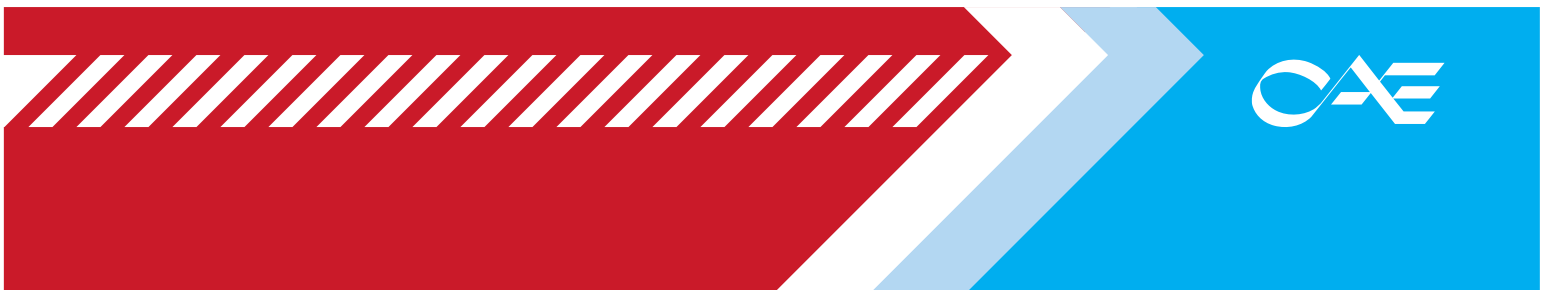
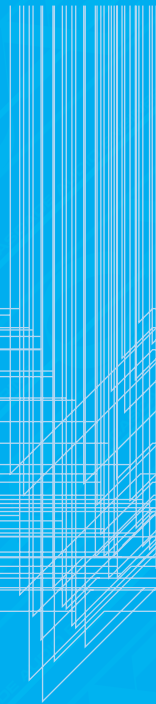
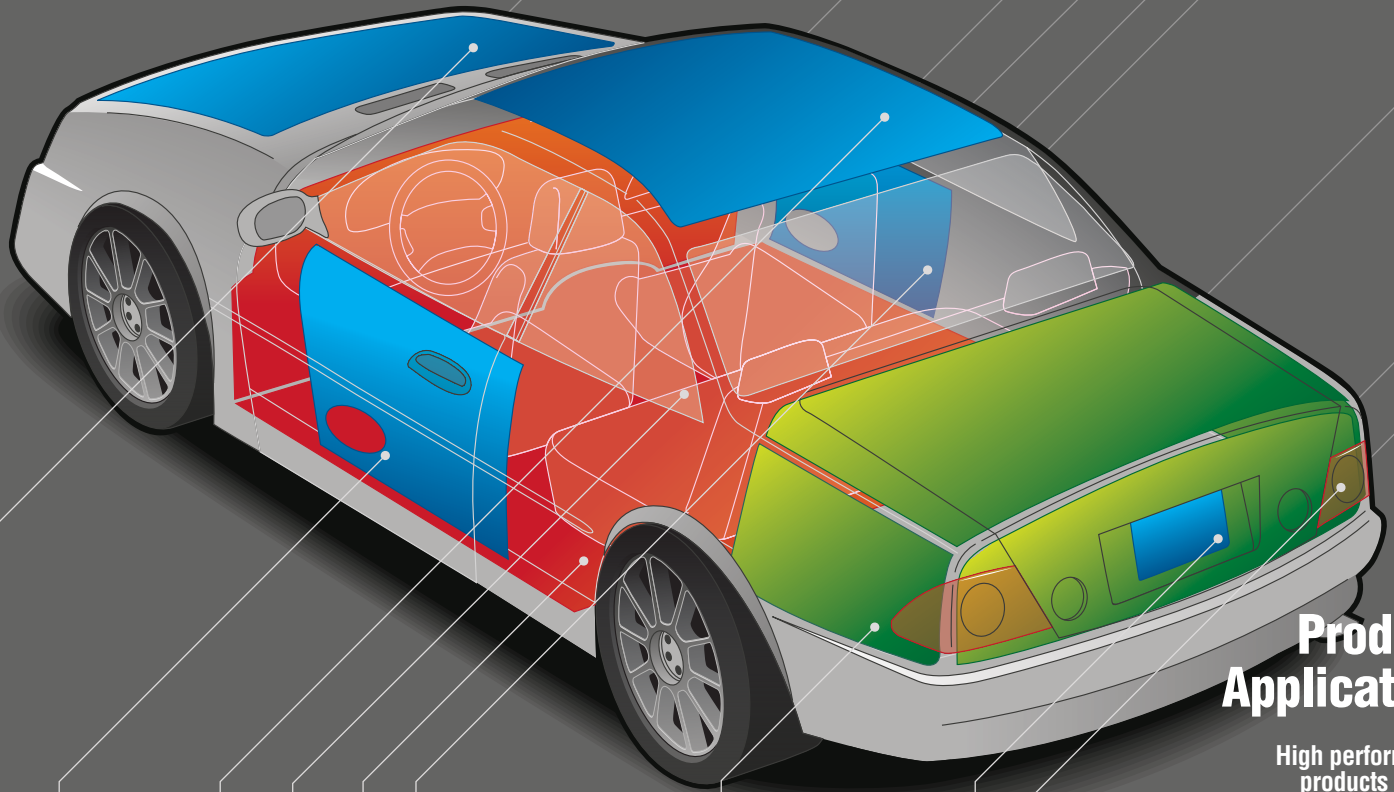


