

SAMCO Test Tubes are manufactured from soda, neutral or borosilicate glass to the dimensions, tolerances and quality requirements of ISO 4142:2002, to meet all applications for re-usable glass tubes.

Other products manufactured at S Murray's Woking Factory included in this section are flat bottom specimen tubes, Dreyer and Durham fermentation tubes, centrifuge tubes, capillary tubes and freeze-drying ampoules.



### TEST TUBES SODA GLASS

SAMCO soda glass test tubes are suitable for general mixing and simple laboratory work, and will withstand moderate warming (eg in a water bath). They should not be placed directly into naked flames.

Tolerances are as specified in ISO 4142:2002 (Table 4).

#### Test Tubes

Light wall with rim

Code	Size mm	Wall thickness mm	Quantity per pack
G001/71	50 x 6.5*	0.45	250
G001/72	50 x 10*	0.6	250
G001/73	75 x 10	0.6	100
G001/75	75 x 12	0.6	100
G001/76	100 x 12	0.6	100
G001/79	100 x 16	0.6	100
G001/80	125 x 16	0.6	100
G001/81	150 x 16	0.6	100
G001/82	125 x 18*	0.6	100
G001/83	150 x 18	0.6	100
G001/84	150 x 24	0.8	50

#### Durham Tubes\*

Code	Size mm	Wall thickness mm	Quantity per pack
G010/21	25 x 6.5	0.65	250
G010/22	30 x 6.5	0.65	250
G010/23	35 x 8	0.65	250
G010/24	50 x 7.5	0.65	250

\*Supplementary sizes to ISO 4142

#### Physical Properties

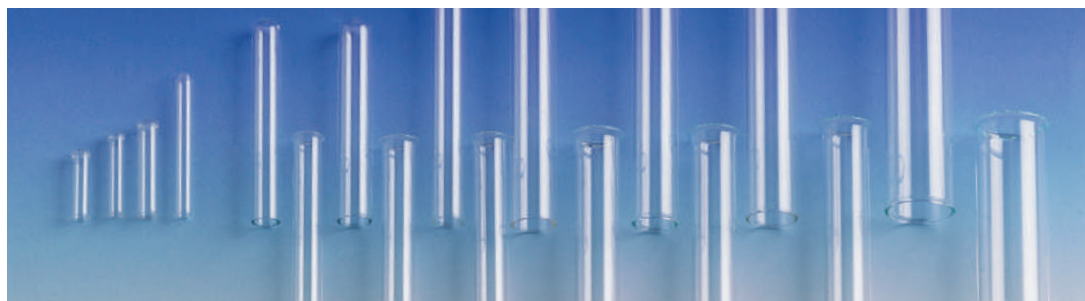
Coefficient of expansion (20-300°C)	$91 \times 10^{-7}$	SiO <sub>2</sub>	69
Density	2.5	Al <sub>2</sub> O <sub>3</sub>	4
Softening point	720°C	B <sub>2</sub> O <sub>3</sub>	1
Annealing point	530°C	CaO	5
Working point	1040°C	BaO	2
		Na <sub>2</sub> O	13
		MgO	3
		K <sub>2</sub> O	3

#### Composition

#### Test Tubes

Medium wall rimless bacteriological quality

Code	Size mm	Wall thickness mm	Quantity per pack
G002/71	50 x 6.5*	0.65	250
G002/72	50 x 10*	1.0	250
G002/73	75 x 10	1.0	100
G002/74	90 x 10*	1.0	100
G002/75	50 x 12*	1.0	100
G002/76	75 x 12	1.0	100
G002/77	100 x 12	1.0	100
G002/86	75 x 16*	1.0	100
G002/80	100 x 16	1.0	100
G002/81	125 x 16	1.0	100
G002/82	150 x 16	1.0	100
G002/83	125 x 18*	1.0	100
G002/84	150 x 18	1.0	100
G002/85	150 x 24	1.2	50



## TEST TUBES SAMCO '50'

SAMCO neutral glass test tubes will withstand moderate temperature change, they should not be taken from cold and placed directly into the hottest part of the flame without pre-heating.

They have good chemical resistance and are suitable for use with samples which are susceptible to pH change.

Tolerances are as specified in ISO 4142:2002 (Table 3).

