KELLETT ENTERPRISES, INC.

Innovative Creator of the
LP-13 Shake Absorber ®
Vibration Isolation Pad

ENGINEERING REPORT

The construction of the pad (and homogeneity of the neoprene and plastic) permits a more uniform load distribution and equalization of the machine during the alignment and leveling at installation. The special flexible closed 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 ABS plastic transmits vibrations and forces resulting from shock to the base across its entire surface, thus dampening the effect of the vibration and shock. It also is a function of the ABS plastic to transmit the shock to the two outer layers of special neoprene. The flexible closed cell neoprene and bonded construction of the pad makes it practically indestructible, and is unaffected by moisture, oils, grease, cleaning solvents, etc.

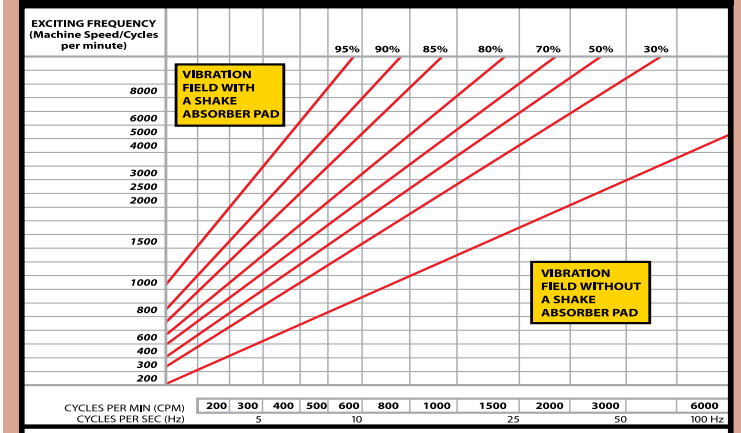
Reducing the transmitted vibration and shock (impact) loads from the machine to the floor will result in minimum wear and damage to machine parts and requires less frequent machine adjustments. By distributing the vibration, shocks and impact loads over the surfaces of the pads the vibration and shocks are dampened and minimized. The associated wear and often breakage of the moving parts of the machine are minimized. The rigid intermediate layer functions 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 the vibrating machine from the floor, building or structure. 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.

During installation, it is very important to know that bolting the machine to the pads and floor is not recommended. Bolting the machine to the floor reduces the effectiveness of the LP-13 Shake Absorber® Vibration Isolation Pad.

It is extremely important that a vibrating machine be aligned, leveled, and have all feet areas meet the floor or 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 are 6 or more times greater than the original load or force caused by the vibration.

TECHNICAL DATA



LP-13 Shake Absorber® Vibration Isolation Pads are used to reduce noise and vibration and to eliminate the need for bolting down the equipment. Therefore it is easy to use and much quicker to install. The LP-13 Shake Absorber(R) is unaffected by grease, oil and solvents. The pad gives you a smooth seating and the different parts of the machine will run more silently. Therefore it adds life to machinery parts, and production stops are reduced.

The LP-13 Pad dramatically decreases the amount of vibration that is transferred from the machine to the floor and building structure. The efficiency of that vibration isolation can be calculated using the graph above, given you know the natural frequency of your specific piece of equipment. Higher cycles per minute (higher machine speeds) result in a higher efficiency of vibration isolation, where, higher natural frequencies, while still isolating a large percentage of the vibration, are generally less efficient.

Lets look at an example. A weaving machine is running at 1,000 RPM's. The natural frequency of the machine is 800 cpm. Our 3/4" 70 durometer LP-13 Shake Absorber® Pad would effectively isolate 90% of the vibration transfer to the floor.

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