

SOLUTIONS FOR INDUSTRIAL FACILITIES

Noise Control and Vibration Isolation



VIBRATION ISOLATION

Vibration isolation reduces structure-borne noise transmission by inserting resilient material between the vibrating source and the supporting structure. Heavy machine tools, process equipment, large ventilation equipment generators, pumps, and delicate lab instruments require isolators for noise, shock and vibration control.

Alara-Lukagro manufactures a complete line of isolation products and systems for industrial applications. This includes a wide selection of neoprene, fiber-glass, springs, air mounts and machine mounts.



Fiberglass Isolation Pads | Model KIP

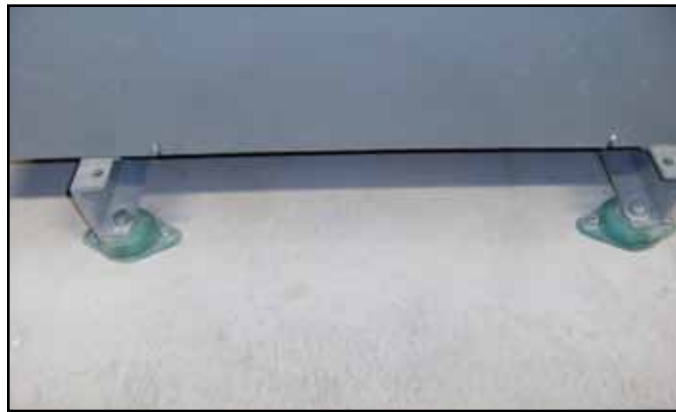
KIP Pads are pre-compressed, inorganic, inert fiberglass individually coated with a flexible elastomeric moisture barrier. They are available in capacities from 20 to 16,000 lbs. (9 to 7,275 kg) per pad, in thickness of 1-, 2-, 3-, and 4-inch (25-, 51-, 76-, and 102-mm). Recommend for use in the reduction of vibration produced by pumps, chillers, cooling towers, etc. They are effective in reducing shock transmission from punch presses and other impact producing machinery.



Isolation Pads

Models NDF and NDM

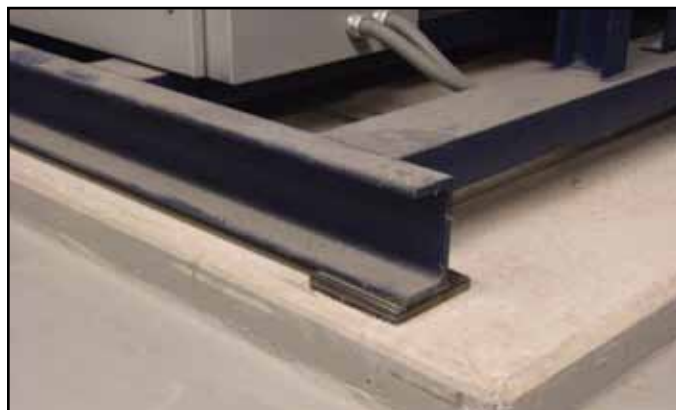
Alara-Lukagro Model NDF and NDM isolation pads are recommended for noise, shock and vibration applications. The NDF, a blend of laminated neoprene pads are capable of being statically loaded up to 10,000 psi (703 kg/cm²) and dynamically loaded up to 2000 psi (141 kg/cm²). The NDM pads, a blend of ozone-resistant rubber elastomer, are capable of being statically loaded up to 2000 psi (141 kg/cm²) and dynamically loaded up to 1000 psi (70 kg/cm²). Typically used with high load equipment.



Isolation Mounts | Models RD and RQ

One-piece, molded neoprene, with non-skid, ribbed top and bottom surfaces. Mounts include a tapped steel load plate, pre-drilled base plate and options for leveling bolt.

