

MINISTRY OF SUPPLY

Specification MOS/CV1397/Issue 1. Dated 28.1.46. To be read in conjunction with K1003.	SECURITY Specification C.R.T. Restricted Restricted
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→ Indicates a change

<u>TYPE OF DEFLECTION:-</u> Electrostatic symmetrical deflection. <u>BULB:-</u> Internally coated with conductive coating. <u>SCREEN:-</u> Afterglow BYL.		<u>MARKING</u> See K1001/4.
RATING	Note	<u>BASE</u> 12 contact key
Heater voltage (V) 4.0 Heater current (A) 1.0 Max. final anode voltage (kV) 6.0 Max. first anode voltage (kV) 2.0 Desirable spot size (mm) 1.0 X plate sensitivity (mm/V) 720 Y plate sensitivity (mm/V) 880 Max. beam current (μA) 50		<u>DIMENSIONS AND CONNECTIONS</u> See Drawing on Page 4.
<u>TYPICAL OPERATING CONDITIONS</u>		
Final anode voltage (kV) 5.0 Second anode voltage (V) 870 First anode voltage (kV) 2.0		

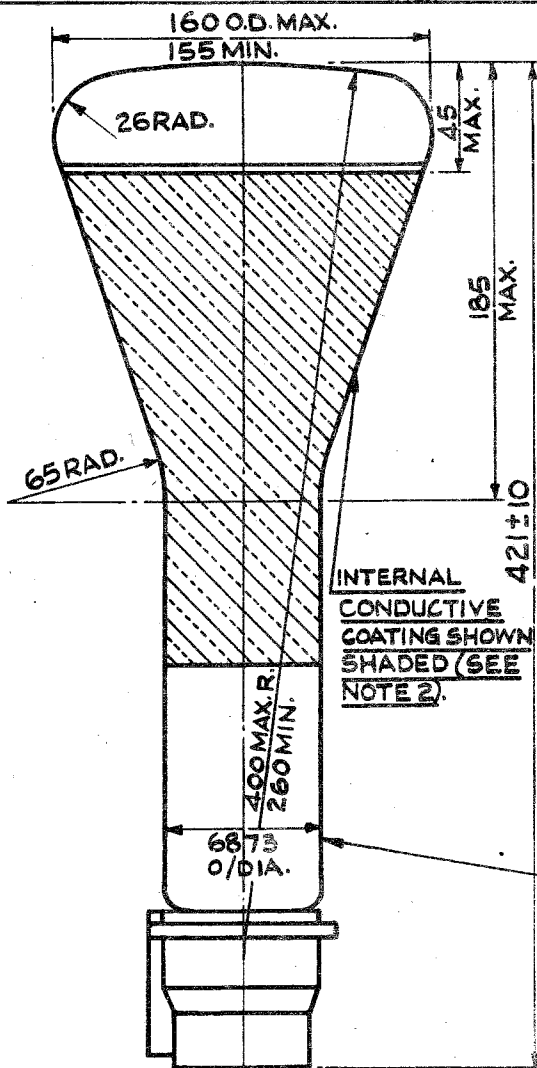
NOTE

- A:- The focussing system shall be of the three electrode type. The construction shall be such that there is no perceptible change of brightness with adjustment of focussing voltage.
- B:- The tube shall be adequately free from microphony.

To be performed in addition to those applicable in K1003.

