

# GRAPHITE

Protocol number: M0099221

Industry: Chemistry

Feed Size: < 1cm

Desired Fineness: < 45µm

Quantity: 35g

Recommendation: We recommend using the Variable Speed Rotor Mill PULVERISETTE 14 for grinding your sample. Also a planetary mill like Planetary Mono Mill PULVERISETTE 6 classic line can be used for grinding.

## Result 1



### PLANETARY MONO MILL PULVERISETTE 6 CLASSIC LINE

main disk speed: 600 rpm

250 ml grinding bowl made of tempered steel

+6x 30 mm grinding balls made of tempered steel

Feed quantity: 19 g

Feed Size: < 1 cm

Grinding time: 20 min

Final fineness: 77.5% < 45 µm,

Comments: Even after 20 minutes of dry grinding sample did not start sticking. Grinding has been interrupted and fineness has been determined by our Laser Particle Sizer ANALYSETTE 22 compact.

Longer grinding times are plausible, but graphite can be used as dry lubricant. For this, we are guessing that fineness use to rise slowly.



Meas. No. 3320 SOP 45 Date 27.03.2008 16:25:44 Operator: FRITSCHLAN\benes

Material: **Graphite** Original

Description: Original sample before grinding  
in water + Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>, 30s ultrasonic

Calculation Automatische Modellerkennung

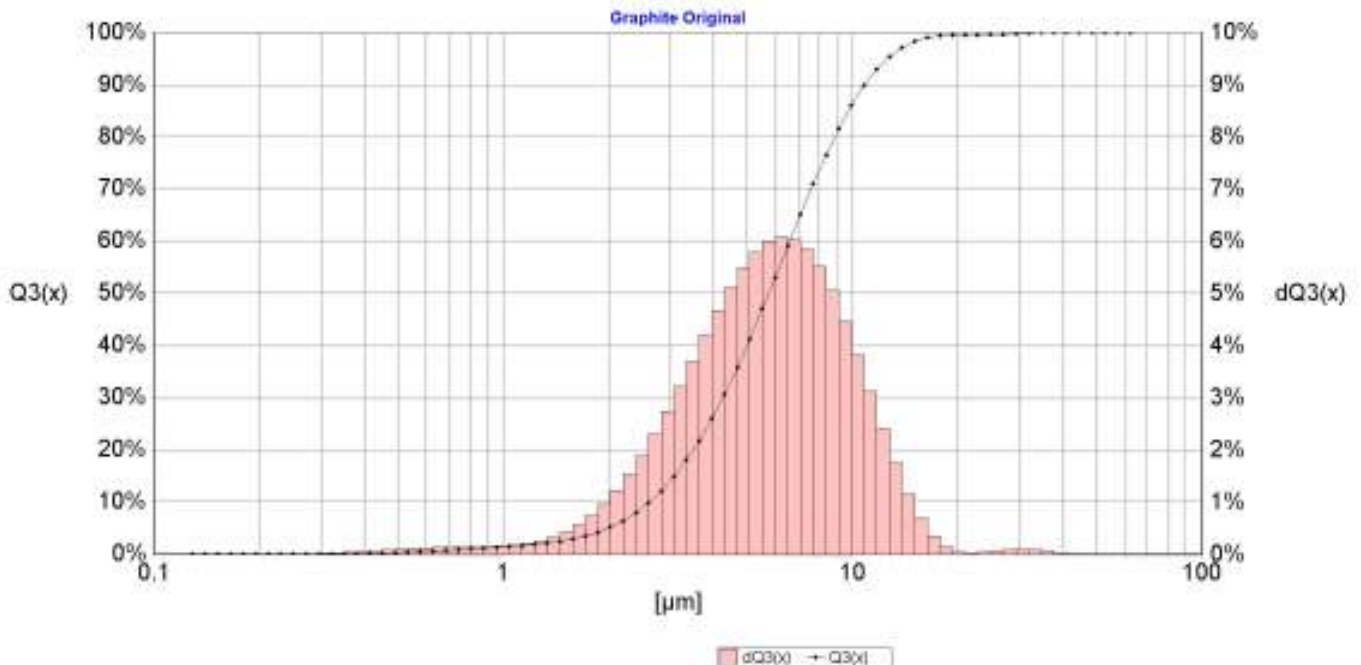
Mode	Wet	Serial No.	22.2000.00/90771
Beam absorption	9.7 %	Pump	60.00 %
Meas. range	0.10 µm - 504.48 µm	Cellposition	2
Channels	102	Ultrasonic	An
Scans	100	Prot.-No.:	<b>080077</b>