### Durham Tubes\*

Code	Size mm	Wall thickness mm	Quantity per pack
G011/21	25 x 6.5	0.65	250
G011/22	30 x 6.5	0.65	250
G011/23	35 x 7.5	0.65	250
G011/24	50 x 7.5	0.65	250

### Test Tubes\*

Light wall with rim

Code	Size mm	Wall thickness mm	Quantity per pack
G020/31	75 x 10	0.8	100
G020/32	75 x 12	0.8	100
G020/33	100 x 12	0.8	100
G020/34	100 x 16	0.8	100
G020/35	125 x 16	0.8	100
G020/36	150 x 16	0.8	100
G020/37	150 x 18	0.8	100
G020/38	150 x 24	0.8	50

### Test Tubes\*

Light wall rimless

Code	Size mm	Wall Thickness mm	Quantity per pack
G021/31	75 x 10	0.8	100
G021/32	75 x 12	0.8	100
G021/33	100 x 12	0.8	100
G021/34	100 x 16	0.8	100
G021/35	125 x 16	0.8	100
G021/36	150 x 16	0.8	100
G021/37	150 x 18	0.8	100
G021/38	150 x 24	0.8	50

\*Supplementary sizes to ISO 4142

### Physical Properties

### Composition

Coefficient of expansion (0-300°C)	54 x 10 <sup>-7</sup>	SiO <sub>2</sub>	71
		Al <sub>2</sub> O <sub>3</sub>	7
Density	2.37	B <sub>2</sub> O <sub>3</sub>	11
Softening point	770°C	CaO	1
Annealing point	560°C	BaO	2
Working point	1160°C	Na <sub>2</sub> O	6
		K <sub>2</sub> O	1

### Test Tubes

Medium wall with rim

Code	Size mm	Wall thickness mm	Quantity per pack
G022/31	75 x 10	1.0	100
G022/32	75 x 12	1.0	100
G022/33	100 x 12	1.0	100
G022/34	100 x 16	1.2	100
G022/35	125 x 16	1.2	100
G022/36	150 x 16	1.2	100
G022/38	150 x 18	1.2	100
G022/40	150 x 24	1.2	50

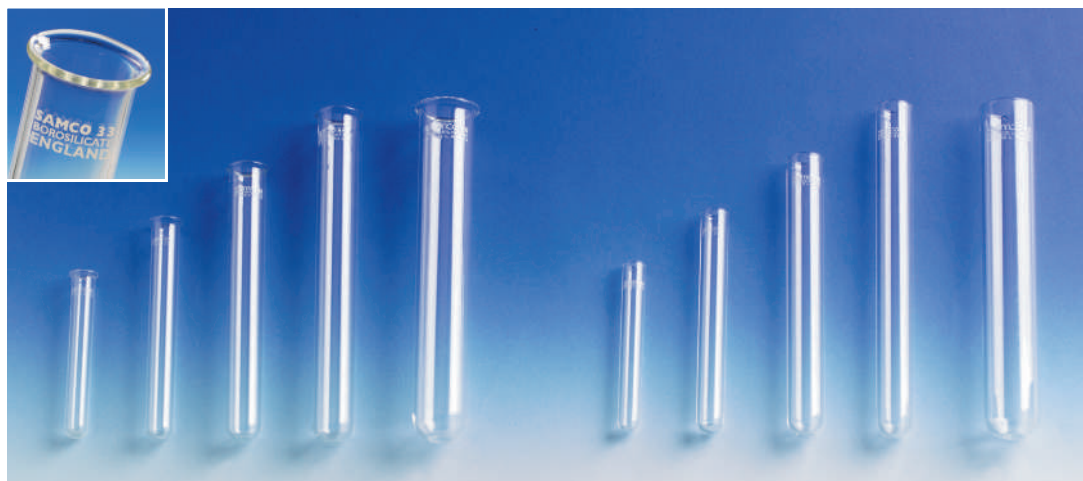
### Test Tubes

Medium wall rimless

Code	Size mm	Wall thickness mm	Quantity per pack
G023/31	75 x 10	1.0	100
G023/32	75 x 12	1.0	100
G023/33	100 x 12	1.0	100
G023/34	100 x 16	1.2	100
G023/35	125 x 16	1.2	100
G023/36	150 x 16	1.2	100
G023/38	150 x 18	1.2	100
G023/40	150 x 24	1.2	50

# TEST TUBES

## BOROSILICATE GLASS



### TEST TUBES SAMCO '33'

SAMCO borosilicate test tubes are suitable for all usual laboratory applications. They will withstand temperature change up to and including boiling of samples. They are also highly chemically resistant.

