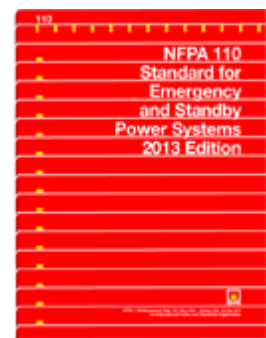
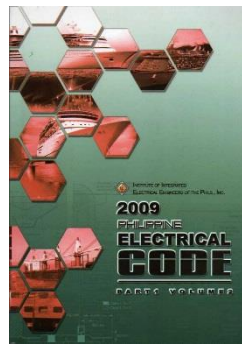


Vibration Isolators

Vibration isolators are used to attenuate annoying and damaging effects caused by vibrations from emergency power supply (EPS) equipment such as generator sets. Generator sets create disturbances that can result in a variety of complaints. Installed in occupied buildings, such as hospitals or office buildings, the vibrations may annoy personnel. Such vibrations may also affect the operation and accuracy of equipment when the vibrations are transmitted through the foundation to other machines. In extreme cases, vibrations may result in structural problems due to cyclic fatigue effects.

Standards

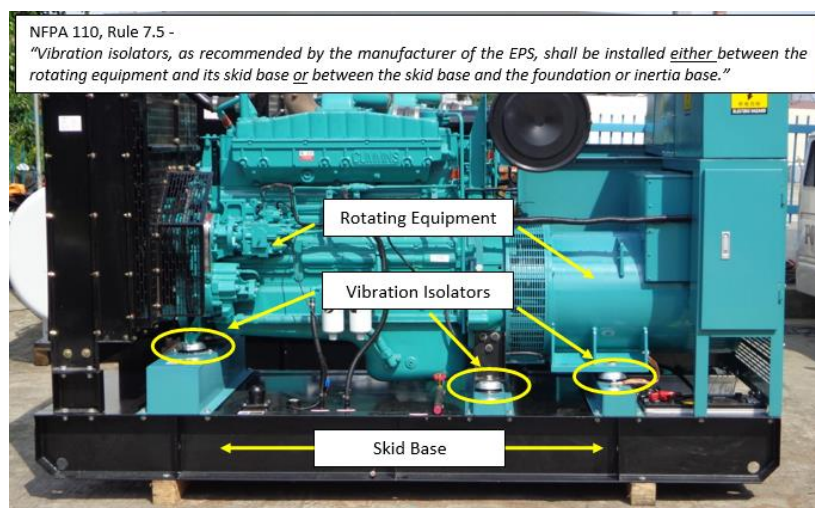
Special conditions for emergency systems are stated under Chapter 7 of the Philippine Electrical Code (PEC). In this chapter, installations, testing and maintenance of emergency and standby power systems are referred to the NFPA 110 also known as the Standard for Emergency and Standby Power Systems.



NFPA 110, Rule 7.5 states that –

“Vibration isolators, as recommended by the manufacturer of the EPS, shall be installed either between the rotating equipment and its skid base or between the skid base and the foundation or inertia base.”

All Powercity generators are fitted with elastomeric vibration isolators between the rotating equipment (engine and alternator) and its skid base shown in the picture below.



An example of a generator without vibration isolators. This type of generator would require vibration isolators between its skid base and its foundation or inertia base.

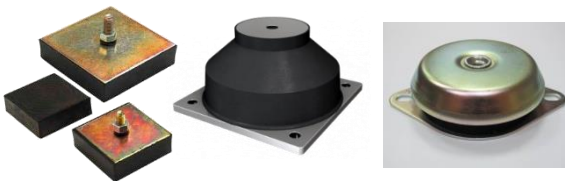


Types of Vibration Isolators

Generally, there are two types of vibration isolators –

1. Elastomeric
2. Spring

Elastomeric types



Spring types



Both types of vibration isolator offer pros and cons in terms of ease of installation, levels of isolation offered, integrity and cost. In some cases, the combination of both types provide the level of vibration isolation needed for a particular application.

Further, the Electrical Generating Systems Association (EGSA) and the National Electrical Installation Standards (NEIS) does not recommend bolting a generator set directly to the floor or foundation because it will result in excessive noise and vibration and possible damage to the floor and other equipment.