5-99%

Obere Kornklasse [µm]	Q3(x) [%]
1.989	5.0
2.618	10.0
3.090	15.0
3.495	20.0
3.885	25.0
4.252	30.0
4.623	35.0
4.989	40.0
5.365	45.0
5.757	50.0
6.175	55.0
6.622	60.0
7.086	65.0
7.615	70.0
8.215	75.0
8.900	80.0
9.738	85.0
10.829	90.0
12.602	95.0
16.496	99.0

01-50µm

Obere Kornklasse [µm]	Q3(x) [%]
0.100	0.0
0.200	0.0
0.400	0.1
0.600	0.6
0.800	1.0
1.000	1.4
1.200	1.9
1.500	2.7
2.000	5.1
2.500	8.9
3.000	14.0
4.000	26.5
5.000	40.2
6.000	53.0
7.000	64.1
8.000	73.3
9.000	80.7
10.000	86.4
15.000	98.2
20.000	99.5
25.000	99.6
30.000	99.7
40.000	100.0
50.000	100.0



Meas. No. 3323 SOP 45 Date 28.03.2008 07:40:12 Operator: FRITSCHLAN\benes

Material: **Graphite**

**60min p-7 premium line**

Description: with tenside 5 min ultrasonicbath  
in water + Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>, 30s ultrasonic

