

# TYPES OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

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## GUIDELINE

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ELASTO  
PROXY 

ELASTOPROXY.COM

### CANADA

4035 Lavoisier Rue  
Boisbriand, Québec,  
Canada  
J7H 1N1

Phone: (450) 434-2744  
Fax: (450) 434-5998

### CANADA

1145 Nicholson RD Unit 3  
Newmarket, Ontario,  
Canada  
L3Y 9C3

Phone: (905) 898-1139  
Fax: (905) 898-1004

### USA

1021-C Old Stage Road  
Simpsonville, South  
Carolina, USA  
29681-6044

Phone: (864) 228-5900  
Fax: (864) 963-8992

### BELGIUM

Heimolenstraat 127A  
Unit 5, 9100 Sint-Niklaas

Phone: +32 (0) 3 301 01 83

# CAB CEILING

THERMAL AND ACOUSTIC INSULATION



# TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

Thermal and acoustic insulation and floor matting are used to manage heat and/or sound in industrial, commercial, and military applications. Elasto Proxy supplies standard products, fabricates custom solutions, and maintains an in-house laboratory with thermal and acoustical testing capabilities at our ISO 9001:2015 manufacturing facility near Montreal, Quebec, Canada.

There are four types of products for managing heat and/or sound.

- acoustic insulation
- thermal insulation
- thermal-acoustic insulation
- floor matting

Because Elasto Proxy understands how heat and sound travel, we can recommend the right solution.

## ACOUSTIC INSULATION

Acoustic insulation absorbs, transmits, or redirects sound waves. These vibrations travel through the air and, when they encounter objects, can result in unwanted sound (noise). Sound is measured in decibels (dB) and has a specific frequency distribution that's measured in Hertz (Hz). Unlike standard noise control products, custom acoustic insulation can be used to "tune out" specific frequencies. Examples of acoustic insulation include the headliners in tractors and other types of heavy equipment.

## NOISE CONTROL AND THE SCIENCE OF SOUND

There are three elements to noise control:

- source
- path
- receiver

It's important to understand each one so that you can choose the right acoustic solution.

### SOURCE

Source is the origin of the noise to control. For example, is the source of the sound a bell, a whistle, or a loudspeaker? Maybe you're trying to silence traffic noises or industrial machinery instead. Low-frequency sounds, especially those that cause vibrations, are especially challenging. Yet failing to quiet them can result in damage to human hearing or mechanical failure.



### PATH

Path describes how the sound is transmitted. In the case of a bell, whistle, or loudspeaker, the sound may travel through a factory's interior wall and disturb the occupants of an adjacent room such as a front office. With heavy equipment such as logging trucks and military vehicles, engine sounds travel from under the hood to inside of the cab.

### RECEIVER

Receiver considers the listener's requirements, expectations, or preferences. On a factory floor, some noise is expected as long as it doesn't exceed regulatory limits. Passengers on a train, bus, or airplane want to be able to hear themselves talk. The owner of a sports car wants to hear the engine's sounds, but without excessive amounts of road noise.



# FINDING THE SOURCE OF NOISE

HOW TO REDUCE AMBIENT NOISE IN MOBILE EQUIPMENT CABS



# TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

## ADDITIONAL CONSIDERATIONS: SOUND POWER AND NOISE REDUCTION

Consider the following during acoustic insulation selection.

- Noise is more than a nuisance. It’s a risk that carries costs.
- Pay attention to the path. The way sound travels may surprise you.
- Doubling the noise reduction may not cut the sound power in half.
- Decibel-level differences between sources drive perceptions of sound.

The following sections explain.

### NOISE IS MORE THAN A NUISANCE. IT’S A RISK THAT CARRIES COSTS.

Noise can make it hard to hear beeps, buzzers, and alarms from machinery and equipment. Loud sounds can also impede concentration and limit employee communications. Violating industrial noise standards can result in fines and penalties, but the problem doesn’t end there. Sound-induced vibrations can cause structural fatigue and stress concentrations that cause parts, assemblies, and equipment to fail.

### PAY ATTENTION TO THE PATH. THE WAY SOUND TRAVELS MAY SURPRISE YOU.

Noise is a pressure wave that travels from a source through a medium to a receiver. In mobile equipment where the operator sits above the engine bay, sound-induced vibrations can travel from the engine (the source) through a body panel (the medium) and cause a windshield to rattle. Yet the equipment operator (the receiver) may blame the rattling on noise that’s coming from the engine through the floor.