CASCADE AUDIO ENGINEERING

Cascade Audio Engineering is proud to offer innovative acoustic control products for the mobile and home audio industries. We strive to develop industry leading products not "me too" clones. VBLOK acoustic products set industry standards for both performance and value. Cascade Audio Engineering offers state of the art solutions to all of your noise and vibration problems. We are fully capable of supplying a unique selection of high quality materials that are lighter, more effective and easier to install than anything in the industry. From viscoelastic polymer vibration dampers to composite low frequency barrier materials, CAE has a product that can handle your worst noise nightmare.

PRODUCTS AND SPECIFICATIONS





Product Application

High performance products for the quality conscious.

TK1 TRUNK TRIM PANELS	VB5 INTR. TRIM PANELS LIC. PLATES SPKR. MOUNTING CUSTOM UPHOLSTERY
VB2 PLASTIC & SHEET METAL BODY PANELS VAPOR BARRIER FLOOR PAN	VB2HD PLASTIC & SHEET METAL BODY PANELS VAPOR BARRIER FLOOR PAN
GATORSKIN FLOOR PAN TRUNK DOORS	DK1 DOORS TRIM PANELS
VB1S DOORS TRUNK FENDER WELLS FRAME UNDERCARRIAGE	VB1 VEHICLE BODY PANELS LOUDSPEAKER ENCLOSURES
VB1X VEHICLE BODY PANELS LOUDSPEAKER ENCLOSURES	VMAX VEHICLE BODY PANELS OEM REPLACEMENT TRIM PANELS ROOF & FLOOR
VB3 FLOOR PAN FIREWALL SIDE PANELS TRANSMISSION TUNNEL	VB4 FLOOR PAN FIREWALL SIDE PANELS TRANSMISSION TUNNEL
INSULATOR ROOF FLOOR	
SK1 DOORS	SK2 DOORS
DEFLEX DOORS SPKR. ENCLOSURES SUBWOOFER ENCLOSURES IN-WALL SPKRS	
VBTS UNDERHOOD ENGINE COMPARTMENT FIREWALL	



Product Display

Free Standing
or Slat Wall



DAMPERS



Cascade Audio Engineering offers a wide variety of damping products ideal for sheet metal, plastic, fiberglass and wood. They can be used to kill vibration and the associated noise in aircraft, automobiles, boats, trucks and RV's.

How do these products work? They operate as "viscoelastic" dampers. They convert vibrational energy into low level heat. As an enhancement product to mobile audio systems, they can yield stunning results.

A reduced noise floor doesn't mask your music allowing your audio system to play with much more detail and clarity. Cellular phone users can enjoy clearer, safer communications while on the move. Custom car builders and street rodders now have a way of introducing a quieter, more comfortable ride without sacrificing performance and handling.

Cascade Audio Engineering products are modular by design. They install easily and permanently while adding minimal weight to the vehicle being treated.

VB1

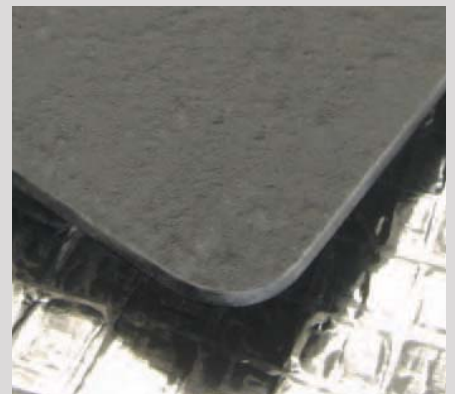
Looking for a high performance, economical damping solution? VB-1 is an air curing, water-based damping paste. It is easily applied by hand or with plastic body filler tools. It is non-toxic, environmentally friendly and cleans up with soap and water. Use it for damping large panels as well as curved and uneven surfaces. It effectively damps vibration in metal, plastic or wood over a wide frequency range (Typically 10Hz-40kHz). Use of VB-1 can greatly reduce vibration and will noticeably improve door mounted speaker performance. It will also reduce noise that is transmitted into the passenger compartment. It can be applied to the interior surfaces of speaker enclosures (especially subwoofers) to reduce vibration and improve overall performance.

