

TE testing facilities questionnaire

Company name and location	ESA/ESTEC, Noordwijk, The Netherlands
Facility name and location	VTC1.5
Contact email	info@european-test-services.net
Maximum Sample/Test article dimension (H x L x W)	Maximum usable volume 1.7m diameter x 3.0 length Sun simulation Diameter 0.5m (0.4SC – 3SC and 7SC - 13 SC)
Optical bench dimension (LxW) if present	N/A
Environment	
Cleanliness levels:	ISO8, ISO5 tent can be used
Minimal pressure (Typical) mbar:	<1e-5
Temperature range (K)	85K – 393K
Humidity range (%)	0%
Temperature measurements:	
Temperature measurements technique	Contact sensors (Pl resistors or TC, typically T Type and K Type)
Temperature measurements range (typical) (K)	90K – 773K (can vary depending on type of TC or Pt)
Temperature measurements uncertainties (typical) (K)	Depends on the sensor selected and the reading (e.g. external scanners)
Temperature measurements:	
Temperature measurements technique	Thermography
Temperature measurements range (typical) (K)	233K (on going extension down to 173K) – 623K
Temperature measurements uncertainties (typical) (K)	1K or 1% of Temperature in Celsius
Geometric measurement 1:	
Method:	Photogrammetry
Deformation (displacement, rotation) range	Best capabilities 20ppm absolute measurement 10ppm relative measurement
Deformation (displacement, rotation) uncertainties	Network dependent
Equipment in vacuum (Yes/No)	Yes
Optical ports (number, diameter)	N/A
Geometric measurement 2:	
Techniques:	Laser Radar
Deformation (displacement, rotation) range	Ad hoc measurement network
Deformation (displacement, rotation) uncertainties	Set-up dependent
Equipment in vacuum (Yes/No)	No
Optical ports (number, diameter)	1 (required)
Geometric measurement 3:	
Techniques:	Laser tracker
Deformation (displacement, rotation) range	Ad hoc measurement network
Deformation (displacement, rotation) uncertainties	Set-up dependent
Equipment in vacuum (Yes/No)	No
Optical ports (number, diameter)	1 (required)
Wavefront measurement technique 1	
Method	
Wavelength	
Wavefront range	
Wavefront measurement uncertainties	
Equipment in vacuum (Yes/No)	
Optical ports (number, diameter)	
Wavefront measurement technique 2	
Method	

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Wavelength Wavefront range Wavefront measurement uncertainties Equipment in vacuum (Yes/No) Optical ports (number, diameter)	
Customer can bring in its own GSE for TE test (Yes/No)	Yes
Other useful information	
URL/Link to presentation of facility	https://european-test-services.net/services-thermal-vtc/