### DOUBLING THE NOISE REDUCTION MAY NOT CUT THE SOUND POWER IN HALF.

The human ear detects variations in pressure caused by sound waves. The amplitude of this variation, the noise level, is measured in decibels (dB). Sound pressure level (SPL), a sound power measurement, uses a logarithmic scale where the reference is the threshold of hearing. As the following table shows, dB reductions and the corresponding SPL percentages might not be what you expect.

If you reduce the noise level by	You’ll reduce the sound power by
1 dB	21%
3 dB	50%
10 dB	90%
20 dB	99%

# SOUND ABSORBERS

SELECTING SOUND ABSORBERS FOR INDUSTRIAL NOISE CONTROL



# TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

## DECIBEL-LEVEL DIFFERENCES BETWEEN SOURCES DRIVE PERCEPTIONS OF SOUND.

Decibel-level differences between noise sources can also affect total noise levels in unexpected ways. Consider the example of two machines running in the same room.

Each machine has a current noise level of 90 dbA, a decibel-driven unit of measure for the relative loudness of sounds in air. Machine 1 always runs at 90 dB, but the noise level for Machine 2 increases depending on which operations are performed. Here's what happens when Machine 2 runs at 90, 95, and then 100 dBA.

Machine 1	Machine 2	Total Noise Level
90 dBA	90 dBA	93 dB
90 dBA	95 dBA	96 dB
90 dBA	100 dBA	100 dB

## TYPES OF ACOUSTIC INSULATION

Elasto Proxy fabricates four types of acoustic insulation materials for noise control:

- sound absorbers
- sound barriers
- sound dampeners (dampers)
- facings

## SOUND ABSORBERS

Sound absorbers are used at the source of the sound and its receiver. These noise control products are made of open cell acoustical foams and can be combined with specialized facings that tune-out specific frequencies and/or provide a decorative, durable, or cleanable finish.

## HOW SOUND ABSORBERS WORK

Sound energy passes through the foam's open cells and is converted into small amounts of low-grade heat that is dissipated. Acoustical performance is highly predictable

because the material manufacturer carefully controls the uniformity of each cell.

## SOUND ABSORBING FOAMS

Most sound absorbers are made of the following foam materials:

- Polyester
- Polyurethane
- Urethane
- Melamine

## SOUND ABSORBING FACINGS

Vinyl is a commonly used facing material since it can absorb low frequencies (such as the rumble of a diesel engine) and is easy to clean. Often, vinyl-faced sound absorbers are used in the cab or cabin where the operator sits. Aluminum foil is used as a facing material when a combined thermal-acoustic solution is required, such as engine bay insulation.



# SOUND BLOCKERS

WHAT ARE SOUND BLOCKERS AND HOW DO THEY WORK?





# TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

## HOW TO SELECT SOUND ABSORBERS

To choose the right sound absorber, you need to ask and answer a series of questions. Each application is different, but this list is a good place to start.

- What is the maximum insulation thickness that your application can support?
- Are you trying to insulate an area where there's air flow resistance, or can air flow in and out?
- Do you need facing materials that can absorb a specific frequency or frequencies?
- Do you need facing materials for protection? If so, what are you protecting against?
- If the sound absorber must provide flame resistance, what is the flame rating you need to meet?
- Will the acoustic insulation remain stationary, or be subjected to opening, closing, and bending?
- Will you add sound absorbing materials to structural components where there's vibration?

For assistance with the selection process, contact us.

## SOUND ABSORBERS FROM ELASTO PROXY

Elasto Proxy provides sound absorbers such as:

- Un-faced polyester or polyurethane foams for maximum sound absorption
- Aluminized polyester faced foams for hostile environments that need to stay clean
- Urethane faced foams that reduce the ingress of dirt, particles, and debris
- Convoluted foams with increased surface area for enhanced sound absorption

We fabricate custom sound absorbers and offer these standard products, some of which also provide thermal insulation.

- SH1000-54-PVTBL is a sound absorber that sandwiches a thick layer of polyether or polyurethane foam between a PVC-coated fabric facing and a removable liner with PSA adhesive. The charcoal-colored facing material contains a series of small holes for enhanced noise control. The acoustic foam is tested to ASTM specifications and meets various flammability standards.
- SH-250-60-PVTM (FM-ZM) is an insulation sandwich that consists of a sound-absorbing foam bonded to a vinyl facing. The facing material contains small holes for enhanced acoustical properties and provides an attractive appearance for cabin interiors. For ease-of-insulation, SH-250-60-PVTM (FM-ZM) features a removable liner with PSA adhesive.
- SH-1000-54-ZZUT consists of a sound-absorbing foam that's heat-laminated to a urethane film or matte facing. These films and facings come in different colors and can provide resistance to moisture, dirt, and most petroleum products. For ease-of-installation, SH-1000-54-ZZUT can include a removable liner with PSA adhesive.
- SH-2000-48-MEZT is a lightweight, fire-resistant melamine foam that can be combined with various facing materials and PSA liner. This open-cell foam combines high-temperature resistance with superior sound-absorbing properties. Facing materials like aluminum foil can reflect radiant heat and provide chemical resistance. This makes it a good choice for engine bays.

# TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

## SOUND BLOCKERS

Sound Blockers are used at the source of the sound and sometimes at its receiver. They are also known as noise blockers, sound blockers, and sound barriers.

## HOW DO SOUND BLOCKERS WORK

Sound blockers work by diffracting the sound that is transmitted from the source to the receiver. Because sound is a wave, it bends (diffracts) when encountering an obstacle. Consequently, sound blockers need to block any and all paths from the source to the receiver. Because sound travels the same path as air, even tiny gaps that admit air will also permit the passage of noise.

Sound barriers are also affected by varying air speeds. An airflow that travels from the source to the receiver may diffract sound passing through the air and cause it to bend downward, allowing it to be heard.

## TYPES OF SOUND BLOCKING MATERIALS

Sound blockers are usually made of vinyl, a dense but flexible plastic that offers strength, durability, and resistance to moisture and humidity. Mass loaded vinyl (MLV), a type of vinyl, is a good choice because it contains salt, sand, or tiny metal particles for added mass that helps to block the sound. MLV's flexibility supports loading when an external force, such as pressing or bending, is applied, and its relative thinness supports effective sound blocking in tight spaces.

Mass loaded vinyl can be used as a standalone sound blocking material or in conjunction with sound absorbing or sound dampening materials. Although MLV provides good environmental resistance, it is important to remember that other types of acoustic insulation may have different material properties. Therefore, a sound barrier that's suitable for a factory office may not be able to withstand the splash of automotive fluids in an engine bay, or the petroleum products used with machinery and equipment.

## HOW TO SELECT SOUND BLOCKERS

To choose the right sound blocker, you need to ask and answer a series of questions. Each application is different, but this list is a good place to start.

- What is the source of the sound?
- How close to the source of the sound can you install the sound blocker?
- Do you need sound blocking plus sound absorption and/or vibration dampening?
- Is airflow a factor?
- What is the maximum insulation thickness that your application can support?
- Do you need resistance to media such as fuels, chemicals, or cleaners?
- Do you need resistance to a specific range of temperatures?
- Does your application require flame resistance?
- Do you need a sound blocker that also meets a specific flammability standard?
- How will you install the sound blocker?

## SOUND BLOCKERS FROM ELASTO PROXY

Elasto Proxy custom fabricates sound blockers and offers FM-500-60-ZM, a single layer of acoustical foam that is bonded to rubber matting. Applications for FM-500-60-ZM include floormats and flooring for on-road and off-road equipment. It's also a good choice for runner and anti-fatigue mats.

## SOUND DAMPENERS (SOUND DAMPERS)

Sound Dampeners, or sound dampers, are used at the source and the receiver. Unlike sound barriers, they reduce sound energy instead of blocking it. They can also help with vibration control.

# TYPES OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

## HOW DO SOUND DAMPENERS WORK

To understand how sound dampeners work, consider the example of a drummer who hits and then grabs a cymbal. Grabbing the cymbal stops it from vibrating and prevents the transmission of sound at its source. If the drummer is in a different room, a listener who installs sound dampening panels could also reduce the amount of vibration-induced sound that is received.

For a different example, consider an exercise studio in a multi-floor building. The feet of a gymnast strike a wooden floor, which is connected to the ceiling in an office below. This striking action produces vibrations that disturb the office workers. A second gymnast then lands on a soft, dense rubber mat that dissipates the vibrational energy for noise reduction.

## TYPES OF SOUND DAMPENING MATERIALS

There are many different sound dampening materials, but here are four common choices.

- Extruded vinyl dampers are flexible, lightweight, and come in grades that can meet UL 94 V0 flammability requirements and ASTM standards used by the mass transit industry.
- Asphalt-impregnated paperboard dampers are odorless, wear-resistant, waterproof, lightweight, and cost-effective.
- Metal foil dampers can be embossed so that raised features in the foil disrupt sound waves as they travel across the surface.
- Fiberglass dampers are made of a reinforced plastic that's composed of glass fibers embedded in a resin matrix.

## HOW TO SELECT SOUND DAMPENERS

To choose the right sound dampener, you need to ask and answer a series of questions. Each application is different, but this list is a good place to start.

