



LP-13 Shake Absorber® Vibration and Isolation Pad Engineering Report

The construction of the pad (and homogeneity of the neoprene and nylon) permits a more uniform load distribution and equalization of the machine during the lining and leveling at installation.

The special flexible close cell neoprene absorbs the vibration energy, that is, the mechanical vibration energy is converted into heat energy. In addition, normal shock loads and impact loads, as well as violent shocks from the machine are diffused.

The intermediate layer of nylon transmits vibrations and forces resulting from shock to the base across its surface, thus dampening the effect of the vibration and shock. It also is a function of the nylon shock being transmitted between it and the two outer layers of special neoprene.

The flexible close cell special neoprene and bonded construction of the pad makes it practically indestructible, and is unaffected by moisture, oils, grease, cleaning solvents, etc.

Reducing the transmitted vibration and shock (impact) loads from the machine to the floor will result in minimum wear and damage to machine parts and requires less frequent machine adjustments.

By distributing the vibration and shocks and impact loads over the surfaces of the pads the vibration and shocks are dampened and minimized. The associated wear and often breakage of the moving parts of the machine are minimized.

The rigid intermediate layer function is to distribute vibration and shocks over the surface of the base layer thus diffusing the shocks.

Walking or moving about is avoided through the use of the pad. The pad isolates (insulates) the vibrating machine from the building (that is the structure). This pad prevents the greatest portion of the vibration and shocks from the machines from being transmitted to the building. Also, it attenuates the larger shock and impact loads.

In addition, it is inherently characteristic of this pad (because of its laminar construction) that the reflected or rebound vibrations and shocks from the floor to the machine are virtually eliminated. It is common knowledge that the rebound shock from a structure to a machine will add to the vibrating forces in the

machine, causing large resulting forces on the machine elements as well as machine misalignment.

It is very important, in the above, that the machine foot is not bolted to the floor. Bolting the machine to the floor reduces the effectiveness of the Shake Absorber.

It is extremely important that a vibrating machine be aligned, leveled, and have all of its feet areas with the floor (mounting structure). Failure to have one or more feet not in positive contact with the structure during machine operation will result in impact loads from the machine to the structure. Conservatively speaking, impact loads resulting from this clearance during operation is 6 times or more greater than the original load or force caused by the vibration.

A single layer of $\frac{3}{4}$ " Shake Absorber will adequately handle loads up to 250 lbs. per square inch.

For questions and comments, please contact:

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