Clause	Test Conditions					Test	Limits		No. Test-ed.
	V _h	V _a kV	V _{a2}	V _{a1} kV	V _g		Min.	Max.	
a						<u>INTER ELECTRODE CAPACITANCES</u> (pf) 1. Each X or Y plate to all other electrodes. 2. Grid to all other electrodes. 3. One X to one Y plate.	-	25	5%(10)
b	4.0	0	0	0	0	I _h (A)	0.7	1.3	100%
c	4.0	5.0	Ad-just-ed	2.0	Adjusted	1. The line width shall not be greater than that of a standard tube. 2. V _{a2} (V) 3. V _g	625	1125	100%
	Adjust V _{a2} for optimum focus and V _g to give a spot brilliance equal to that of a standard tube on a line of effective length 130 mm. to 650 mms. in the X and Y directions successively.						To be at least 5v		100%
							-ve to cathode		
d	4.0	5.0	As in (c)	2.0	Adjusted to give cut-off I _{BEAM} 0.1 μA	1. V _g (V) 2. Increase in -ve V _g compared with the value noted in (c) 3 (V)	-	-80	100%
							-	40	100%
e	4.0	5.0	As in (c)	2.0		<u>GRID INSULATION</u>			
	1. V _g at -80V. 2. See clause 5.4.2 of K1003. Resistor 6.7 Megohm								
							1. Leakage current (μA)	12	100%
							2. Increase in volt-meter reading	100%	100%
f	4.0	5.0	As in (c)	2.0	Any convenient value	<u>DEFLECTION SENSITIVITIES</u>			
						1. X plate (mm/V)	650	790	10%(10)
						2. Y plate (mm/V)	V _{a3}	V _{a3}	10%(10)
							790	970	
							V _{a3}	V _{a3}	

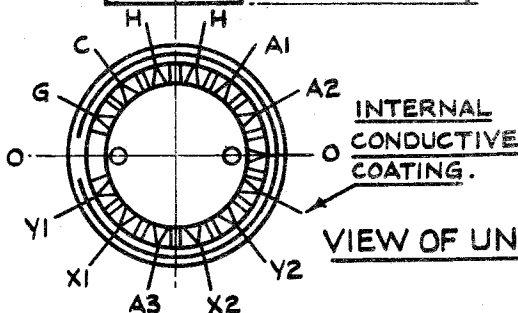
g	4.0	5.0	As in (c)	2.0	Any convenient value	Deviation of spot from centre of screen (mm)	-	10	100%
h	4.0	5.0	As in (c)	2.0	Any convenient value	<u>USEFUL SCREEN AREA</u> Diameter (mm)	130	-	100%
Deflections to cover stated circle centred on centre of screen									
j	4.0	5.0	As in (c)	2.0	Any convenient value	<u>ORIENTATION OF AXES OF DEFLECTION</u> 1. X axis 2. Y axis	80° -10°	100° +10°	100% 100%
Angles measured relative to axis 0-0' shown on drawing									
k	4.0	5.0	-	2.0	Any convenient value	The screen shall not be worse for graininess and non-uniformity than a standard tube, or an approved pattern.			100%
Deflection voltages to give a raster covering a circular area of diameter 130 mm. The spot shall be defocussed such that with the number of lines used, separate lines shall not be discernible in the raster									
l	4.0	5.0	As in (c)	2.0	Any convenient value	The afterglow characteristic shall be satisfactory when examined by an approved method.			Type approval
m	4.0	5.0	As in (c)	2.0	As in (c)	<u>LIFE TEST</u> Life (hours)	500	-	1%
Deflections to cover a raster of area 130mm x 130mm									



NOTE:

- 1 WHEN VIEWING THE SCREEN WITH THE TUBE POSITIONED SUCH THAT THE BASE SPIGOT IS UPPERMOST A POSITIVE VOLTAGE APPLIED TO THE TERMINAL XI SHALL DEFLECT THE SPOT TO THE LEFT AND A POSITIVE VOLTAGE APPLIED TO THE TERMINAL YI SHALL DEFLECT THE SPOT UPWARDS.
- 2 THE INTERNAL CONDUCTIVE COATING SHALL BE OF SUCH DIMENSIONS THAT IT FUNCTIONS EFFECTIVELY BUT DOES NOT OBSCURE THE REQUIRED USEFUL SCREEN AREA.

THE NECK DIA. MAY BE REDUCED TO A MINIMUM OF 58 MM. PROVIDED THAT RUBBER RINGS OR OTHER APPROVED PACKING IS SUPPLIED WITH THE TUBE TO BRING THE OVERALL DIA. WITHIN THE STATED TOLERANCES.



VIEW OF UNDERSIDE OF BASE.

ALL DIMENSIONS IN MILLIMETRES.