



NZEB_LAB

LMR: Durability of materials and coatings under accelerated aging tests

DESCRIPTION OF THE INFRASTRUCTURE

Name of the infrastructure: LMR - Laboratory of Materials and Coatings
Location (town, country): LNEG, Polo do Lumiar, Lisbon, Portugal
Web-site:
Legal name of the organization operating the infrastructure: LNEG
Location: Building E

SERVICE PROVIDED

Service Name: Durability of materials and coatings under accelerated aging tests



Associated equipment and Methods:

Accelerated aging test	Testing procedure	Testing equipment
THERMAL STABILITY	ISO 22975-3:2014	Heratherm Oven OMH100
DAMP HEAT AND THERMAL CYCLING WITHOUT AND WITH CONDENSATION	IEC 62108	BINDER MKF 240 LIEBISCH KSE 300-3003
HUMIDITY CLIMATIC / CONDENSATION	ISO 6270-2 ISO 22975-3:2014	LIEBISCH KSE 300-3003 BINDER MKF 240
HUMIDITY FREEZE	IEC 62108	BINDER MKF 240
ACID RAIN (KESTERNICH TEST)	DIN 50018/ ISO 3231/ISO 6988	VLM CON 400 - Air CTD-A
LOW CONCENTRATIONS OF POLLUTING GAS(ES) TEST (with and without cycles with neutral salt spray and standard laboratory climate)	ISO 21207 ISO 10062 ISO 22975-3:2014	WEISS WK3-340/0-BSB Q-PANEL Q-Fog
SALT SPRAY (NEUTRAL SALT SPRAY, ACETIC ACID SALT SPRAY AND COPPER-ACCELERATED ACETIC ACID SALT SPRAY)	ISO 9227 ASTM B117	ERICHSEN 606/400 Q-PANEL Q-Fog CCT-600
XENON RADIATION EXPOSURE (with and without humidity)	ISO 16474-2 ISO 4892-2	Q-SUN Xe 3HS
UV RADIATION EXPOSURE	ISO 16474-3	Q-LAB QUV / Spray with solar eye irradiance control

Deliverables:

Durability of materials under different artificial aging environments (temperature, humidity, radiation and contaminants (Cl⁻, SO₂, NO₂))

Testing period (weeks/year):

Depends on the aging test duration and on the number of samples to be tested

Costs: 3 replicates must be tested in every test. Cost depends on samples dimensions, test type and testing time. The cost is proportional to the testing time and is not proportional to the number of samples. A larger number of samples reduces the price of the service due to scale effect in chambers test. Example: Value (€)/3 samples (replicates) (approximately 100x100mm) during 240h: Resistance to neutral salt spray (NSS test) (280€)

Contact: Teresa Cunha Diamantino, teresa.diamantino@lneg.pt ou lmr@lneg.pt