Capacities: 55 to 4,000 pounds (25 to 1814 kg)



Fiberglass Isolators | Model AC

Complete with load plate and mounting brackets are designed for bolt-down applications such as vent fans, vane axial fans, high-speed motors, and similar equipment. AC fiberglass isolators are available in sizes with capacities from 40 to 900 lbs. (18 to 409 kg) and deflections of 0.18" to 0.70" (5 to 18 mm).



Machinery Pads | Models NP & NG

High quality, neoprene pads available in 18" x 18" (457 x 457 mm) sheets in thickness from 0.22" to 8.87" (6 to 225 mm) for field sizing and cutting, 45 and 65 Duro.

Equipment Bases | Models CIB and SFB

Custom designed, welded structural steel bases designed to provide rigid support and correct inertia mass providing stability and vibration isolation.



Restrained Spring Isolators | Model FLS

Large diameter, laterally stable steel springs assembled into a welded steel housing designed to limit vertical movement of the isolated equipment if equipment weights are reduced or if the equipment is subjected to large external forces. The spring elements are complete with high frequency vibration control noise pads and an adjustable top load plate with leveling bolts. They are available with deflections 0.71" to 4.00" (18 to 102 mm) for loads up to 23,200 lbs (10,523 kg). The FLS isolators are recommended for the isolation and restraint of large fluid-carrying equipment such as boilers, chillers, and cooling towers, or for equipment subjected to high wind loads.



Seismic Control Restrained Spring Isolators | Model FHS

Meet vibration isolation specifications of Alara-Lukagro Model FDS isolators and include a steel housing assembly to limit both lateral and vertical movement of the supported equipment during an earthquake without degrading the vibration isolation of the spring during normal equipment operating conditions.



Spring Isolators | Model FDS

Free-standing, unhoused, large diameter, laterally stable steel springs contained in an upper load plate/leveling assembly and lower load plate/noise pad assembly, for control of high frequency vibration. They are available as an all-welded unit for bolt-down applications. FDS spring isolators are designed for spring deflection ranges from 0.71" to 4.00" (18 to 102 mm) with

load capacity up to 23,200 lbs (10,523 kg). FDS spring isolators are recommended for the isolation of floor-mounted refrigeration compressors, pumps, airconditioning equipment, centrifugal and axial fans, and internal combustion engines.



KINFLEX Flexible Connectors

Prevent stresses due to expansion and contraction, isolate against the transfer of noise and vibration, and compensate for misalignment. They absorb movement created in piping systems by differences in ambient temperatures, temperature of materials handled, and composition. They minimize the risk of buckling or pulling apart.

Housed Spring Isolators | Model SL and SM

High deflection stable springs assembled into telescoping aluminum or cast iron housings, complete with 1/4" (6 mm) noise pads bonded to the lower load surface. Adjusting and leveling bolts are part of the top housings.

Alara-Lukagro Model SM spring isolators are designed with an adjustable snubbing feature to reduce movement during start-up and shutdown. Model SM isolators are available with deflections to 1.84" (47 mm) in capacities from 250 to 3,000 lbs (113 to 1588 kg). Model SL isolators are available with the same deflection ranges and capacities from 35 to 3,500 lbs (16 to 1588 kg). Alara-Lukagro Model SL and SM spring isolators are typically used to isolate mechanical equipment subject to frequent start-up and shutdown such as compressors and engine generators.



Air Isolation Mounts Models KAM & CAM

Custom Engineered Pneumatic, elastomeric vibration mounts. CAM isolators support loads up to 7,500 lbs (3401 kg). KAM isolators can support loads from 500 to 22,000 lbs (226 to 9979 kg). Available with automatic leveling controls and custom mounting. Applications include mechanical equipment and industrial process equipment requiring low natural frequency isolation, and protecting sensitive equipment from floor-borne vibration.

ABSORBERS

Absorbers convert airborne acoustical energy into heat when sound waves strike the surface of a porous material and pass inside. They offer reverberant noise control.

