Schedule of Accreditation

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Accredited to ISO/IEC 17025:2017

Glass Technology Services Ltd

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9 Churchill Way
Chapeltown
Sheffield
S35 2PY

Contact: Amy Ashton
Tel: +44 (0)114 290 1801
Fax: +44 (0)114 290 1851
E-Mail: a.ashton@glass-ts.com
Website: www.glass-ts.com

Testing performed at the above address only

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
GLASS and GLASS PRODUCTS	<u>Chemical Tests</u>	
	Lead and Cadmium release from glass surface	Documented In-House Method QP16 using atomic absorption spectrometry and ICP-OES techniques based on ISO 7086-1:2019 ISO 7086-2:2000 BS 6748:1986 + A1:2011 BS EN 1388-2:1996 ASTM C927-80(2019) AOAC - 973.32 (2004)
	Quantification of elements/oxides Silica (SiO_2) Aluminium Oxide (Al_2O_3) Iron (III) Oxide (Fe_2O_3) Calcium Oxide (CaO) Magnesium Oxide (MgO) Sodium Oxide (Na_2O) Potassium Oxide (K_2O) Titanium Dioxide (TiO_2) Zirconium Dioxide (ZrO_2) Chromium (III) Oxide (Cr_2O_3) Sulphur Trioxide (SO_3)	Documented In-House Method QP08 using X-ray Fluorescence (XRF) technique
	Loss on drying and Loss on Ignition	Documented In-House Method QP10
	Hydrolytic resistance of glass containers for pharmaceutical use	Documented In-House Method, QP15 based on USP NF 2025 Issue 3 chapter 660 European Pharmacopoeia Ph.Eur. Ed.12.1 method 3.2.1
	Imaging identification and comparative analysis	Documented In-House Method QP07 using SEM Techniques, including EDX analysis

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
GLASS and GLASS PRODUCTS (cont'd)	<u>Chemical Tests (cont'd)</u>	
GLASS MAKING MINERALS (eg sand, limestone, dolomite, cullet, feldspar, blast furnace slag, nepheline syenite, synthetic diopside, alumina and alumino-silicate refractories)	Elemental/Oxide Analysis Sodium Oxide (Na_2O) Magnesium Oxide (MgO) Aluminium Oxide (Al_2O_3) Silica (SiO_2) Phosphorus Pentoxide (P_2O_5) Potassium Oxide (K_2O) Calcium Oxide (CaO) Titanium Dioxide (TiO_2) Manganese Oxide (MnO) Chromium (III) Oxide (Cr_2O_3) Strontium Oxide (SrO) Iron (III) Oxide (Fe_2O_3) Barium Oxide (BaO)	Documented In-House Method QP09 quantification of elements/oxides using X-ray fluorescence techniques (XRF)

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
GLASSWARE PRODUCTS including STOPPERS and CAPS	<u>Dimensional Tests</u>	
	Length 0 to 300 mm	Documented In-House Method QP32 using optical profile methods
		Documented In-House Method QP02 - Appendix 1A using a micrometer
		Documented In-House Method QP02 - Appendix 1D using a digital depth gauge
		Documented In-House Method QP02 - Appendix 1G using a height gauge
		Documented In-House Method QP02 - Appendix 1B using vernier callipers
	Thickness 0 to 9 mm,	Documented In-House Method QP02 - Appendix 1E using the Hall effect thickness gauge
		Documented In-House Method QP02 - Appendix 1F using the ultrasonic thickness gauge
	Verticality 0 to 10 mm	Documented In-House Method QP49 based on BS EN 29008:1994
	Angle 0° to 360°	Documented In-House Method QP32 using non-contact measurement
	Sample Mass up to 4kg	Documented In-House Method QP01

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
GLASS PRODUCTS (cont'd)	<u>Volumetric Tests</u>	
	Volumetric capacity	Documented In-House Method QP48 based on TEC6 (May 2022)
GLASS PRODUCTS (cont'd)	<u>Physical Tests</u>	
	Thermal shock (Glassware)	Documented In-House Method QP33 based on BS EN 1183:1997
	Thermal shock (Containers)	ASTM C149-14 BS EN ISO 7459 (2004)
	Strain characteristics	Documented In-House Method QP17 based on ASTM C148 17 using an illumination field >300 cdm-2
	Glass failure analysis	Documented In-House Method QP18
	Fragment analysis of glass	Documented In-House Method QP21
Sodium Carbonate	Total alkalinity	BS 6070-1:1981(2017) ISO 740:1976
	<u>Mechanical Tests</u>	
	Resistance to Vertical Load (Compression)	BS EN ISO 8113:2004 Documented In-House Method QP39

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
GLASS PRODUCTS (cont'd)	Impact testing of glass	Documented In-House Method QP19
	Pressure testing of glass	Documented In-House Method QP20 based on ASTM C147-86(2015)
GLASS and GLASS PRODUCTS	Physical Tests	
GLASS/NON POROUS MATERIAL	Density by buoyancy	Documented In-House Method QP66 based on ASTM C693-93(2019)
END		