Calculation Automatische Modellerkennung

Mode Wet

Serial No. 22.2000.00/90771

Beam absorption 7.7 %

Pump 60.00 %

Meas. range 0.10 µm - 53.10 µm

Cellposition 1

Channels 57

Ultrasonic An

Scans 100

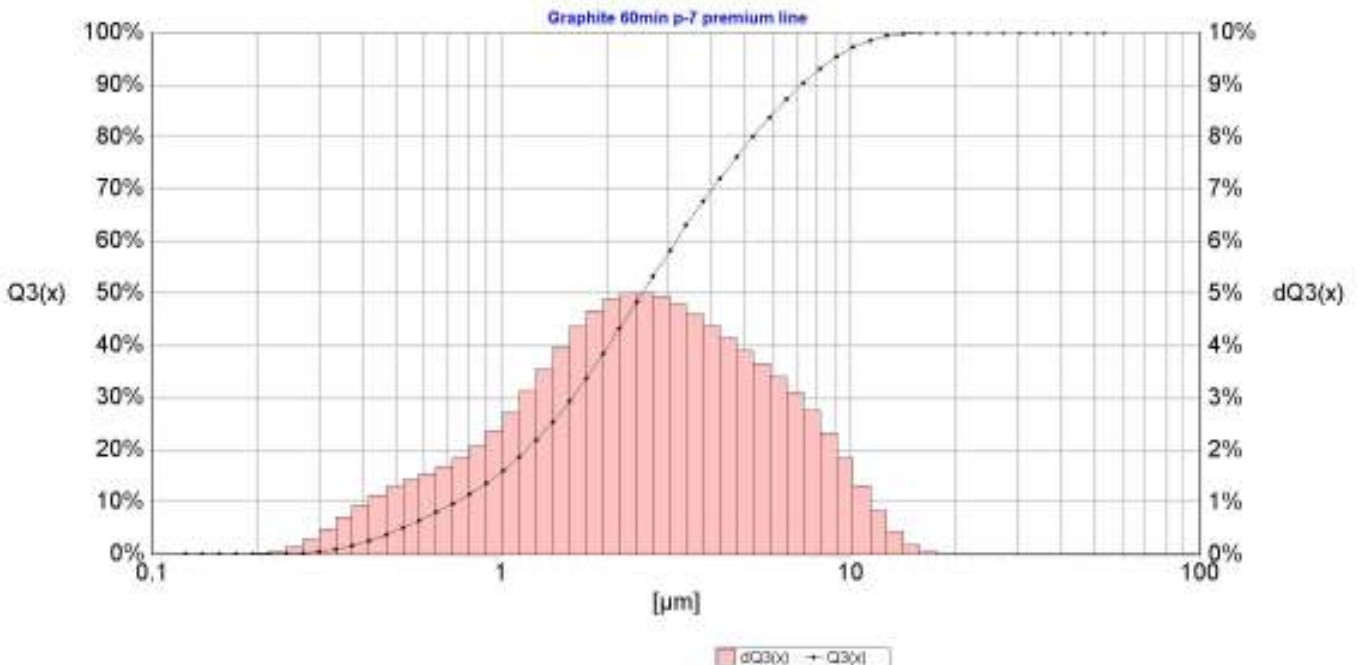
Prot.-No.: **080077**

5-99%

Obere Kornklasse [µm]	Q3(x) [%]
0.519	5.0
0.738	10.0
0.965	15.0
1.180	20.0
1.388	25.0
1.595	30.0
1.806	35.0
2.028	40.0
2.269	45.0
2.535	50.0
2.829	55.0
3.162	60.0
3.548	65.0
4.014	70.0
4.577	75.0
5.248	80.0
6.131	85.0
7.257	90.0
8.983	95.0
12.171	99.0

01-50µm

Obere Kornklasse [µm]	Q3(x) [%]
0.100	0.0
0.200	0.0
0.400	2.3
0.600	6.9
0.800	11.3
1.000	15.8
1.200	20.5
1.500	27.7
2.000	39.4
2.500	49.4
3.000	57.7
4.000	69.9
5.000	78.2
6.000	84.3
7.000	88.9
8.000	92.4
9.000	95.0
10.000	96.9
15.000	99.9
20.000	100.0
25.000	100.0
30.000	100.0
40.000	100.0
50.000	100.0



Meas. No. 3331 SOP 45 Date 31.03.2008 16:38:38 Operator: FRITSCHLAN\benes

Material: **Graphite**

**120min p-7 premium line**

Description: with tenside 5 min ultrasonicbath  
in water + Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>, 30s ultrasonic

