

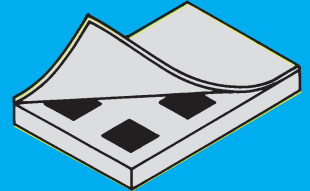
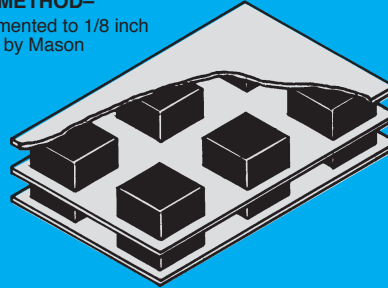


THE NEW POWER!

# MASON HAMMER SHOCK PADS

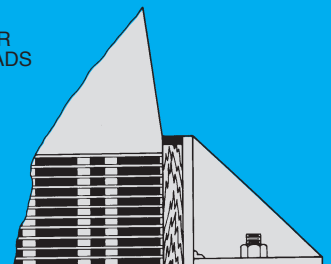
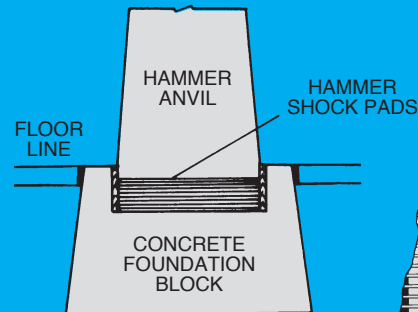
UP TO 75% REDUCTION OF SHOCK  
REPLACES TIMBER IN NEW OR EXISTING INSTALLATIONS

**PRIMARY METHOD—**  
HL Pads cemented to 1/8 inch  
Steel Plates by Mason



**SECONDARY METHOD—**  
Requiring 1/8 inch Steel Plates  
between layers

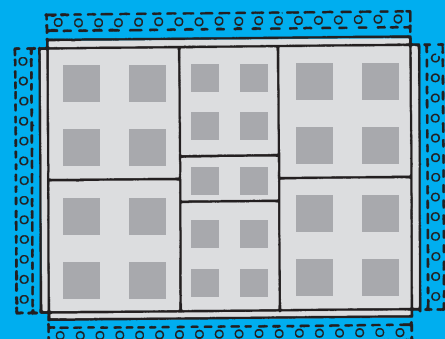
- Timbers Break Down— Mason Hammer Shock Pads Do Not!
- Suitable for All Size and Type Hammers
- Replaces Timber in New or Existing Installations
- Multiple Layer System Engineered for Long Life and Optimum Shock Reduction for Hammer and Soil
- Quick and Easy Installations without Special Tools or Labor. Each Pad can be Handled by One Man.



1/8" STEEL PLATE  
BETWEEN, ABOVE and BELOW  
LAYERS OF PADS

Our company offers our multi-ply HL pads already cemented to the 1/8 inch steel spacer plates as the recommended water runoff. If the other method using pads surrounded by fiberglass or cork and held together by roofing felt is used, the 1/8 inch plates between layers can be purchased locally or from Mason Industries.

COMPLETE PAD LAYOUT



PERIMETER PAD RETENTION ANGLES OR RECESS

HP-15

# HAMMER SHOCK PADS

## DESIGNED TO SATISFY A NEED

**Timber** had been the traditional material for cushioning anvils since the invention of the steam hammer by James Nasmyth in 1839. The first improvement was the substitution of cotton duck reinforced rubber pads for some or all of the timber. The principle function of such arrangements was to reduce cracking or powdering the concrete foundation below the anvil. In contrast, our timberless built-up pad systems are specifically designed to reduce shock transmitted to the surrounding area in addition to providing even better protection to the concrete foundation.

**Hammer Shock Pads**, similar to those described in this bulletin, were first designed in 1963 as an economically feasible solution to an actual problem caused by a 35,000 pound steam drop hammer in a residential area. This hammer had been conventionally mounted on multiple layers of timber and reinforced elastomer. While the technique of isolating concrete hammer foundations on springs was well known, the cost of spring isolation was prohibitive. Spring usage would have necessitated hammer removal, breaking out the original foundation and substituting a completely new reinforced spring supported concrete block in a large pit with heavy retaining walls and a load distributing mat. Since the hammer was already operating, it was obvious that a solution to excessive shock transmission utilizing the existing foundation would afford great savings in both money and downtime. Tests in the immediate and surrounding areas provided the dynamic characteristics of the strata. With this information, an analysis was made of the hammer, foundation and soil as a complete system and calculations made for the maximum shock pad stiffness to reduce the impact transmission to an acceptable level. Another study showed that the existing timber and pad system could not work because it had a far higher stiffness than the calculated maximum.

