

1. Scope of Project

This specification describes AR coatings for five Volume Phase Holographic (VPH) gratings which are to be used at wavelengths 320 - 900 nm in the Prime Focus Imaging Spectrograph on the Southern African Large Telescope (SALT)..

2. Grating Properties (Customer Supplied Material)

Grating	Size (mm)		Clear Aperture (mm)		Angle (deg)		Wavelength (nm)	
	Length	Width	Length	Width	Min	Max	Min	Max
G0900	200	175	180	155	12	20	320	900
G1300	230	175	210	155	19	35	390	900
G1800	250	175	237	155	25	50	450	900
G2300	250	175	237	155	25	50	350	700
G3000	250	175	237	155	30	50	320	550

Substrate Material: Fused Silica, Corning HPFS 7980 Grade 2F

Thickness: 20 mm

Construction: two 10 mm fused silica substrates, epoxy bonded to seal the VPH grating (dichromated gelatin) between the substrates.

3. Coating Performance Specifications

Broadband AR coating both surfaces

<1% reflectivity across wavelength range for each angle - goal

<2% reflectivity required

Grating temperature must not exceed 100 deg C

4. Documentation

Reflectance curves from witness samples at the minimum and maximum angles in the above table.