- What is the source of the sound?
- Where is the receiver?
- Are there specific frequencies that you need to address?
- Where is the most effective location for sound dampening?
- Are vibrations traveling through support structures?
- What is the maximum insulation thickness your application can support?
- Do you also need sound blocking or sound absorption?
- Do you need acoustic insulation that also provides environmental resistance?

For assistance with the selection process, contact us.

## EXAMPLES OF SOUND DAMPENERS

Elasto Proxy custom fabricates sound dampeners and offers SH-625-54-ZTBRA, a dense yet flexible standard product for maximum sound attenuation over a broad frequency range. SH-625-54-ZTBRA sandwiches a sound damper between acoustical foams and includes a metal foil facing that reflects radiant heat. For ease-of-installation, it uses an adhesive-backed liner.

## THERMAL INSULATION

Thermal insulation reduces the transfer of heat between objects, such as an engine and a firewall, which have different temperatures. These objects can be in direct contact with each other, or close enough so that heat radiates from one object to another. With thermal insulation, heat is reflected or moved away from rather than absorbed by the lower-temperature object. Heat is associated with the failure of electronic devices, but it can also contribute to mechanical failure and reduced performance.

# CAB FLOORING

THERMAL AND ACOUSTIC INSULATION





# TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

## THERMAL INSULATION MATERIALS

Elasto Proxy fabricates thermal insulation from metal, rubber, and plastic materials. Thin aluminum sheets (foils) are good at reflecting heat and are lightweight. Plastic films made from heat-resistant mylar, a type of PET plastic, are also used. Silicone-coated fiberglass can withstand high continuous temperatures.

In addition, Elasto Proxy fabricates silicone, polyester, polyurethane and melamine foams, including open cell materials that can meet specific flammability standards such as UL 94 HF-1 (horizontal burning) or UL 94-V0 (vertical burning).

## THERMAL CONDUCTIVITY AND THERMAL RESISTANCE

The materials that are used for thermal insulation carry specifications for thermal resistance and thermal conductivity. Thermal resistance is a measurement of resistance to heat flow, a naturally occurring phenomenon among objects of different temperatures. Thermal resistance is the inverse of thermal conductivity, a measure of heat flow per unit of time. Materials with low thermal conductivity have a high thermal resistance, and vice versa.

## THERMAL-ACOUSTIC INSULATION

Thermal-acoustic insulation is used to reduce heat and sound. Individual materials are combined together and fabricated into a sandwich-style structure. Previous sections of this guide describe the materials that are used for acoustic insulation and thermal insulation. The following sections describe two standard products: ZTBRA and Z3T.



## EXAMPLE 1: SHORT-TERM EXPOSURE TO HIGH HEAT

ZTBRA is recommended for applications where the maximum service temperature does not exceed 300° F, and where there's only short-duration exposure to high heat. It is made of these materials.

- aluminum foil or Mylar facing
- polyester (PE) or polyurethane (PU) open cell acoustic foam
- polyvinyl chloride (PVC) barrier material
- pressure-sensitive adhesive (PSA) with a special liner

The aluminum foil or Mylar facing reflects radiated heat and provides improved resistance to fluids and tearing. This foil or facing is laminated onto the PE or PU foam, an open cell acoustical material that absorbs the low frequencies common to big diesel engines. The PVC barrier material also helps to block the passage of sound and provides resistance to liquids and gases such as water and water vapor. The special PSA liner peels easily for ease and speed of installation.

## TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

### EXAMPLE 2: CONTINUOUS EXPOSURE TO HIGH HEAT

Z3T is recommended for applications with higher continuous temperatures and that require flame resistance. It is made of these materials.

- silicone-coated fiberglass facing
- open cell silicone foam
- PVC barrier material
- PU or PE foam
- PSA with a low-density polyurethane (LDPE) liner

The silicone-coated fiberglass facing can withstand continuous temperatures of 500° F and will not deteriorate when exposed to fire. The open-cell silicone foam absorbs higher-frequency sounds. The PVC barrier blocks lower frequency sounds in the 400 Hz to 600 Hz range. The PU or PE decoupler is made of 1/4"-thick foam that prevents the transfer of vibration and sound to nearby components. Without this foam decoupler, metal components would vibrate (and cause sound). The decoupler also improves the energy absorption of the barrier.

Finally, the PSA adhesive and LDPE liner makes Z3T installation cost-effective and easy-to-install. Although Z3T is designed for higher-temperature applications, an expensive high-temperature PSA isn't required. Rather, a commercial PSA that can withstand temperatures up to 250° F may be used. That's because the PSA isn't right near the heat source, and the other layers in Z3T block or absorb significant amounts of heat. The LDPE liner also strengthens Elasto Proxy's Z3T product because, unlike paper, this plastic won't tear when peeled and stretched.