APPLICATIONS

RV and vehicle body panels
Loudspeaker enclosures
Metal and wood wall structures
Marine:
Hull, Bulkhead and Engine Compartment
Sheet metal Ducting, Chutes and Hoppers
Air Compressors and Machine Tool Housings

SPECIFICATIONS

CONTAINER: VB-1(1G) _____
1 US GALLON
VB-1(5G) _____
5 US GALLONS
EFFECTIVE TEMP RANGE _____
32 - 175 DEGREES (F)
COLOR _____
GRAY
VISCOSITY _____
PASTY-STIFF
WEIGHT _____
11 LBS. PER GALLON WET
SOLIDS CONTENT _____
APPROX. 62%
SPECIFIC GRAVITY _____
1.5 WET...1.3 DRY
CURE TIME _____
1/16" THICKNESS-10 HRS...1/8" THICKNESS-16 HRS.
CHEMICAL RESISTANCE (DRY) _____
VERY GOOD FOR FUELS, LUBRICANTS
AND HYDRAULIC FLUIDS
FLAMMABILITY _____
ASTM E84 CLASS A, MVSS-302, FAR-25.853 A+B,
ASTMD635-68, FLAME SPREAD LESS THAN 25 PER
ASTM E-162 RADIANT PANEL TEST
SHELF LIFE _____
6 MONTHS WHEN STORED IN ORIGINAL CONTAINER AT
72 DEG.(DO NOT STORE BELOW 35 DEGREES F)
GEIGER PLATE DECAY RATE _____
68DBA/SEC. @ 72 DEG. F. - 160HZ
THICKNESS (MIN. EFFECTIVE) _____
1:1 RATIO OF COMPOUND TO SUBSTRATE
THICKNESS (IDEAL EFFECTIVE) _____
2:1 RATIO OF COMPOUND TO SUBSTRATE



VB1X

Whether you're restoring a classic, building a radical custom street rod or trying to recreate a concert hall in your car, if high performance with a custom fit and finish is what you're after, CAE has the answer. VB-1X is a high-performance sprayable, air curing damping compound which has been engineered specifically for use on the interior side of external body panels. This unique combination of silica-mica, ceramics and an advanced chemical binder greatly reduces structural resonance. Using our SG-1 spray gun, application is quick and easy leaving an attractive matte black finish that can also be painted if desired. VB-1X is nontoxic, water based, environmentally friendly and cleans up with soap and water.

APPLICATIONS

RV and vehicle body panels
Loudspeaker enclosures
Metal and wood wall structures
Marine:
Hull, Bulkhead and Engine Compartment
Sheet metal Ducting, Chutes and Hoppers
Air Compressors and Machine Tool Housings

SPECIFICATIONS

COLOR (WET / DRY)
PURPLE / BLACK

CONTAINER SIZE
1 GAL., 5 GAL.

APPROXIMATE COVERAGE: (1 GAL. / 5 GAL.)
30 SQ.FT. / 150 SQ.FT.

EFFECTIVE TEMPERATURE RANGE
32 - 175 DEGREES F.

CURED APPEARANCE
BLACK STIPPLED FINISH

FLASH POINT
NONE (WATER BASED)

NONVOLATILE CONTENT BY WEIGHT
75%

NONVOLATILE CONTENT BY VOLUME
62%

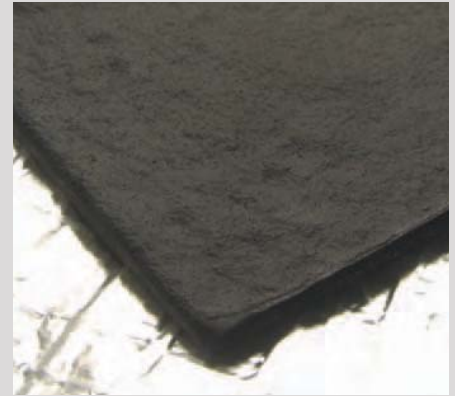
VISCOSITY (BROOKFIELD RV, SPINDLE #5 @ 10RPM)
10,000 CPS

SPECIFIC GRAVITY
1.54

WEIGHT
12.9 LBS/GAL

V.O.C. (EPA METHOD#24, MINUS WATER;CALCULATED)
0 LBS/GAL

SG1
Spray Gun applicator for
VB1X
ThermaKote



VB1S Pro QuietKote Aerosol Spray

Have a small localized vibration problem? VB-1S PRO is a 20oz. aerosol spray. A high performance solvent based damping compound that's easy to apply, waterproof, and cost effective. Its unique combination of silica-mica, ceramics and an advanced chemical binder greatly reduces structural resonance. VB-1S PRO is the ultimate in convenience. Unlike competitive products, VB-1S PRO is immune to freezing temperatures and has an indefinite shelf life. It sprays smoothly and evenly like spray paint. Because it's waterproof and flexible, it can be applied EXTERNALLY to vehicle underbody panels and fenderwells. Once cured, it can also be painted.

