.08.2021
Sampling: by Costumer, Date unknown
Sample Prep: dried at 110 °C

	Intern	sulfur ppm
Talkstein/ Steatit 08/2021	R470/21/02	<100

Limit of detection: sulfur 100 ppm