

The Society of Glass Technology

Certified reference material certificate of analysis

GREEN SODA-LIME-SILICA CONTAINER GLASS SGT 11

LABORATORY MEANS EXPRESSED AS OXIDES
Mass content in % related to the dried (105Celsius) sample

Method	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	BaO	Na ₂ O	K ₂ O	TiO ₂	SO ₃	Cr ₂ O ₃	ZrO ₂	Mn ₃ O ₄
1		1.89	0.328	10.38	2.17	0.037	13.58	0.71	0.067	0.06	0.205		
1		1.79	0.338	10.40	2.14	0.040	13.48	0.69	0.068	0.07	0.195		0.028
1		1.87	0.347		2.15		13.75	0.71	0.070		0.193		
1	71.02	1.76	0.350	10.25	2.13		13.59	0.71	0.070		0.197		
2	70.74	1.84	0.346	10.26	2.15		13.63	0.67	0.068	0.06	0.201	0.012	
1	70.55	1.83	0.343	10.23	2.13	0.017	13.60	0.67	0.067	0.06	0.205	0.015	0.027
1	70.62	1.88	0.326	10.22	2.11	0.031	13.42	0.69	0.068		0.213	0.017	0.045
1	70.85	1.80	0.358		2.13	0.031		0.69	0.064	0.07	0.212	0.023	0.045
1	70.46	1.78	0.334	10.20		0.033	13.59	0.69	0.067	0.05	0.219		0.028
2	70.69	1.84	0.346	10.31	2.12		13.61	0.68	0.070	0.06	0.207	0.009	
^M M	70.70	1.83	0.342	10.28	2.14	0.031	13.58	0.69	0.068	0.06	0.205	0.015	0.034
^S M	0.187	0.044	0.010	0.074	0.018	0.008	0.093	0.016	0.002	0.007	0.009	0.005	0.009

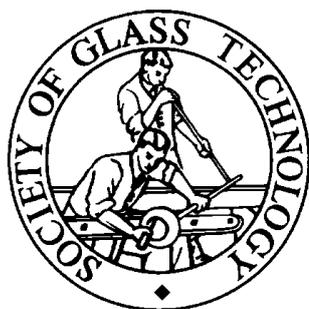
^MM: Mean of the laboratory means ^SM: Standard deviation of the laboratory means
The laboratories mean values have been examined statistically to eliminate outlying values.
Values given above in italic type are for information only.

Certified Values

Mass content in %

	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	BaO	Na ₂ O	K ₂ O	TiO ₂	SO ₃	Cr ₂ O ₃
^M M	70.7-	1.83	0.342	10.3-	2.14	0.03-	13.6-	0.69	0.068	0.06	0.205
C95% +	70.88	1.861	0.349	10.34	2.15	0.040	13.65	0.701	0.069	0.069	0.211
C95% -	70.53	1.795	0.334	10.22	2.12	0.023	13.51	0.679	0.067	0.055	0.199

The half-width confidence interval is calculated according to ISO guide 35 1989(E)- section 8:4:4



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The Society of Glass Technology

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Sheffield Hallam University, Materials Research Institute
Sibelco Minerals & Chemicals (formerly Hepworth Minerals & Chemicals Ltd)
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DESCRIPTION OF SAMPLE

This sample is available in the form of glass pieces. It is also available as 40-mm diameter discs.

INTENDED USE & STABILITY

The sample is intended for the verification of analytical methods, such as those used by the participating laboratories, for the calibration of analytical instruments in cases where the calibration of primary substances (pure stoichiometric compounds) is not possible and for establishing secondary reference materials.

It will remain stable provided that the glass is stored in a cool, dry atmosphere.

The solid disc is intended for establishing and checking the calibration of X-ray Spectrometers for the analysis of similar materials. The "as received" surface should be ground and polished.

TRACEABILITY

The traceability of this CRM is ensured by the use of either stoichiometric analytical techniques or methods that are calibrated against pure compounds.

METHODS USED

Presentation	Methods Type and Number
Fused Bead	X-ray Fluorescence Spectrometry 1
Glass Disc	X-ray Fluorescence Spectrometry 2