VB-1S PRO is superior to conventional rubberized undercoating compounds due to its advanced mineral loading. Conventional undercoating weighs approximately 7 lbs/gallon. VB-1S PRO weighs 10.3 lbs/gallon!

APPLICATIONS

Doors, trunk, fenderwells
(interior and exterior)
frame & undercarriage

SPECIFICATIONS

COLOR
BLACK

COVERAGE
APPROXIMATELY 4 SQ.FT.

ODOR
MILD PETROLEUM SOLVENT

ODOR AFTER DRYING
NONE

VISCOSITY
SPRAYABLE MASTIC CONSISTENCY

SOLIDS BY WEIGHT
72%

SOLIDS BY VOLUME
52%

WEIGHT PER GALLON
10.3 LBS./GAL.

FLASH POINT
50 DEG.F (10 DEG.C), RED LABEL

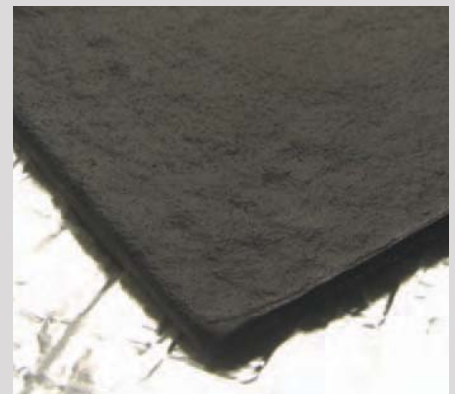
VOC (EPA METHOD #24)
3.0 LBS./GAL.

SOLVENT
VM&P NAPHTHA - EXEMPT

BLEEDING
NON-BLEEDING; PAINTABLE

CHEMICAL RESISTANCE
RESISTANT TO DILUTE ACIDS, ALKALI

DRY/CURE TIME
DRY TO TOUCH IN 6 HRS. CURE IN 16 TO 24 HRS.



VB2/HD/MiniPack

VB-2 and VB-2HD are mineral loaded polymer based damping sheets that offer unparalleled damping along with the finest fit and finish. These technologically advanced products are designed to convert vibration energy into low level heat through friction.

An extremely aggressive acrylic adhesive guarantees permanent bonding to virtually any clean surface. VB-2 and VB-2HD are preferred worldwide for their ability to mold absolutely to highly irregular surfaces resulting in a custom vacuum molded look. VB-2 and VB-2HD are designed to yield optimum damping when applied to sheet metal, fiberglass, wood and plastic panels. They are also paintable.

VB-2HD (Heavy Duty) is our premiere damping sheet. It is twice the thickness of standard VB-2 and provides the highest damping of any self adhesive sheet damper.

VB-2 sets the industry standard for a high performance, light weight damping material and continues to be the foundation of the V-Block line.

SPECIFICATIONS

CHEMICAL TYPE	FILLED VINYL COPOLYMER SAME
COLOR	DARK GRAY SAME
THICKNESS (INCHES)	0.042" 0.075"
WEIGHT- LBS/FT	0.29 LBS. 0.43 LBS.
TENSILE STRENGTH- LBS/FT	400 SAME
SERVICE TEMP. RANGE	-40 TO +250 DEG. F. SAME
ODOR	NONE VB-2HD SAME
FLAME RESISTANCE	MEETS UL COMPONENT VB-2HD SAME CLASSIFICATION 94V0, FAR 25.853B VERTICAL FLAMETEST AND MVSS-302
ELONGATION (%)	25 PER ASTM D638 VB-2HD SAME
FLEXURAL MODULUS (PSI)	17,000 PER ASTM D747 VB-2HD SAME

APPLICATIONS

Automotive: On and off highway vehicles-plastic and sheetmetal panels; replace vapor barriers. Loudspeaker and audio transport mechanisms. Aircraft vibration control.
Marine: hull, bulkhead and engine compartments.
RV's Sheetmetal chutes, hoppers and ducting. Air compressors and machine tools. Computer housings



VB2GS GATORSKIN

GatorSkin: High performance at an entry level price! It is the perfect damping material for enthusiasts on a budget. It utilizes a damping method known as mass loading. With the application of GatorSkin, panel mass is increased, lowering its resonant frequency and effectively eliminating the vibration. GatorSkin's surface is embossed with a pattern of 0.5"x0.5" squares. No application tools are necessary. Fold the sheet along a line, fold it back and it cleanly separates. Just fold, separate, peel and stick. It's that simple.