### FLOOR MATTING

Floor matting protects metal flooring, supports employee safety, and can provide enhanced acoustic insulation. For example, the metal flooring inside a heavy equipment cab is strong and durable; however, operators track mud, snow, dirt, and water inside. Rubber protects these metal surfaces and helps to reduce slip-and-fall hazards. Rubber floor matting

can also be laminated to acoustical foams that absorb noise from the engine compartment, which is often directly above where the operator sits.

### FLOOR MAT STYLES AND COLORS

Rubber floor matting can have a raised, pebbled texture for more secure footing or recessed, diamond-shaped features for catching water. Most rubber floor mats are black, but Elasto Proxy can also provide you with materials in gray, brown, or custom colors to match your larger product design. The acoustical foams that are laminated to floor matting are typically 3/8" or 5/8" thick, depending on the specific noise levels and decibel reduction requirements.

### RUBBER FLOOR MATTING VS. FABRIC CARPETING

Unlike carpeting, rubber floor matting won't stain. Rubber is also easier-to-clean and offers greater wear resistance than fabric. In a mobile equipment cab, an operator's feet may remain in the same position for extended periods of time. With carpet floor mats, heel wear can cause holes in the fabric. This exposes the subfloor, introduces a potential safety hazard, and provides a path for engine sounds. Rubber flooring can also be used as a kick-plate to protect cab walls from contact with an operator's boots.

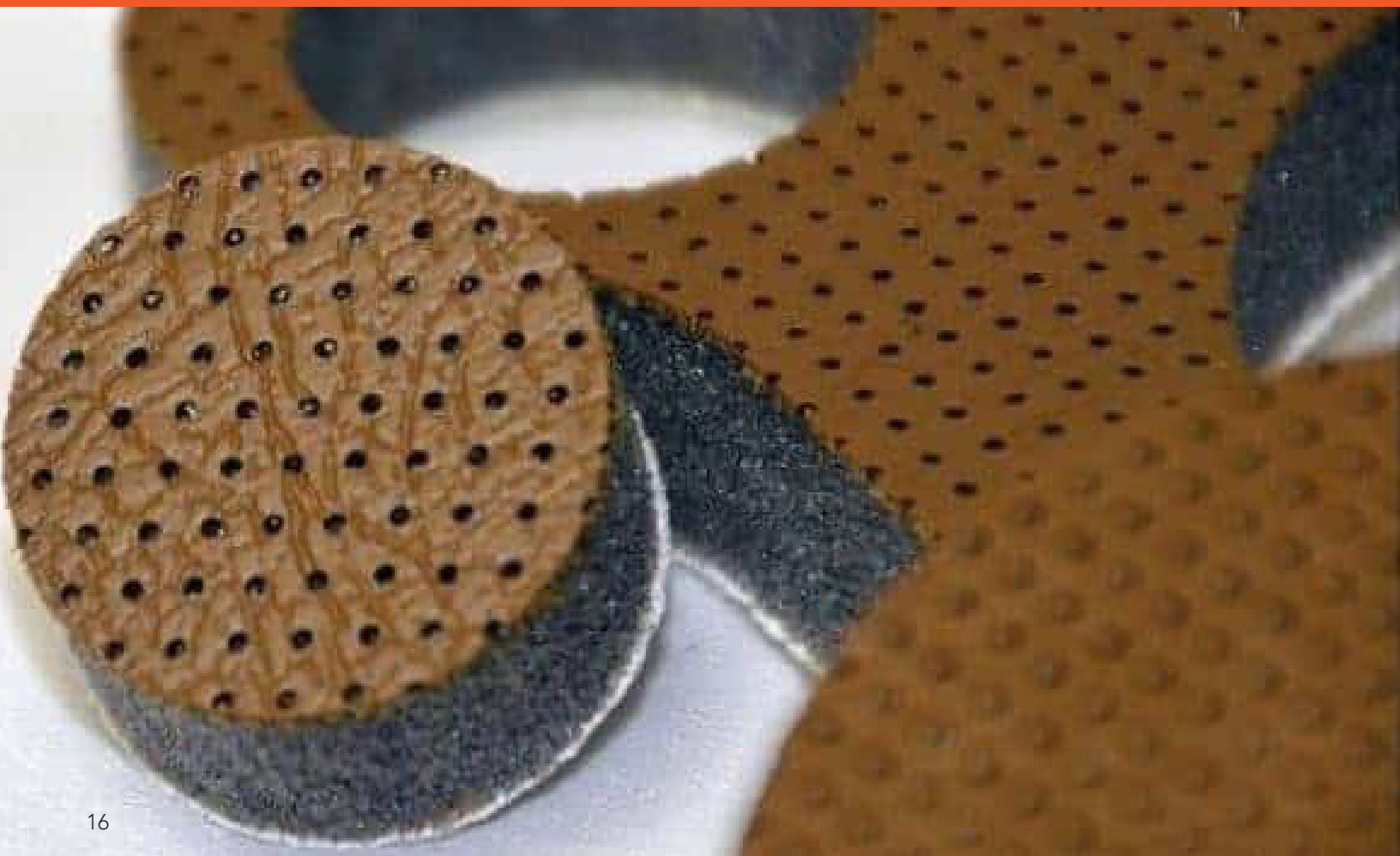
### HOW THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING ARE MADE