Tolerances are as specified in ISO 4142:2002 (Table 2).

#### Test Tubes

Medium wall with rim

Code	Size mm	Wall thickness mm	Quantity per pack
G030/01	75 x 10	1.0	100
G030/02	75 x 12	1.0	100
G030/03	100 x 12	1.0	100
G030/04	100 x 16	1.2	100
G030/05	125 x 16	1.2	100
G030/06	150 x 16	1.2	100
G030/08	150 x 18	1.2	100
G030/09	180 x 18	1.2	50
G030/10	150 x 24	1.2	50

#### Test Tubes

Medium wall rimless

Code	Size mm	Wall thickness mm	Quantity per pack
G031/01	75 x 10	1.0	100
G031/02	75 x 12	1.0	100
G031/03	100 x 12	1.0	100
G031/04	100 x 16	1.2	100
G031/05	125 x 16	1.2	100
G031/06	150 x 16	1.2	100
G031/08	150 x 18	1.2	100
G031/09	180 x 18	1.2	50
G031/10	150 x 24	1.2	50

#### Physical Properties

Coefficient of expansion (20-300°C)	$33 \times 10^{-7}$	SiO <sub>2</sub>	81
		Al <sub>2</sub> O <sub>3</sub>	2
Density	2.23	B <sub>2</sub> O <sub>3</sub>	13
Softening point	825°C	Na <sub>2</sub> O	} 4
Annealing point	560°C	K <sub>2</sub> O	
Working point	1260°C		

#### Composition

#### Test Tubes

Heavy wall with rim

Code	Size mm	Wall thickness mm	Quantity per pack
G032/01	75 x 10	1.5	100
G032/02	75 x 12	1.5	100
G032/03	100 x 12	1.5	100
G032/05	125 x 16	1.8	100
G032/06	150 x 16	1.8	100
G032/08	150 x 18	1.8	100
G032/10	150 x 24	1.8	50

#### Test Tubes

Heavy wall rimless

Code	Size mm	Wall thickness mm	Quantity per pack
G033/01	75 x 10	1.5	100
G033/02	75 x 12	1.5	100
G033/03	100 x 12	1.5	100
G033/05	125 x 16	1.8	100
G033/06	150 x 16	1.8	100
G033/08	150 x 18	1.8	100
G033/10	150 x 24	1.8	50

## SPECIMEN TUBES SODA GLASS

**Specimen Tubes**

Flat bottom without closure

Code	Size mm	Wall thickness mm	Quantity per pack
G040/43	22 x 10	0.6	250

**Specimen Tubes**

Flat bottom supplied with polythene stoppers

Code	Size mm	Wall thickness mm	Quantity per pack
G050/17	38 x 10	0.6	250
G050/18	50 x 10	0.6	250
G050/19	38 x 12	0.85	100
G050/20	50 x 12	0.85	100
G050/22	75 x 12	0.85	100
G050/23	100 x 12	0.85	100
G050/24	50 x 16	0.85	100
G050/25	75 x 16	0.85	100
G050/26	50 x 19	0.85	100
G050/27	75 x 19	0.85	100
G050/28	50 x 25	0.85	100
G050/29	75 x 25	0.85	100
G050/30	100 x 25	0.85	100
G050/31	150 x 25	0.85	100

**Spare Polythene Stoppers**

Code	Size mm	Wall thickness mm	Quantity per pack
G051/00	10		1000
G051/01	12		1000
G051/02	16		1000
G051/03	19		1000
G051/04	25		1000