GatorSkin is a 1/16 th inch thick, mineral filled viscoelastic polymer based damping sheet that offers excellent performance at a fraction of the cost of other products. GatorSkin is ideally suited for irregular door and floorpan applications. It will easily mold to surfaces with the use of a heat gun. GatorSkin does not produce a harsh tar like odor like that of competitive asphalt based products. The heavily textured damping sheet may be applied to sheetmetal, fiberglass wood or plastic surfaces without the use of any special tools.

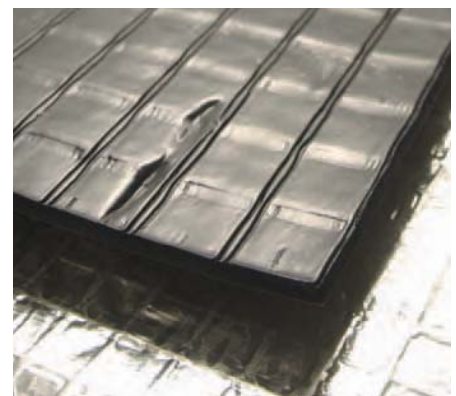
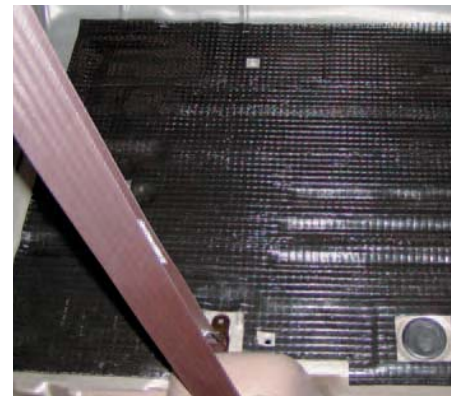
GatorSkin is your cost effective damping solution.

SPECIFICATIONS

THICKNESS	.075"
WEIGHT	.6 LBS. SQ. FT.
COLOR	BLACK
FLAME RESISTANCE	DOT MVSS LESS THAN 75MM/MIN. PASS
CHEMICAL TYPE	MINERAL FILLED VISCOELASTIC POLYMER

APPLICATIONS

Automotive: on & off hwy vehicles – sheetmetal, fiberglass, plastic and wood panels
Marine: Hull, Bulkhead & Engine Compartment
Sheetmetal equipment enclosures
Sheetmetal hopper, chutes and ducting
Air compressors & machine tools



VB2 MAX

VMAX constrained layer damping sheets are designed to help you achieve maximum performance from your car audio system! MAXimum damping with MAXimum ease of installation! These durable damping sheets are constructed of an advanced, non-curing butylene rubber bonded to a thin layer of black anodized aluminum. The microbead loaded butylene reduces the weight by 30% over competitive products. Installation couldn't be easier...cut, peel and stick.

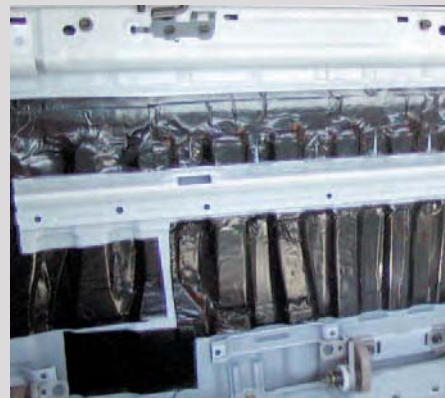
Applying VMAX to steel, plastic and fiberglass surfaces will decrease structural resonance, producing a tighter, quieter and more comfortable passenger compartment. VMAX damps almost as well as our premiere VB-2HD damper and does not require use of a heat gun to apply. VMAX is waterproof and may be used anywhere in the vehicle including the inside of all outer body panels.

SPECIFICATIONS

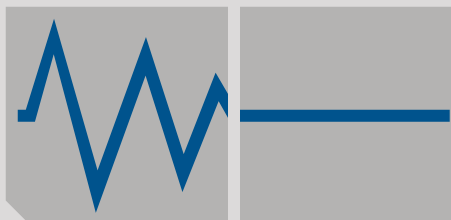
THICKNESS .060"
DIMENSIONS 12.5" X 30"
WEIGHT .23 LBS. SQ. FT.
COLOR BLACK WITH BLACK ALUMINUM
FLAME RESISTANCE FMVSS-302 PASSES WITH A RATING OF B<1.0
CHEMICAL TYPE BUTYLENE RUBBER WITH 4MIL ALUMINUM LAYER

APPLICATIONS

Doors
Rear decklid and package trays
Rear quarter panels
Interior surfaces of all automotive outer body panels
Ideal replacement for OEM sound deadening products
Great for SPL Vehicles



BARRIERS



Low frequency, airborne sound (road noise) can be the most destructive type of noise faced in automotive sound control. Road noise can easily mask your vehicles audio system, robbing it of tonal accuracy and detail at low listening levels. Treating a vehicle floorpan has typically involved applying multiple layers of a vibration damping material to hush road noise. This technique has proven to be time consuming and labor intensive. Furthermore, the process adds a significant amount of weight to the vehicle, which ultimately sacrifices performance and fuel economy.