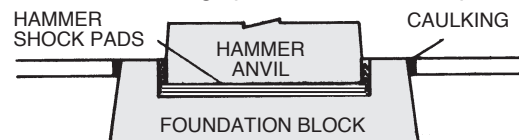
The problem was solved by replacing the timber and pads with the first multiple layer Hammer Shock Pads, engineered at low stress for long life, with the cushioning required to reduce shock transmission to the maximum allowable predicted limit for the specified hammer and soil conditions. Numerous other successful installations of a variety of hammers under different conditions would continue to prove the validity of the original theory. All Mason Hammer Shock Pads designs are based on similar calculations and constructed of materials manufactured to military specifications. Most designs call for ten to twelve pad layers.

Installation layout drawings and instructions are furnished with all Mason Hammer Shock Pads systems. Each individual pad is marked for identification and corresponding markings are shown on the layout drawings for pad orientation. Normally, soils with sufficient bearing capacities to support hammers without piping, have frequencies or stiffnesses to permit standardization of shock pads designs for each size and type of hammer. However, standard Hammer Shock Pads can be used only under the following conditions.

### HAMMER SHOCK PAD USAGE REQUIREMENTS

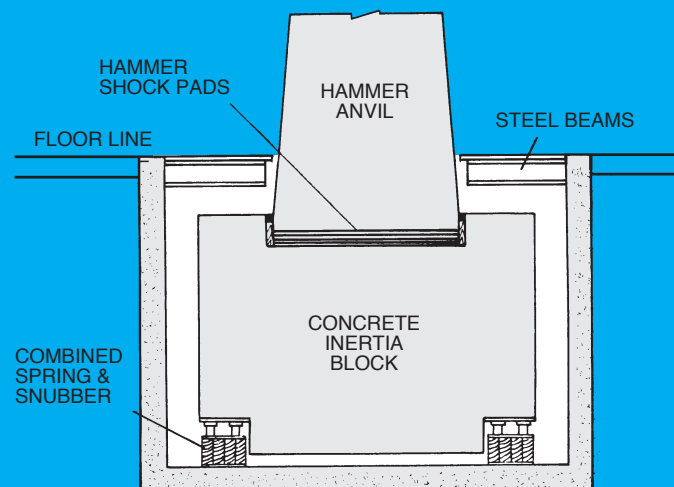
1. Soil in the area of the installation is dry and has a bearing capacity of 6500 psf or more and a natural frequency of 18 Hz or higher.
2. The hammer is standard and we have checked the total weight including anvil and ram weight, dimensions, stroke, and operating characteristics listed for each type and size in the manufacturers' latest catalog.
3. Line mean steam or air pressure does not exceed 125 psi.

If there are any exceptions to the above, specific soil, hammer, and operating data should be sent to Mason Industries for engineering analysis. In some cases Hammer Shock Pads can be designed to perform at standard efficiency. In others, standard or special pads may allow higher shock transmission that is still a satisfactory solution to the specific problem. In rare cases of resonance, the pads may be of little or no value. For any and all conditions, it is best to draw on the knowledge and experience of our engineers so we may provide the most economical solution. Two or three layer systems may also be used as a long life substitute for timber where additional shock isolation is not required. HL Fabric Reinforced Neoprene Pads are also sold as full coverage pads at customer request.



LOW COST - LONG LIFE  
2 or 3 Layer Pad Timber Replacement Systems

**Steel spring isolated foundations** should be considered for those installations requiring shock isolation but for which Hammer Shock Pads are inappropriate. This may be because of soil conditions or the need for a higher degree of shock reduction than is feasible for any pad system. A typical arrangement is shown below. Such systems can be designed to eliminate practically all perceptible shock transmitted to the environment regardless of the soil and water table conditions or the severity of the forging operation. Mason engineers will offer such alternate designs when warranted. If you have a problem, let us try to solve it for you.



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