Elasto Proxy uses water jet cutting, lamination, and taping to fabricate thermal and acoustic insulation and floor matting. We also provide value-added services that range from design assistance and help with material selection to kitting, custom packaging, materials forecasting, and warehousing. The following example describes our services.

FOR MORE INFORMATION  
[ELASTOPROXY.COM](http://ELASTOPROXY.COM)



# WATER JET CUT CAB INSULATION





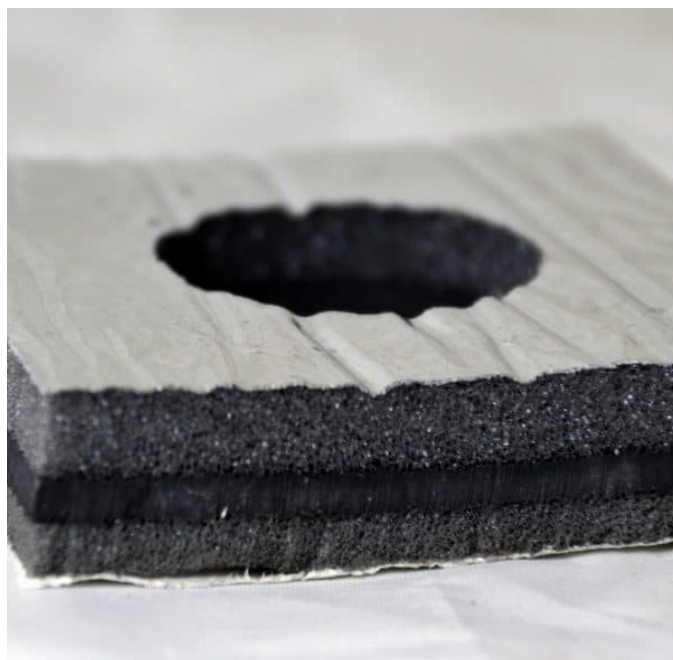
# TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

## WATER JET CUTTING

Water jet cutting creates acoustic, thermal, and thermal-acoustic insulation and floor matting without long lead times or tooling charges. A form of digital manufacturing, it uses computer numerical control (CNC) to convert your computer-aided design (CAD) file into coordinates that control the machine's movement for computer-aided manufacturing (CAM). For prototyping and low-to-medium volume manufacturing, water jet cut insulation is ideal.

Elasto Proxy uses water jet equipment to cut smooth, straight lines and chamfers with 30° or 45° angles. For cabin insulation, we can make angled cuts for wrap-around edges with a finished appearance. We can also create through-holes for fasteners that are required by cabin components such as fire extinguishers, first-aid kits, and net pockets. To accommodate raised fastener heads that are hidden behind cabin insulation, Elasto Proxy can even cut blind holes in the back of the foam. These holes aren't visible to equipment buyers or occupants, but they support the flush mounting of custom cabin insulation.

The advantages of water jet insulation are clear when you compare it to insulation that's cut by hand with a carboard template and a utility knife or box cutter. Over time, templates get smaller from cuts into the sides of cardboard. The results include insulation or flooring that's cut too small. Parts with rough cuts won't impress equipment buyers, and sourcing managers won't know how much waste is created by poor-quality cuts. As material yields suffer, more material is ordered than is really needed. This ties up cash and requires additional inventory space.