A CAE barrier, because of its mass, acts as an acoustical reflector, blocking the path of sound waves. For most installations, its not the stiffness of the barrier that reduces the noise, but the mass.

CAE composite barriers like VB-3, VB-4 and VB-TSM will reduce noise in engine compartments, equipment cabs, portable generators, etc. The key to effective use of a barrier lies in reducing the number and size of holes and/or gaps to an absolute minimum.

VB4

VB-4 is a high performance composite consisting of a flexible loaded vinyl mass barrier with a foam decoupling layer designed to reduce noise by blocking the passage of soundwaves (road noise) into the vehicle. The decoupling foam lower layer acts as an airspace and spring. In combination with VB-4's flexible nature, this prevents VB-4 from taking on vibrations from supporting structures, resulting in superior noise reduction over a wide frequency range dramatically lowering the noise level inside your vehicle.

What makes VB-4 so effective? Noise entering the interior from beneath the vehicle is reflected by the loaded vinyl top layer back into the foam isolation layer. A significant reduction in interior noise can be achieved!

VB-4 is ideal for application over flooring, side panels and firewalls. It will also reduce heat radiating from under the vehicle increasing the efficiency of your climate control system (R-4 equivalent value).

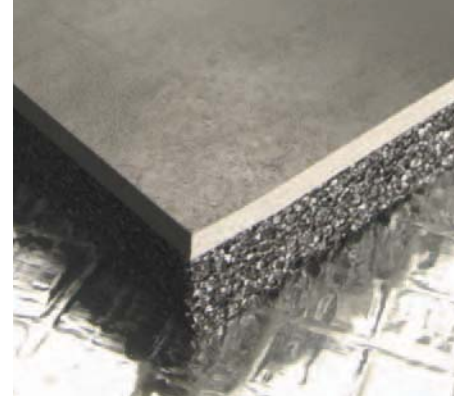
VB-4 is also perfect for home theater installations. It can be installed inside walls to help keep high level theater sounds inside the theater room. It will reduce airborne sound transmission between rooms.

SPECIFICATIONS

COLOR	BLACK
SHEET SIZE (INCHES)	37"X 54"(VB-4.5) & 54"X 57" (VB-4)
WEIGHT LBS. (SQ./FT.)	1 LB.
THICKNESS	.250"
FLAMMABILITY (FOAM)	UL 94 HFI
FLAMMABILITY (COMPOSITE)	UL 94 HBF; DOT MVSS302 (PASS)
TEAR STRENGTH (FOAM)	1.5 LB/IN. MIN.
ELONGATION (FOAM)	120% MIN.
TENSILE (FOAM)	12 PSI. MIN.
THERMAL INSULATION FACTOR	R4

APPLICATIONS

Under carpet, floor matting, side panels, engine housing, spare tire well, transmission tunnel, and firewall for both truck cabs and on/off highway vehicles. Hot rods and custom cars.
Marine: Hull, bulkhead and engine compartment.
In-wall barrier for home theater and sound rooms.
Air compressor and machine tool housing.



VB3

If you want the highest performance possible in a noise barrier, then look no further. VB-3 is our premiere barrier.

VB-3 is a multi-layered, composite which combines shock absorption, the ultimate noise barrier and thermal insulation in a single product. The first (isolation) layer is constructed of closed cell neoprene foam which decouples the center layer from the source of vibration (floorboards, transmission tunnel, etc.). Next, the lead center layer is a floating wall, which, because of its high mass and relative thinness, is one of the most effective noise penetration barrier materials available. The third, or surface layer, is also made of reinforced neoprene. We use this to protect the lead center layer and to maintain a "sealed" airspace for thermal insulation.

What makes VB-3 so effective? Noise entering the interior from beneath the vehicle is reflected by the floating lead center sheet back into the isolation layer. VB-3 easily conforms to round, curved or irregular surfaces ensuring a custom fit.

Installation of a VB-3 barrier system will dramatically improve the sound of your music by allowing your audio system to play with much more detail and clarity. Cellular phone users can

enjoy clearer, safer communications while on the move. Custom car builders and street rodders now have a way of introducing a quieter, more comfortable ride without sacrificing performance and handling.

