

**SPECIFICATION  
FOR  
WORKING STANDARDS  
OF  
GLASS CONTENTS MEASURES  
GRADUATED MEASURING CYLINDERS**

In accordance with the provisions of section 5(5) of the Weights and Measures Act 1985, the Secretary of State hereby approves the material and form of working standards of capacity conforming with this specification for use in conjunction with other working standards for determining amounts in excess or in deficiency and for testing coin or note operated measuring instruments which dispense liquid fuels or lubricants in an amount which is not an integral number of litres or gallons.

This specification supersedes SWM 261 (March 1966), which is hereby cancelled, but existing measures made to this specification may continue in use.

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**SPECIFICATION FOR WORKING STANDARDS OF CAPACITY****GLASS CONTENTS MEASURES****GRADUATED MEASURING CYLINDERS**

Note: Graduated measuring cylinders made to BS 604 (1982) comply with this specification in so far as they relate.

**NOMINAL CAPACITIES**

1 Graduated measuring cylinders shall have nominal capacities as specified in Table 1.

**DEFINITION OF CAPACITY**

2 The capacity is the volume of water contained at 20 °C when the measure is on a horizontal surface and the top of the scale mark is tangential to the bottom of the meniscus.

**MATERIAL AND CONSTRUCTION**

3 Measures shall be made of clear glass free from internal strain and visible defects.

Measures shall stand on a base without rocking and shall not topple over when placed empty on a surface inclined 10° to the horizontal.

The graduation lines shall be clear permanent lines of uniform thickness not exceeding 0.4 mm lying in planes perpendicular to the axis of the measure.

**INSCRIPTIONS**

4 Each cylinder shall carry the following inscriptions:

- (a) the unit in which the scale is numbered: gallon (gal), litres, cm<sup>3</sup>, or ml
- (b) 20 °C
- (c) a serial number or identification number.

The following inscriptions are optional:

- (d) the name of the local authority
- (e) the manufacturer's name or trademark
- (f) the number of the British Standard: BS 604

**LIMITS OF ERROR**

5 The permissible limits of error in the volume contained in the graduated cylinder, at any scale mark, shall not exceed the amounts specified in Regulations made under section 5(9) of the Weights and Measures Act 1985 as shown in Table 1.

TABLE 1

Nominal Capacity	Volume equivalent to one subdivision of scale	Limits of error ( $\pm$ )
5 ml	0.1 ml	0.2 ml
10 ml	0.2 ml	0.2 ml
25 ml	0.5 ml	0.25 ml
50 ml	1 ml	0.5 ml
100 ml	1 ml	0.8 ml
250 ml	2 ml	1.5 ml
500 ml	5 ml	2.0 ml
1000 ml $\frac{1}{4}$ gallon	10 ml	4.0 ml
2000 ml $\frac{1}{2}$ gallon	20 ml	8.0 ml

## APPENDIX

## Notes for guidance

Working standards of the graduated measuring cylinder type necessarily have larger permissible limits of error than one-mark measures and are therefore only recommended for use for checking amounts in excess or in deficiency or for checking a non-scheduled volume delivered due to a coin or note having been inserted into a pre-payment instrument and the coin or note not being a multiple of the unit price.

When new, these measures should be checked at a minimum of three positions on the graduated scale by delivering water in to them from an appropriate local standard(s). Subsequent re-verification need only check the nominal capacity.

When testing measures of this type the meniscus should be adjusted so that the top of the graduation line is tangential to the lowest point of the meniscus, the line of sight being in the same plane as the lowest part of the meniscus.

A black band round the measure, about 1 mm below the bottom of the meniscus assists viewing.