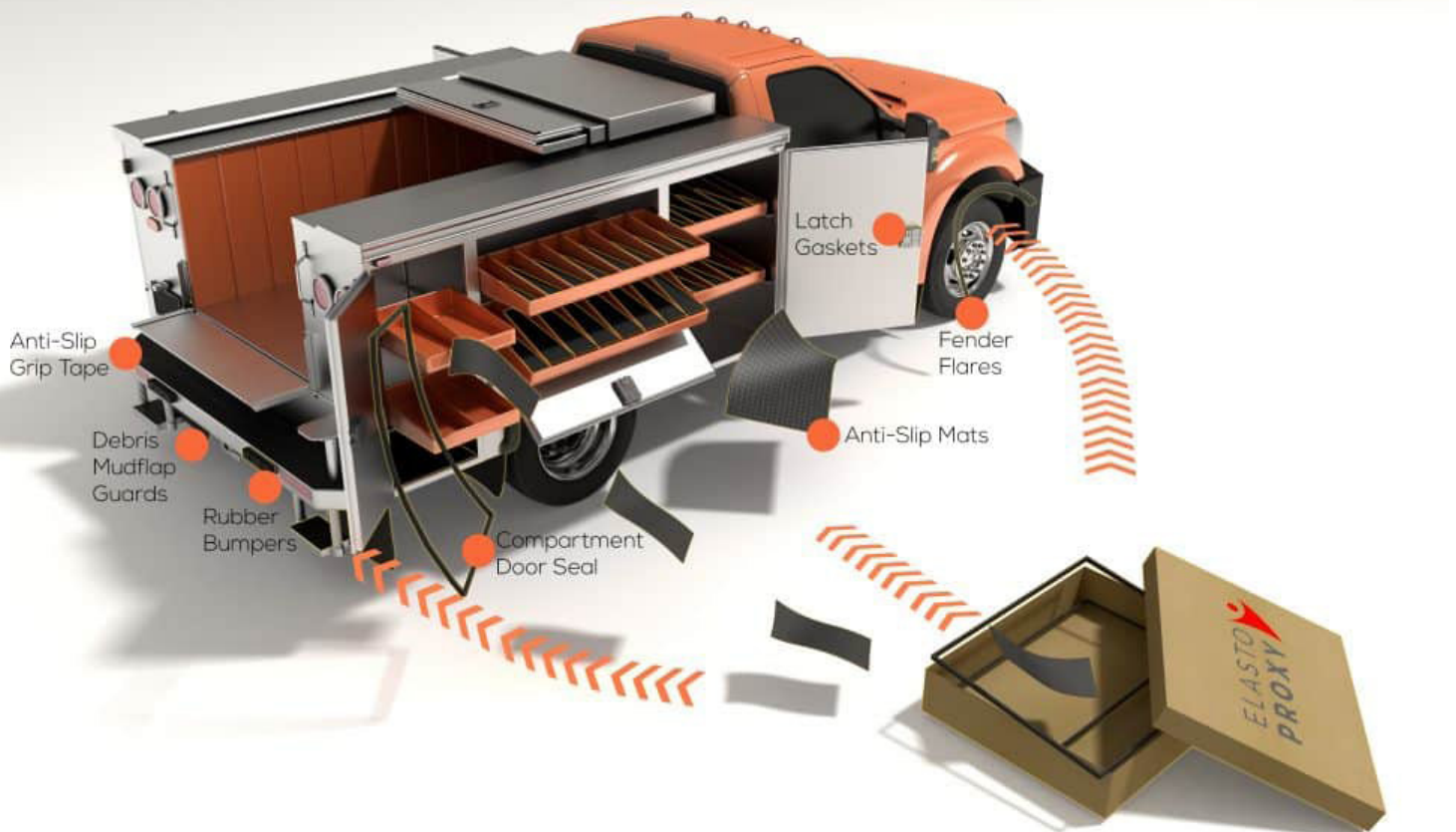
## LAMINATION AND TAPING

Elasto Proxy uses adhesive lamination to build composite structures that contain multiple layers of materials, each of which impart particular properties. We also use lamination to produce rubber flooring that provides enhanced acoustic insulation. We can even provide taped insulation for a peel-and-stick solution that's easy-to-install.

HATS tapes and PSA tapes speed gasket installation and provide reliable attachment. Adhesive tapes that use a heat-activated taping system (HATS) require curing but provide permanent fastening. Pressure-sensitive adhesive (PSA) tapes don't require heat or curing. They're mainly used for temporary fastening and with screws, bolts, staples, or pins.

For engineers and product designers, both types of tapes offer advantages over mechanical fasteners and liquid adhesives. Mechanical fasteners are durable, but they're susceptible to loosening from vibrations. Liquid adhesives are messy and can raise environmental health and safety concerns. Adhesives tapes won't vibrate loose and are easy-to-install, too.

# KITTING AND ASSEMBLY PACKAGING



# TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

## KITTING AND ASSEMBLY PACKAGING

Elasto Proxy also offers kitting and assembly packaging services that save you time and money. Not all kits are arranged in order of assembly but combining kitting with assembly packaging is a powerful way to speed installation and reduce manufacturing waste.