SPECIFICATIONS

COLOR	BLACK
THICKNESS (INCHES)	0.250"
WEIGHT-LBS/SQ. FT.	1.0 LBS.
CHEMICAL TYPE	NITRILE REINFORCED NEOPRENE
SERVICE TEMP. RANGE	32 - 200 DEGREES
THERMAL INSULATION (FOAM)	R4
FLAME RESISTANCE (FOAM)	MEETS UL COMPONENT CLASSIFICATION 94 FHI
FLAME RESISTANCE (COMPOSITE)	DOT MVSS302

APPLICATIONS

Under carpet, floor matting, side panels, engine housing, spare tire well, transmission tunnel, and firewall for both truck cabs, on/off highway vehicles and RV's. Hot rods and custom cars.
Marine: Hull, bulkhead and engine compartment.
Air compressor and machine tool housing.



VB5

Looking for a way to stop that annoying rattle in your car's interior? Building a custom pair of loudspeaker enclosures? VB-5 is a one eighth inch thick layer of neoprene, nitrile foam. Use VB-5 between plastic interior and exterior panels, behind license plates and around third brake lights to prevent squeaks, buzzes and rattles. VB-5 is perfect as a gasketing foam around speakers and as a foam backing for custom upholstery.

APPLICATIONS

Use between vehicle interior panels.
Apply around tweeters to diffuse reflections and improve imaging.
Gasketing for speaker installations.
Gasketing for speaker boxes.
Foam backing for custom upholstery.

SPECIFICATIONS

COLOR BLACK
SHEET SIZE (INCHES) 10"X10" (4 PCS. @ 2.7 SQ.FT.)
WEIGHT (LBS./SQ. FT.) 0.12
THICKNESS 0.125 INCH
FLAMMABILITY UL94HF-1, DOT MU55302 (PASS)
TENSILE STRENGTH 100
ELONGATION % (TYPICAL) 100
SERVICE TEMPERATURE LOW: 0 DEG. F, HIGH CONTINUOUS: +160 DEG. F
ADHESIVE MODIFIED ACRYLIC (UNSUPPORTED)



THERMAL



CAE Thermal Control products are suitable for just about any insulating application. Typical applications are vehicle firewalls, floors and roofs, engine compartments. Basically anywhere you would want to insulate from heat or cold Cascade Audio Engineering products can be used.

VBTS / TSXL

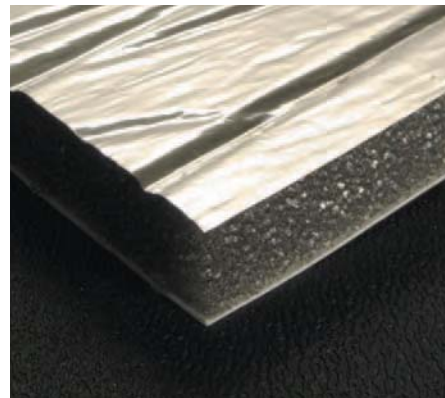
Whether you're wanting to reduce engine noise from your diesel pickup truck or looking for an attractive high tech liner for that new carbon-fiber hood you just installed on your import racer, VB-TS will give your engine compartment a custom, high tech look as well as insulate against excessive engine heat and noise. VB-TS's foam layer will audibly lower mechanical engine noises by absorbing mid band frequencies that the human ear is especially sensitive to. It is a composite of 3/8" high temperature acoustical foam and polyester film that has been metalized with a 99.99% pure layer of aluminum. This produces a high gloss, high temperature surface treatment which is chemical resistant, flexible and difficult to tear. Typical applications would be engine compartments (underside of hood) or housings, firewalls, etc. VB-TS's bright metalized mylar surface is highly heat reflective and handles ambient temperatures of up to 400 deg. F.

SPECIFICATIONS

THICKNESS (INCHES)	0.375"
WEIGHT	0.21 LBS./SQ.FT.
EFFECTIVE TEMP. RANGE (MYLAR)	-20 DEGREES F. TO +425 DEGREES F.
EFFECTIVE TEMP. RANGE (FOAM)	-40 DEGREES F. TO +250 DEGREES F.
ELONGATION (MYLAR)	110%
ELONGATION (FOAM)	100%
TENSILE STRENGTH (MYLAR)	28000 PSI.
TENSILE STRENGTH (FOAM)	18 PSI.
CHEMICAL RESISTANCE	OILS AND GREASES DO NOT PENETRATE AFTER 2 MONTHS EXPOSURE
FLAMMABILITY	AT 250 DEGREES C.UL 94 HF1

APPLICATIONS

Engine compartment and firewall.
Automotive: On/off hwy. vehicles as well as custom cars and hot rods.
Marine: Hull, bulkhead and engine compartment.
Sheet metal equipment enclosures.



VB-TSM

VB-TSM is the perfect solution for severe noise control problems. It is especially effective for RV and marine engine compartments and generator housings. VB-TSM is a unique, high performance composite incorporating two layers of acoustical foam, a loaded vinyl barrier and an aluminized mylar thermal reflective skin.