Alara-Lukagro manufactures absorbers that include high-quality wall and ceiling mounted panels, baffles, curtains and blankets fabricated from faced and non-faced fiberglass. Various thicknesses are available to provide specific performance characteristics.



Sound Control Baffle | Model KB-803

Available in FDA and USDA approved construction for food processing industry. Standard fiberglass absorbers are faced with a heat sealed white or black fire retardant vinyl and equipped with two grommets for hanging. Meets Class 1.

Standard Sizes: 2' x 4' x 1-1/2" (0.6 m x 1.2 m x 38 mm)
Custom sizes available



Panel Absorber

Model KNP

Alara-Lukagro KNP absorbers are 2" or 4" (51 or 102 mm) thick, heavy duty, perforated aluminum, galvanized steel, or stainless steel panels. These panels can be attached to walls, ceilings, or

structures around indoor or outdoor equipment. They can be faced on both sides and used as hanging baffles, allowing absorption from both sides and are available in various lengths and widths. Powder-coated finish available.



Fiberglass Absorbers

Model PA

Molded fiberglass boards. Non-faced PA 410 GO absorbers provide superior

broadband absorption. Faced PA 410 GB absorbers excel in low and mid range frequencies. Meets Class 1.

Sizes: 4' x 8' x 1" (1.2 m x 2.4 m x 25 mm)
Temperature: -40°F to 450°F (-40°C to 232°C)

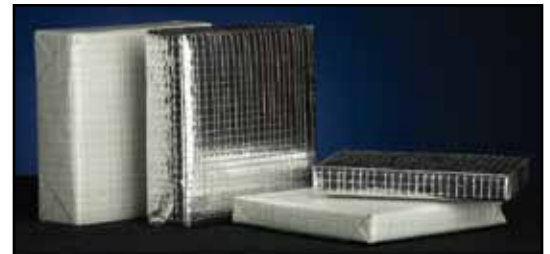


Quilted Face Fiberglass Absorber

Model KFA

High quality, fire resistant, fiberglass acoustical blankets provide superior durability and mechanical strength in hot, dirty and corrosive industrial environments. Easily installed and cleaned. Meets Class 1

Roll sizes: 4' x 25' (1.2 m x 7.6 m)
Baffle sizes: 2' x 4' (0.6 m x 1.2 m)
Thickness: 1" to 4" (25 mm to 102 mm)



Sound Absorber Panel

Model S-4

Heavy-duty wall and ceiling mounted panels used in controlling low and mid-frequency reverberant sound. Excellent mechanical strength and durability, resists casual damage, heat, moisture and corrosive chemicals. May be steam cleaned. Available in white or foil facings. Meets Class 1.

Temperature: -40°F to 450°F
(-40°C to 232°C)

Thickness: 1", 2" and 4"
(25 mm, 51 mm, 102 mm)

COMPOSITES

Composites are limp mass barriers supported by a decoupling layer of fiberglass or foam. They provide a sound transmission loss value that exceeds that of other materials of the same weight. An additional outside layer of absorptive fiberglass or foam can be applied to enhance acoustical performance.



Noise Control Curtain Systems

Model KNC

Rugged, durable and aesthetically pleasing, Model KNC noise control curtain systems offer a low-cost alternative to permanent noise control enclosures for industrial equipment. Features include excellent noise control characteristics and superior resistance to heat, chemicals and oils. Easily attached to floor, wall and ceiling mounted track systems. The curtain panels feature Velcro self-adhering nylon closures and heavy duty grommets. STC rating up to 33.



Barrier Composites | Model KBC

Alara-Lukagro KBC barrier composites are thin, rugged, high performing, flexible acoustical composites designed to solve difficult noise control applications where sound absorption must be increased and sound transmission must be reduced. Alara-Lukagro Model KBC barrier composites are available with 1/2 PSF, 1 PSF or 2 PSF (2.5, 4.9 or 9.8 kg/m²) mass-loaded vinyl barriers with a 1" or 2" (25 to 51 mm), quilted aluminum cloth faced fiberglass absorber on one or both sides of the barrier. Various roll sizes available.