### KITTING

Kitting groups and packages two or more related products together to create a new stock keeping unit (SKU). SKUs promote efficient operations, but it's possible to have too much of a good thing. Manufacturers with too many SKUs spend more time finding, sorting, handling, and organizing stock. This adds labor costs and requires more storage space. A large number of SKUs can also tie-up cash in inventory and increase a company's tax liabilities.

Kitting reduces the number of SKUs that you have and reduces these risks and expenses. Related items are packaged together so that they can be ordered, received, warehoused, and used at the same time. For example, a heavy equipment manufacturer can order all of the sealing and insulation that is needed to assemble an off-road vehicle. For each new build, there's only one SKU to process.

Parts that are kitted are packaged together and shipped in the same box. These parts can be arranged in a particular order or dumped in the box at random. If kitted parts are packaged in order of assembly, an installer will be able to work more efficiently. There's no need to search for the part to install first or the part to install next. That's where assembly packaging adds greater value.

## ASSEMBLY PACKAGING

Assembly packaging arranges kitted parts in order of installation. When you open the box, the part you need to install first is on top. The part you need to install next is below the first part, and so on. At the bottom of the box is the part to install last. Because they're kitted items, all of the parts in the box belong to the same SKU. For kitted items, assembly packaging is even more efficient than standard packaging.

Consider the example of a heavy equipment manufacturer that orders a kit with 25 different parts. An assembler opens standard packaging and looks for the part to install first. If this part has a similar shape or size to another part, the wrong part may get picked. The assembler may then unpack all of the parts on a worktable, search for each part as it's needed, and then walk back and forth to the line.

Meanwhile, another worker opens assembly packaging that contains the same 25 kitted parts. There's no confusion about which part to install first since it's on top. The assembler just follows the work instructions and removes each part from the box when it's time to install it. There's no searching for parts and no need to dump them on a table. There's no walking back and forth from the table to the line either.

In this example, the headliner could be the part that's on top and that gets installed first. The floor mats get installed last, so they're on the bottom of the assembly packaging. If this sounds efficient to you, consider going a step further and combining assembly packaging with just-in-time inventory. The kitted items travel in a single box right from the receiving area to the line, bypassing the warehouse and all of its associated costs

# FORECASTING & WAREHOUSING





## TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING



### FORECASTING AND WAREHOUSING

Manufacturers who share their sales forecasts and issue blanket purchase orders to Elasto Proxy can reduce supply chain uncertainty and ensure part availability. Elasto Proxy can buy everything that you need for your forecast period and then release low-to-medium volumes from our warehouses when you need them. You won't have to pay for shipments until they arrive, and you can buy in lower minimum order quantities.

Elasto Proxy also provides warehousing services for finished gaskets and molded plastic and rubber parts. When you buy from us, you can leverage our volume discounts and avoid tying-up cash and in-house storage space. You can also order all of the rubber parts that you need from a single supplier so that you have fewer vendors to manage, fewer purchase orders to issue, and fewer shipments to pay for.

Elasto Proxy has four warehouses near major transportation corridors. In addition to the warehouse at our manufacturing center near Montreal, Canada, we maintain warehouses near Toronto, Canada, and Simpsonville, South Carolina (USA). Elasto Proxy also operates a warehouse in Belgium that serves the European market.

## TYPES OF OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING



### SAMPLES OF THERMAL AND ACOUSTIC INSULATION & FLOOR MATTING

Qualified manufacturers are invited to request The Elasto Bag, which contains at least nine samples of sealing and insulation – including many that you’re read about in this guide. The Elasto Bag contains:

- FM-500-60-ZM
- FM-625-50-ZM
- SH-250-60-PVTM (FM-ZM)
- SH-500-PVTG
- SH-500-58-ZMT
- SH-625-54-ZTBRA
- SH-1000-54-PVTBL
- SH-1000-54-ZZUT
- SH-2000-48-MEZT

Contact us for samples of acoustic, thermal, and thermal-acoustic insulation and floor matting.

# GET IN TOUCH

## CANADA

4035 Lavoisier Rue  
Boisbriand, Québec,  
Canada  
J7H 1N1

Phone: (450) 434-2744  
Fax: (450) 434-5998

## CANADA

1145 Nicholson RD Unit 3  
Newmarket, Ontario,  
Canada  
L3Y 9C3

Phone: (905) 898-1139  
Fax: (905) 898-1004

## USA

1021-C Old Stage Road  
Simpsonville, South  
Carolina, USA  
29681-6044

Phone: (864) 228-5900  
Fax: (864) 963-8992

## BELGIUM

Heimolenstraat 127A  
Unit 5, 9100 Sint-Niklaas  
  
Phone: +32 (0) 3 301 01 83