



**Microtrac Compliance with ISO 13320
Particle Size Analysis – Laser Diffraction
Methods.**

SL-AN-40 Revision E

Declaration of Compliance

With consideration of the information below, Microtrac certifies that its line of diffraction instruments is compliant with ISO 13320.

Microtrac has designed and manufactured diffraction instruments used for particle size measurements since 1971. The first commercial instrument was shipped in 1974 under the auspices of a company named Leeds and Northrup. Since those times, Microtrac has strived to provide laser particle size measurement instruments with advanced capability and state-of-the-art design. These concepts are embodied by the willingness of Microtrac to support organizations such as ISO Standards committees.

Microtrac is an active member of ISO/TC 24 /24/SC 4 WG6 which meets twice per year in various global locations. As a member of the committee, Microtrac takes part in writing the particle size standards. As a result, Microtrac complies with the standard published when the document is completed and reviewed under ISO guidelines.

Of special importance to design considerations are certain paragraphs of the ISO 13320. All subject covered in the standard are important aspects to diffraction instruments, but there are also those of special importance with which Microtrac complies. These sections are shown below:

- Paragraph 6.2 - Sample inspection, preparation, dispersion and concentration
 - Paragraph 6.2.3.2 - Dispersion in Air
 - Paragraph 6.2.3.3 - Dispersion in Liquids
 - Paragraph 6.2.4 – Concentration
- Paragraph 6.3.1 - Instrument preparation, background, sample preparation, data collection, Mie scattering and mathematics.
- Paragraph 6.4 - Precision
 - Paragraph 6.4.1 - Reference materials
 - Paragraph 6.4.2 – Repeatability
- Paragraph 6.5 - Accuracy
 - Paragraph 6.5.1 - Calibration
 - Paragraph 6.5.2 – Qualification
- Paragraph 7 - Reporting of Results.
- All Annexes A through E

Please forward questions concerning these topics through the website Microtrac.com.

President



Paul Cloake

Vice President of Engineering



Michael Cunningham

**Enclosure to the certificate of participation at the interlaboratory test
RV BAM-5.5-2016
for the laboratory**

Microtrac GmbH
Bereich Methodenentwicklung

47807 Krefeld

Sample: Glass Microspheres

Measurand	Description	Unit	Assigned value	Target s.d.	Lab result	Z score
D10	d10	µm	51,723	3,196	51,507	-0,068
D50	d50	µm	70,499	2,348	67,418	-1,312
D90	d90	µm	95,735	5,734	96,075	0,059

Sample: Ceramic Beads

Measurand	Description	Unit	Assigned value	Target s.d.	Lab result	Z score
D10	d10	µm	39,164	2,615	44,010	1,853
D50	d50	µm	65,451	1,992	64,758	-0,347
D90	d90	µm	98,803	4,941	99,712	0,184

Sample: Quartz powder

Measurand	Description	Unit	Assigned value	Target s.d.	Lab result	Z score
D10	d10	µm	1,618	0,493	1,152	-0,946
D50	d50	µm	4,138	0,564	3,527	-1,083
D90	d90	µm	9,730	1,069	9,070	-0,618

24.04.2017

PROLab

Assessment by means of Z scores



Microtrac GmbH
Bereich Methodenentwicklung

Krefeld

Measurand	PROBE1	PROBE2	PROBE3
D10	-0,068	1,853	-0,946
D50	-1,312	-0,347	-1,083
D90	0,059	0,184	-0,618

Summarised assessment

9 of 9 sample/measurand combinations examined successfully, which is equivalent to 100,00% (minimum requirement: 80%).

Therewith the minimum requirements for a successful participation in the ring test are fulfilled.

24.04.2017

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