

ENVIRONMENTAL SIMULATIONS, COMPONENTS, TECHNOLOGY

Environmental engineering (climatic, mechanical and corrosive effects)

Our laboratory is accredited by German Accreditation Body Technology (DATech) e. V.

Do your customers expect a product that can withstand the rigors of transportation and preserve its function under specific external environmental conditions?
We can advise and perform the necessary tests for you.

Our simulated environmental effects

- Climatic conditions (temperature, humidity, dew)
- Mechanical system (simulated transport and operating effects)
 - Vibration (sinusoidal, noise)
 - Vibration with superimposition of temperature
 - Shocks, droppages
 - **Earthquake simulation:** horizontal and vertical (zone 4 in compliance with Telcordia)
- Splash water, rain and dust (IP protection types)
- Artificial solar irradiation
- Corrosion (industrial atmosphere, saline fog, etc.)

Test conformance

- Our tests are conducted in accordance with international standards (IEC, ETSI, MIL, ..) and
- in accordance with customer requirements (e, g, Telcordia, US-Car)



Earthquake test with IT equipment



Pick-and-place system undergoing climatic testing

Our consulting services

- for test plan development
- for selection of suitable severity levels
- for remedial actions
- for designing packaging

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Test systems
Mechanical system, earthquake simulation

Test System	Weight of test object kg	Installation area m x m	Excitation	Temperature °C	Remarks
Vibration system, electrodynamic with sliding table	200	0.8 x 0.7	Sine wave Random Shock		
Vibration system, electrodynamic	200	0.8 x 0.7	Sine wave Random Shock	-80 / +150	Thermo-vibro
Vibration system, electrodynamic with sliding table	1000	1.6 x 0.9	Sine wave, random Shock Random/sine wave	-60 / +110	Thermo-vibro
Vibration system, hydraulic	1000	1.8 x 1.1	Earthquake (Time history) Shock		Earthquake Zone 4 acc. to Bellcore
Shock systems	up to 200 kg	0.8 x 0.7	Half sine wave max. 2000 g 30 – 0.5 ms		

Climatic and corrosion effects

System	Interior W x H x T m x m x m	Temperature range °C	Damp area % r. h.	Gradient °C / min	Power loss kW
Climatic test chamber	3 x 3.2 x 4	-50 / +100	10 – 95	3	max. 12
Climatic test chamber	2.7 x 2.9 x 2.5	-60 / +90	10 – 98	1	max. 4
Temperature chamber	2.4 x 2.3 x 3.5	-60 / +90	-	3	max. 8
Industrial climate (corrosion) 4-component mixed flowing gas	0.85 x 0.60 x 1.20	+20 / +40	10 – 90		

Other systems

Rooms with alternating climatic conditions, dust room, sun/rain room, climatic cabinets, (partial) vacuum, condensation water SO₂ (Kesternich), salt fog

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