Qualification tests on structural bearings and anti-seismic devices

Since 2007, the EUCENTRE Foundation has been carrying out tests on structural bearings and anti-seismic devices (isolators and dampers).

EUCENTRE laboratories have several test facilities including:

- A Bearing Testing System (BTS) dedicated to the experimental characterization of structural bearings (elastomeric, POT and spherical bearings) and seismic isolation devices (elastomeric isolators and curved surface sliders);
- A Damper Testing System (DTS) dedicated to the experimental characterization of shock transmission units, displacement dependent devices and velocity dependent devices (fluid viscous dampers and fluid spring dampers).

The EUCENTRE Foundation built a strong experience testing more than 3000 isolators, 1500 structural bearings and 200 dampers.

Test protocols are performed according to the main international standards (EN1337 - Structural Bearings, EN15129 - Antiseismic Devices e AASHTO) or to customized experimental research and development campaigns developed according to Customer’s needs.

The laboratory accreditation according to ISO/IEC 17025 standard (https://www.eucentre.it/certifications-and-accreditations/?lang=en) allows operating with the highest quality standards adopting internationally recognized procedures.
**Damper Testing System - (DTS)**

- Maximum length of the specimen: 8000 mm
- Maximum diameter of the specimen: 1200 mm
- Maximum displacement: ± 250 mm
- Maximum velocity: 3000 mm/s
- Maximum dynamic force: 4400 kN

**Bearing Testing System - (BTS)**

- Platen dimensions: 1.6 m x 4.4 m
- Maximum displacement: Long. ± 495 mm, Transv. ± 265 mm, Vert. ± 75 mm
- Maximum velocity: Long. 2200 mm/s, Transv. 600 mm/s, Vert. 250 mm/s
- Maximum acceleration: ± 1.8 g
- Maximum flow rate: 11000 + 16000 l/min
- Maximum static force: Long. 1900 kN, Transv. 1000 kN, Vert. 40000 ± 10000 kN
- Inertia mass: ~22.1 t
- Maximum overturning moment: 20000 kNm
- Operative frequency range: 0-20 Hz