Calculation Automatische Modellerkennung

Mode Wet

Serial No. 22.2000.00/90771

Beam absorption -0.1 %

Pump 40.00 %

Meas. range 0.10 µm - 53.10 µm

Cellposition 1

Channels 57

Ultrasonic An

Scans 100

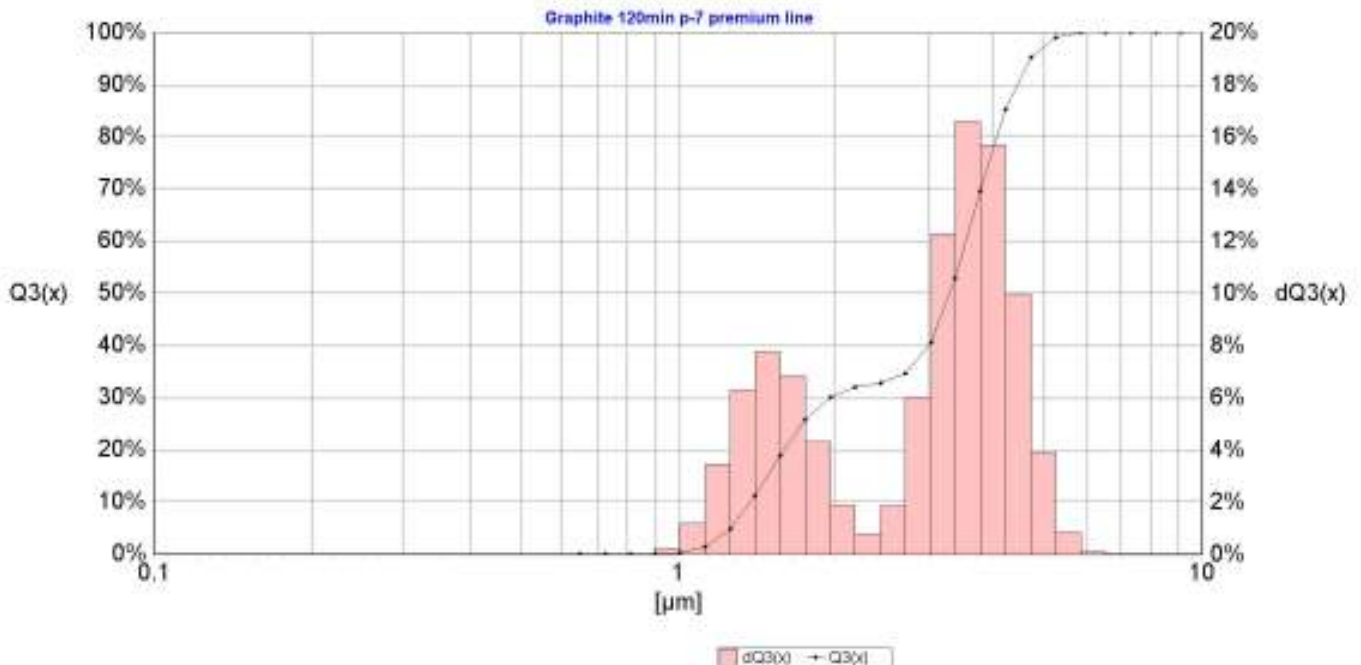
Prot.-No.: **080077**

5-99%

Obere Kornklasse [µm]	Q3(x) [%]
1.260	5.0
1.376	10.0
1.484	15.0
1.596	20.0
1.729	25.0
1.949	30.0
2.740	35.0
3.005	40.0
3.160	45.0
3.298	50.0
3.429	55.0
3.550	60.0
3.670	65.0
3.793	70.0
3.933	75.0
4.073	80.0
4.213	85.0
4.460	90.0
4.711	95.0
5.251	99.0

01-10µm

Obere Kornklasse [µm]	Q3(x) [%]
0.110	0.0
0.200	0.0
0.300	0.0
0.400	0.0
0.500	0.0
0.700	0.0
1.000	0.2
1.500	15.7
2.000	30.5
2.500	33.2
3.000	39.9
4.000	77.4
5.000	97.2
6.000	99.9
7.000	100.0
8.000	100.0
9.000	100.0
10.000	100.0



Meas. No. 3351 SOP 45 Date 02.04.2008 09:52:06 Operator: FRITSCHLAN\benes

Material: **Graphite**

**240min p-7 premium line**

Description: with tenside 5 min ultrasonicbath  
in water + Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>, 30s ultrasonic

