



CRP TECHNOLOGY S.r.l.

Outgassing test reports

Windform XT 2.0 has passed ESA screening outgassing tests in accordance with ESA TEC-QTE 7171 (based on ECSS-Q-ST-70-02C).

Metallized coated and uncoated samples of Windform XT 2.0 have been tested in the μ VCM facility of the TEC-QTE laboratory at ESA/ESTEC, Noordwijk, Netherlands.

Test Conditions

The sample has been tested, in accordance with AD1 (based on RD1), as per:

- The μ VCM vacuum chamber is located in the outgassing lab Ek007a where the environmental condition are controlled by ESTEC site service at 22 ± 3 °C and $55 \pm 10\%$ RH.
- Pre Test conditioning of the sample, 100-300 mg of material (unless mentioned otherwise), was 24 hours at 22 ± 3 °C and $55 \pm 10\%$ RH.
- During the Test for 24 hours:
 - o The sample was subjected to a temperature of 125 °C.
 - o The condensable material was collected by a collector plates kept at 25 °C.
 - o The test vacuum pressure was kept below 10-5 mbar.
- Post Test conditioning of the sample was 24 hours at 22 ± 3 °C and $55 \pm 10\%$ RH.

Outgassing Test Results

Table 1: Sample mass measurements using external balance

	TML (%)	CVCM (%)	RML (%)
Windform XT 2.0	0.571	0.010	0.436
	0.571	0.007	0.438
	0.566	0.000	0.429
Average	0.57	0.01	0.43
SD	0.00	0.01	0.00

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Table 1: Sample mass measurements using external balance

	TML (%)	CVCM (%)	RML (%)
Windform XT 2.0 - metal coated	0.002	0.000	0.000
	0.002	0.000	0.001
	0.001	0.008	0.000
Average	0.00	0.00	0.00
SD	0.00	0.00	0.00

The ESA outgassing tests can be considered passed for both coated and not-coated samples and they respond to the general outgassing criteria based upon the micro-VCM test (as defined by ECSS-Q-ST-70-02C).

The general requirement for materials screening outgassing is RML<1.0% and CVCM < 0.1 % .

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