

ECSS-Q-ST-70-02C: Thermal vacuum test for the screening of space materials

Purpose:

Quantification of outgassing and condensation of materials under vacuum

Screening test

Test conditions

time : 24 hrs

T_{cup} : 125°C (higher if required)

T_{cond.plate} 25°C

Vacuum : 10⁻⁶ mbar

Infrared analysis of collector

Acceptance Limits (depends on amount and lower if close to optics)

TML : ≤ 1% (only if H₂O is problem)

RML : ≤ 1%

CVCM: ≤ 0.1 %

Round robin with ASTM

every three years; can be used at the same time as certification of European test facilities

Test-houses in Europe : INTA Madrid, Astrium Stevenage, DLR Berlin, ARCS Seiderdorf, TeSat Backnang, Astrium Bremen, Intespace Toulouse, ESTEC

Database on results: http://esmat.esa.int/Services/outgassing_data/outgassing_data.html