Calculation Automatische Modellerkennung

Mode Wet

Serial No. 22.2000.00/90771

Beam absorption 10.2 %

Pump 40.00 %

Meas. range 0.10 μm - 53.10 μm

Cellposition 1

Channels 57

Ultrasonic An

Scans 100

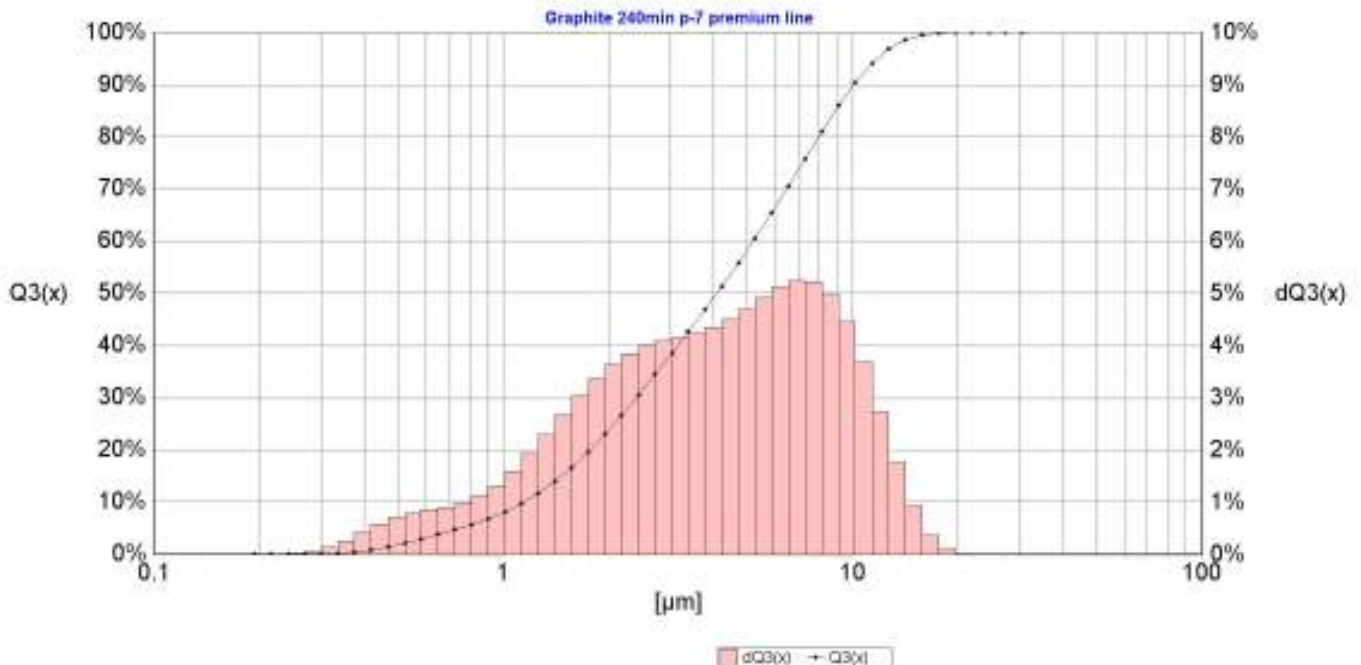
Prot.-No.: **080077**

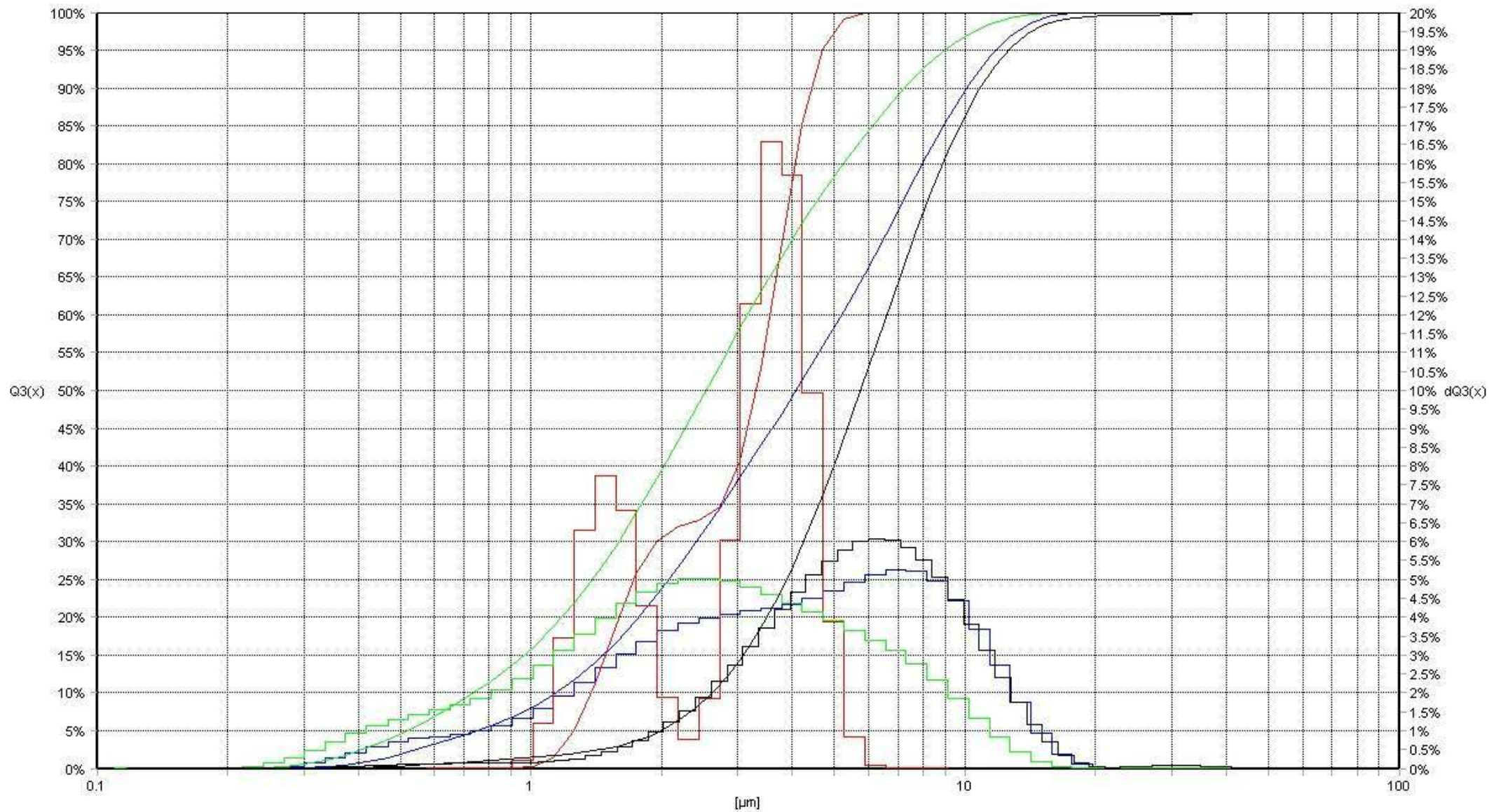
5-99%

Obere Kornklasse [μm]	Q3(x) [%]
0.751	5.0
1.146	10.0
1.470	15.0
1.772	20.0
2.078	25.0
2.407	30.0
2.760	35.0
3.157	40.0
3.594	45.0
4.086	50.0
4.629	55.0
5.200	60.0
5.825	65.0
6.486	70.0
7.204	75.0
8.012	80.0
8.933	85.0
10.076	90.0
11.807	95.0
14.898	99.0

01-50μm

Obere Kornklasse [μm]	Q3(x) [%]
0.100	0.0
0.200	0.0
0.400	0.7
0.600	3.2
0.800	5.6
1.000	8.0
1.200	10.8
1.500	15.5
2.000	23.7
2.500	31.3
3.000	38.1
4.000	49.1
5.000	58.3
6.000	66.3
7.000	73.6
8.000	79.9
9.000	85.4
10.000	89.7
15.000	99.1
20.000	100.0
25.000	100.0
30.000	100.0
40.000	100.0
50.000	100.0





- 3351 G...um line dQ
- 3351 G...mum line Q
- 3331 G...um line dQ
- 3331 G...mum line Q
- 3323 G...um line dQ
- 3323 G...mum line Q
- 3320 G...Original dQ
- 3320 G...Original Q