## AGGLUTINATION TUBES

**Dreyers Agglutination Tubes**

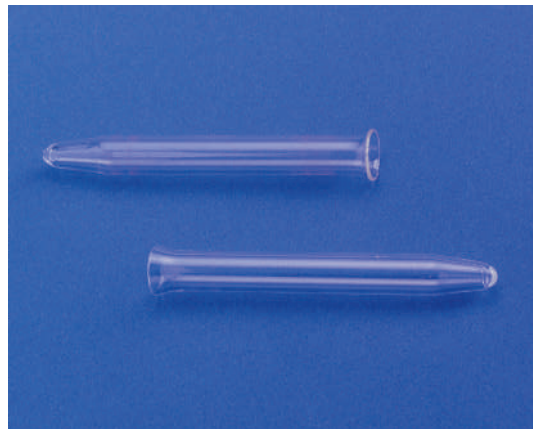
Soda glass with funnel top

Code	Size mm	Wall thickness mm	Quantity per pack
G114/21	60 x 7	0.7	100

**Dreyers Agglutination Tubes**

Neutral resistance glass with funnel top

Code	Size mm	Wall thickness mm	Quantity per pack
G115/21	60 x 7	0.7	100



## CAPILLARY TUBES

### Capillary Tubes

Soda glass

For melting point determinations.

Outside diameter 1.8/2.0mm, wall thickness 0.28/0.32mm.

Packed in tubular cartons of 100

Code	Length mm
G119/01	75
G119/02	100
G119/31	100 Sealed one end
G119/32	100 Sealed both ends



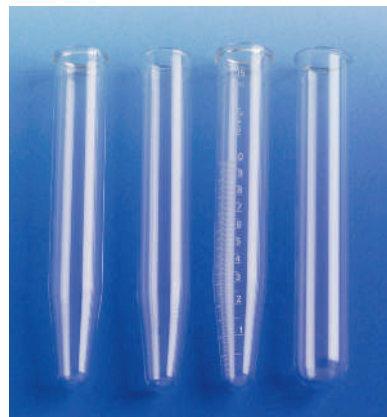
## CENTRIFUGE TUBES

### Centrifuge Tube

Soda glass

- Capacity 15ml
- Max. RCF x g: 1300

Code	Size mm	Wall thickness mm	Quantity per pack	Type
G131/01	112 x 17	1.0	100	Conical with rim
G131/71	112 x 17	1.0	100	Conical rimless
G132/01	112 x 17	1.0	100	Conical, graduated with rim
G138/01	110 x 17	1.0	100	Cylindrical with rim

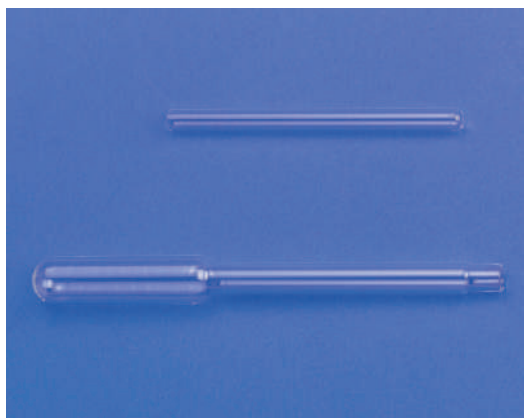


## FREEZE DRYING AMPOULES

### Freeze Drying Ampoules

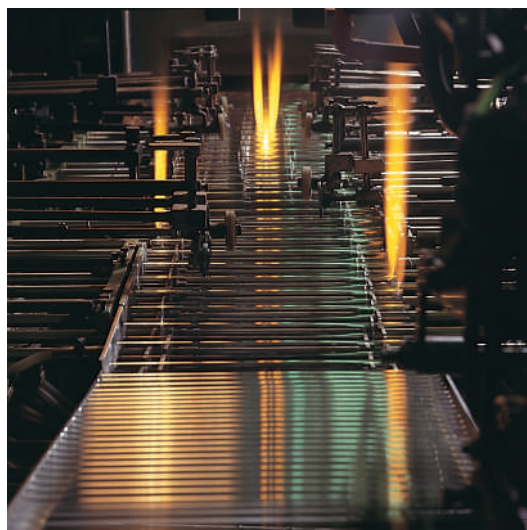
Neutral glass

Code	Capacity ml	Size mm	Quantity per pack
G225/01	0.5	100 x 7	625
G225/02	2.5	154 x 15	250





## LABORATORY EQUIPMENT



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