Höhere Bundes-Lehr- und Versuchsanstalt für chemische Industrie
1170 Wien, Rosensteingasse 79

Testing Institute
at the Higher Federal Teaching and Testing Institute for the Chemical Industry

Accredited Laboratory

Test Report

About

Airport Beads

Acc. to TT-B-1325 D Type III 300-850µm

Order No.: A.L. 32/2016

Protocoll No.:

Customer: ***swarco*** M. SWAROVSKI Gesellschaft m.b.H.

Adress: 3300 Amstetten, Industriestraße 10

Date and reference: June 28th 2016 Mr. Jürgen Höller

Order received: July 1st 2016

Sample received: July 1st 2016

cable adress	Phone:	Postsparkassenkonto:
Bundeschemie 1170 Vienna, Rosensteingasse 79	+043-1-486 14 80, 486 14 89 FAX +043-1-489 03 59	Wien 5030.862

According to the letter dated June 28th 2016 a verification of the criteria listed in TT-B-1325 D was carried out between July 1th and 11th.

1. Sample designation: Airport Beads

Acc. to TT-B-1325 D Type III 300-850µm (Lot. 1650323)

2. Test parameters

Tests according to TT-B-1325D

Characteristics	Requirement Paragraph	ASTM Method	Test Methode Paragraph
2.1. Appearance	3.2.1	---	4.3.1
2.2. Roundness	3.2.2	D 1155	4.3.2
2.3. Index of refraction	3.2.3	---	4.3.3*)
2.4. Specific gravity	3.2.4	---	4.3.4
2.5. Gradation	3.2.5	D 1214	4.3.5
2.6. Resistance to acid	3.2.6	---	4.3.6
2.7. Resistance to calcium chloride	3.2.7	---	4.3.7
2.8. Resistance to sodium sulfide	3.2.8	---	4.3.8
2.9. Water resistance	3.2.9	---	4.3.9

*) due to of the toxic properties of the liquids for the immersion methode a Metricon Model 2012 Prism Coupler was used alternatively.

3. Results

Property	Requirements (required value)				Results (actual value)
3.1. Appearance	The beads shall be transparent, clean, dry, free flowing, and free from bubbles and foreign matter.				complying with requirement
3.2. Roundness	> 80%				complying with requirement
3.3. Index of refraction	1,90 – 1,93				1,91
3.4. Specific gravity	4,00 – 4,50				4,01
3.5. Gradation	U.S. Sieve	Microns	Min passing	Max passing	Passing [percent by weight]
	16	1180	100	---	100
	20	850	95	100	98,0
	30	600	55	75	67,1
	40	425	15	35	29,3
	50	300	0	5	0,6
3.6. Resistance to acid	the beads shall not develop any surface haze or dulling				complying with requirement
3.7. Resistance to calcium chloride	the beads shall not develop any surface haze or dulling				complying with requirement
3.8. Resistance to sodium sulfide	the beads shall not develop any surface haze or dulling				complying with requirement
3.9. Water resistance	the beads shall not develop any surface haze or dulling < 4,5 mL of 0,1 N hydrochloric acid shall be used in the titration				complying with requirement 0,4 mL used

4. Result of tests

All requirements demanded by TT-B-1325 D Type III are met.

Vienna, July 12th 2016

Höhere Bundes- Lehr- und Versuchsanstalt für chemische Industrie

Signature of person in charge

SIGNATURINFORMATIONEN	**Unterzeichner**	Fred Scheuer
	Datum/Zeit-UTC	2016-07-13T22:35:37+02:00
	Prüfinformation	Informationen zur Prüfung der elektronischen Signatur finden Sie unter: https://www.signaturpruefung.gv.at
Hinweis	Dieses mit einer qualifizierten elektronischen Signatur versehene Dokument ist gemäß § 4 Abs. 1 Signaturgesetz einem handschriftlich unterschriebenen Dokument grundsätzlich rechtlich gleichgestellt.	

Prof. Dipl.-Ing. Dr. Fred SCHEUER

Legal Information:

1. The analytical values determined and the conclusions deduced from them refer exclusively to the sample material delivered and with a given shelf life kept here for six months.
2. Any communication about the content of the report to third parties will be made only with written approval from the client.
3. The reproduction of reports in excerpts is only permitted with the written consent from the Higher Federal Teaching and Testing Institute for the Chemical Industry.
4. The undersigned signatories confirm, according to AkkG 2012 and the additional provisions of the accredited testing, inspection and certification body, that no reasons for bias or partiality exist.