PUSAT PENGAJIAN KEJURUTERAAN BAHAN DAN SUMBER MINERAL
SCHOOL OF MATERIALS AND MINERAL RESOURCES ENGINEERING

TESTING SERVICE: ACCELERATED WEATHERING TESTING

- Materials exposed to outdoor weathering can be damaged caused by sunlight, rain and dew. Types of damages include color change, gloss loss, chalking, cracking, crazing, hazing, blistering as well as strength loss.
- Accelerated weathering testers simulates the effects of sunlight with xenon-arch lamp or fluorescent ultraviolet (UV) lamps. The effects of dew and rain, on the other hand, are simulated by using condensing humidity and/or water spray.
- There are two types of accelerated weathering test chambers available, which are Q-Sun and QUV from Q-lab, USA

Q-SUN

Model: Q-SUN Xe-1

- This test chamber uses a xenon arch lamp to simulate the full spectrum of sunlight.
- Using this test chamber, samples are exposed to repetitive cycles of sunlight, heat, and water to simulate the forces of weathering experienced by materials in their service environments.
- Optical filters: daylight and window glass filters.
- Three-dimensional (3D) specimens can be tested in Q-SUN Xe-1.
- Sample tray: 251 mm x 457 mm.

Common Test methods and Standards for Q-SUN Xe-1:
General: ASTM G151 ASTM G155
Roofing: ASTM D4798
Adhesives and Sealants ASTM C1442 ASTM D6551
Printing Inks/Artists' Materials/ Paper: ASTM D3424 ASTM D6901
Coatings: ASTM D6695 ASTM D7869
Rubber and Flooring: ASTM D750
Plastics: ASTM D5071 ASTM D2565

QUV

Model: QUV/spray

- This test chamber uses UVA-340 fluorescent UV lamps to simulate solar UV and can be set to produce the following conditions: UV alone, spray alone (rain), or condensation and even combinations of light and moisture.
- Sample holders and capacity: 48 rectangular samples of 75 mm x 150 mm and sample thickness less than 10 mm
- Application Area: QUV is mainly used in paintings, coatings, plastic, textile industry, for testing the anti-aging, color change and service life of the product in a accelerated aging environment

Common Test methods and Standards for QUV/Spray:
General: ASTM G154 Roofing: ASTM D4799
Coatings: ASTM D4587 EN 927-6 Plastics: ASTM D4329
Geotextiles: ASTM D7238

We can also characterize your exposed samples for:

Thermal properties using DSC and TGA

Surface properties using FTIR and SEM

Color change using a chroma meter

Mechanical (tensile, impact and flexural) properties

We have served:

Exzone Precision Engineering Sdn Bhd

Colour Image Plastic Compound Sdn Bhd

CLPG Packaging Industries Sdn. Bhd.

Unicolor Polymer Technology Sdn. Bhd.

Payer Industries Malaysia Sdn. Bhd.

Motosikal & Enjin Nasional Sdn Bhd

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Request a Quote

Please fill out this form with the requested testing service, email and phone number.

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