

BASE & FOUNDATION

A foundation is one of the factors affecting the successful operation of a generator set. Unless proper support is provided, alignment and vibration problems can arise. Since the foundation is not part of the unit, it is the responsibility of the contractor or customer, and not the generator set manufacturer. Therefore, definite instructions on how to build a foundation are not given, but the following recommendations may be used as a guide in designing and constructing successful foundations for engine installations.

A foundation serves three important functions:-

- Supports the weight of the entire package.
- Maintains the necessary alignment between the engine and the generator.
- Absorbs the vibration produced by rotating and reciprocating masses.

Vibration Isolation

When a generator set is installed on a heavy concrete slab floor of sufficient strength to support the unit, only the isolation of the vibration and noise must be considered in the foundation preparations.

The tolerance of the surrounding area to the vibration will dictate the type of isolation material. The three most popular materials are rubber, fibreglass and steel springs. The table below gives the vibration isolation efficiency of typical configurations of these materials.

When vibration isolators are used between the generator set sub-base and the foundation, all connections including exhaust, fuel and water, must be made with flexible fittings and hose.

Vibration Isolation Efficiency		
Material	1500 RPM	1800 RPM
Rubber	50-80%	65-85%
Fibreglass	75%	85%
Steel Springs	98%	99%