



Notes

1. The part number and material cast number shall be marked permanently adjacent to the 0° mark on the edge of the mirror.
2. The 36 off locations for the Axial Support Pads, the 6 off locations for the Lateral Support Pads and the 3 off locations for the Radial Constraint Pads are provided. These components shall be free issued to the mirror manufacturer for fixing to the mirror blank prior to polishing the optical surface.
3. The material for manufacture shall be Schott Zerodur Expansion Class 0 or better. Suitable equivalent materials can be used on approval from the NRT 4.0m Telescope Project Office.
4. The 'Useful Zone' is that volume below the optical clear aperture (OCA) to a depth of 3mm below the optical surface.
5. Stress birefringence shall be no greater than 12nm/cm throughout the blank except where there are striae. The stress birefringence inside the critical zone shall nowhere exceed 12nm/cm. Except for striae the stress pattern shall be generally symmetrical. Stress on striae shall be no greater than 45 nm/cm. The manufacturer shall test edge stress birefringence at 12 points located at 30° intervals along the circumference at Ø0.95 of the mirror blank diameter.
6. Inside the Critical Zone, bubbles and inclusions shall be sized and located so that the final optic conforms to MIL-O-13830 60/40 for surface imperfections.
7. The Vertex of the Off-Axis optic is located 1558.846mm from the parent. The polished surface shall take the form:
$$Z(x,y) = \frac{\frac{1}{R} \times (x^2 + y^2)}{1 + \sqrt{1 - (1 + k) \times \left(\frac{1}{R}\right)^2 \times (x^2 + y^2)}}$$
where: Radius of Curvature (R) = 14000mm
Conic Constant (k) = -1.037
8. Edge thickness deviation shall be consistent with a maximum wedge of 0.20mm.
9. The Surface Texture shall be better than 1.5nm RMS and the polished surface shall conform to MIL-O-13830 60/40 for surface imperfections.
10. The mirror shall be supplied uncoated.

PRELIMINARY
FOR INFORMATION ONLY
SUBJECT TO CHANGE

WorkInProgress
DO NOT USE THIS DRAWING FOR
PROCUREMENT OR MANUFACTURE.

ESTIMATED MASS: 443.03 kg

GENERAL TOLERANCE TO ISO 2768-M

TOLERANCE CLASS DESCRIPTION	PERMISSIBLE DEVIATIONS FOR BASIC SIZE RANGE							
	0.5 UP TO 3	OVER 3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1 000	OVER 1 000 UP TO 2 000	OVER 2 000 UP TO 4 000
MEDIUM	± 0,1	± 0,1	± 0,2	± 0,3	± 0,5	± 0,8	± 1,2	± 2



UNLESS OTHERWISE STATED
DIMENSIONS ARE IN mm
SURFACE FIN.: \sqrt{C}
(MICRONS)

BS 8888



THIRD ANGLE PROJECTION

DWG. No.	NRT40-1011-001		SHEET	1 OF 1	REV	0.1
MATERIAL	Schott ZERODUR		ORIG. SCALE	1:10		
FINISH	SEE NOTES		ORIG. SHEET	A2		