

Environment & Endurance Testing

SPECTRO offer a variety of shock and vibration testing services for testing a wide range of products across many industries. Automotive components are tested to simulate the effect of road condition. Other components may be exposed to vibration during transportation until they reach their final destination. Aerospace/Defense products are also exposed to vibration conditions thus requiring vibration testing to ensure product quality and safety.

Capabilities and Testing Process:

Vibration & Shock Testing: Vibration and shock testing is an important part of product performance and evaluation. Vibration and shock testing may be used to evaluate products and packaging for their predicted and to determine influence of packaging techniques and modes of transportation.

Specification:

- IS-9000
- JSSS-55555



DropTest:

The purpose of the drop test is to simulate two situations: one is improper handling of packages during shipping and transportation, and the other is accidental dropping of unpackaged hand held products.

Specification: • ASTM D 775-80



Humidity / Temperature Cycle Test:

Environmental temperature testing will expose the unit under test to constant high or low temperatures or cycle temperature during testing. Humidity testing can be added concurrently to a temperature test.

Specification: • IEC 68-2-38

Bump Test:

The purpose of the Bump test is to verify the product's ability to withstand repeated force stress during transportation.

Specification: • JISD 1601

Dust & Sand:

Dust creates a harsh environment for chassis, underhood, and exterior mounted devices; and can be a long term problem in interior locations (such as under the dash and seats in automobiles). Exposure to fine dust causes problems with moving parts, forms conductive bridges and acts as an absorbent material for the collection of water vapor. Some electromechanical components may be able to tolerate fine dust, but larger particles affect or totally inhibit mechanical action.

Specification: • IP: 55

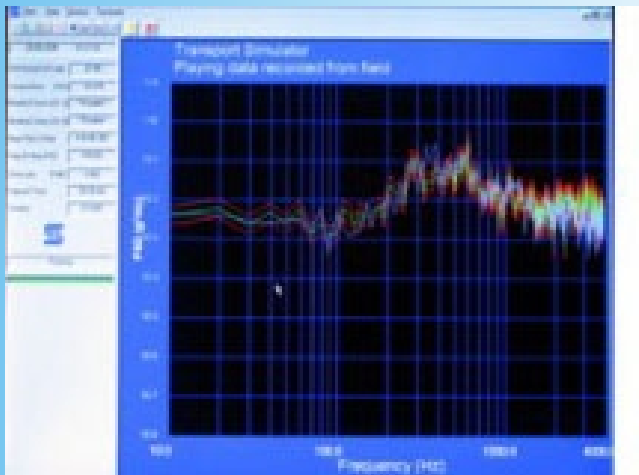
Benefit of Vibration Testing

- ▶ Ensure a reliable product.
- ▶ Reduce the new product development time.
- ▶ Ensure that the designed product is fit for designated use.
- ▶ Reduces damages during transit.
- ▶ Reduces non performance.
- ▶ Fast launch of new product
- ▶ Optimization of product design.
- ▶ Maintain consistency in quality standards.
- ▶ Ensure products survive the effects of transportation rejection during warranty.
- ▶ Increase product reliability.



Test Parameter

Frequency	5 to 5000 Hz
Acceleration	Up to 50g
Displacement	50mm (Peak Peak)
No. Of Bumps	Up to 9999
Pulse Duration	Up to 15 m Sec
Direction	X, Y, Z
Types of Vibrations	Sine
Sweep mode	Linear / Log
Sweep Waveform	Triangular / Forward / Reverse
Sweep Rate	1 to 999 Hz/min. For linear Sweep



Applications :-

Auto Industry

- Vehicle Seats
- Headlights
- Steering
- Gear
- Breaks
- Engine
- Music system

Electronic Industry

- TV
- Monitor
- Refrigerator
- Air Conditioner
- Laptops
- Microwave
- Washing Machine

Corrosion Testing Services

- Salt Spray Test
- Salt Spray (Neutral/Fog), ASTM B117
- Hydrogen Induced Cracking (HIC) Test, NACE TM 0284
- Sulfide Stress Corrosion Cracking (SSCC), NACE TM 0177
- Ammonia Vapour test
- Chloride Stress Corrosion Test as per ASTM Gr 35
- Nitric Acid, ASTM A262 Practice C (Huey Test)
- Corrosion Test as per ASTM A 761 Specification



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