Fiberglass Composites | Model PC

Heavy-duty, single and double layer molded fiberglass and mass layer composites provide maximum noise absorption inside hot engine compartments and equipment enclosures. Single layer includes faced or non-faced 1" (25 mm) thick fiberglass absorber and a 0.5 PSF (2.5 kg/m²) mass layer. Double layer composites include an extra 1" (25 mm) fiberglass-decoupling layer after the mass layer. Easy installation with stickpins or formed channels.

Sheet size: 36" x 42" (0.9 m x 1.1 m)

Foam Composites | Model KC

Single and double layer, 0.5 and 1 PSF (4.9 and 2.5 kg/m²) limp mass vinyl barriers laminated to Alara-Lukagro urethane absorption foam. Double layer composites add an extra foam layer as a decoupler after the vinyl barrier. Foams can be faced to resist oil, dirt and moisture. An optional pressure-sensitive adhesive layer facilitates installation in equipment enclosures and machine housings where temperature and environmental conditions permit.

Roll Size: 54" x 25' (1.4 m x 7.6 m)

DAMPING

Damping reduces structure-borne noise generated by a vibrating surface by adding mass to the surface. Airborne noise re-generated by the vibrating surface is also reduced.

Alara-Lukagro damping products are available in adhesive-backed sheets or in compound form that may be sprayed or troweled directly onto the vibrating surface.

Damping Compound | Model KDC-E-162

Non-hazardous, cost-effective solution for reducing "ringing" in sheet metal ducts, chutes, bins and metal partitions. Alara-Lukagro KDC is an emulsion that is easily sprayed or troweled onto metal, glass, wood and plastic. It is fire retardant and resistant to harsh corrosives. Shipped ready to use.

Drum sizes: 5 gal. (19 L) containers to 50 gal. (189 L)

Sound Deadener/Damping Sheets

Model KDD-3642

Alara-Lukagro sound deadeners dampen and eliminate noise caused by vibrating metal surfaces. Typical applications include sheet metal ducts, chutes, bins and hoppers, and machine, motor and transformer housings. Model KDD-3642 is a filled asphalt mastic acoustical sheet material that is fire resistant. One side is coated with pressure sensitive adhesive, making it easy to install. The adhesive withstands temperatures to 400°F (204°C).

Sizes: 36" x 42" (0.9 m x 1.1 m)

Thickness: 0.6" (15 mm)
0.5 PSF (2.5 kg/m²)



BARRIERS

Barriers reduce airborne noise transmission. Barrier effectiveness is dependent on barrier mass, properties associated with stiffness, and the environment or structural surroundings. High-quality Alara-Lukagro barriers are fabricated from transparent or opaque limp, mass-loaded vinyl. When placed between the source and the receiver they offer high transmission loss. Mass ranges: 0.5 to 2 PSF, (2.5 to 9.8 kg/cm²).



Pipe and Duct Lag Model KNM-100AL and ALQ

A 1 PSF (4.9 kg/m²) barrier with a reinforced aluminized facing. Meets Class 1 requirements for flame spread and smoke development per ASTM-E84 with aluminized facing exposed. As KNM-100 ALQ it is available with a scrim faced quilted fiberglass decoupler for direct lagging to process piping and ductwork, STC rating: 28



Barrier Material | Model KNM

Alara-Lukagro KNM mass-loaded vinyl barrier materials are available in reinforced or unreinforced construction. They are used for enclosing noise sources by draping around equipment, suspending between equipment and quiet areas, or lagging to the equipment casings. KNM barrier materials can be used effectively to lag piping systems, reducing valves, etc., and are highly effective as crosstalk barriers and septums. KNM materials are available in 1/2 psf to 1 psf (2.5 to 4.9 kg/m²), in 54" wide x 20-yard (1372 mm x 18.2 m) rolls, with acoustical ratings of STC-21 to STC-27.