Its 1/4" foam isolation layer decouples the barrier while the 1" thick acoustical foam layer absorbs airborne sound. The aluminized mylar surface skin provides thermal protection for use in the harshest environments.

SPECIFICATIONS

MATERIAL	POLYESTER URETHANE AND LOADED VINYL BARRIER
SURFACE	FLAT WITH AN ALUMINUM MYLAR SURFACE FILM
THICKNESS (INCHES)	1.25"
WEIGHT	1.08 POUNDS PER SQUARE FT.
MAXIMUM TEMPERATURE	250 DEGREES F.
DENSITY	1 POUND PER CU. FT. FOR BARRIER 1.17 POUNDS PER CU. FT. FOR FOAM
TENSILE STRENGTH	345 POUNDS PER SQUARE FT.
FLAMMABILITY	UL94HF1 FLAME SPREAD >400 SMOKE DENSITY >450

APPLICATIONS

Marine diesel engine compartments
Recreational Vehicles
Generator housings
Compressor housings
For enclosures around any noise source



ThermaKote

ThermaKote is a premixed composite consisting of 80% microscopic, vacuum filled, ceramic beads. These precisely manufactured beads are held in suspension by a high-grade latex acrylic emulsion. This combination yields a lightweight, pliable product that expands and contracts with the surface to which it is applied. 2 layers of material at 15 mil thickness will yield an R-24 thermal insulation value. ThermaKote is a cost effective, energy efficient product that can be used on a variety of hot and cold surfaces.

SPECIFICATIONS

COLOR	WHITE
TINTING	STANDARD LATEX TINTS
FINISH	FLAT
WEIGHT	0.15 LBS./FT. ²
VOLUME SOLIDS	80%
BOILING POINT	212 DEGREES F.
SPECIFIC GRAVITY	0.644
PACKAGE LIFE	1 YEAR
FLASH POINT	NON-COMBUSTIBLE
COVERAGE	50-60 FT. ² /GAL @15 MIL

APPLICATIONS & BENEFITS

ThermaKote is environmentally friendly, containing no toxic or hazardous substances or materials. Adheres to virtually any material and eliminates the potential for surface corrosion. ThermaKote is a one-part insulating coating for surface insulation and corrosion protection. ThermaKote may be applied to a clean working surface up to 550 degrees F. When applied to the inside of vehicle outer body panels, interior temperatures may be significantly reduced.



DEFLEX POWER PADS

One of the most important issues in mobile audio is how to get speakers installed without proper enclosures to provide the same level of performance attained in optimally engineered home speakers. Custom fabricated enclosures can be very expensive. CAE has the answer.

Deflex PowerPads are a cost effective, simple way to help dramatically improve the performance of mobile audio speakers. Deflex PowerPads are specially designed to prevent speaker cone break-up and distortion created by standing waves generated by the parallel surface behind the mounted speaker.

Installation is quick and easy, simply wash the pad, clean the pad mounting surface and glue the pad to the parallel surface behind the speaker using a cyanoacrylate adhesive. By fragmenting the waves generated by the back of the speaker cone, standing waves are eliminated allowing higher volume levels with virtually no distortion. Additional benefits are improved frequency response, increased focus in the midrange and tighter midbass. A 13" pad is also available for subwoofer installations.

SPECIFICATIONS

MATERIAL	ADVANCED POLYMER
SIZES (DIAMETER)	5 INCH, 7 INCH, 9 INCH, 13 INCH, 8 X 11 INCH
THICKNESS (AT CENTER)	1/4 INCH (MAXIMUM)

APPLICATIONS

**Inside car doors
Home Theater
Behind in-wall speakers
Speaker enclosures
Subwoofer boxes**



APS POWER SUPPLIES



Cascade Audio Engineering APS Series Power Supplies are ideally suited for the mobile environment. APS power supplies feature regulated and filtered outputs which allow for clean audio demonstrations without the slightest hint of noise. The advanced circuitry utilized in our APS Power Supplies offer efficiency ratings of 86-90%. Their low profile design allows for convenient mounting under a display vehicle or behind a display board. APS power supplies may be used with or without a battery. When combined with a high quality battery, APS units can supply transient surges up to 1000 amps. Output voltage can be increased to 14.4V by inserting the supplied jumper. For installations where use of a battery is not possible, Cascade Audio's CAP1 (one Farad) or CAP0.5 (one-half Farad) capacitors may be used.

VIRTUALLY SILENT OPERATION

All APS Power Supplies are FCC Class B. There is no low frequency transformer hum or switching noise. Every unit is equipped with a smart cooling fan that increases rpm as the load increases.

SMALL COMPACT SIZE

The switch mode technology utilized in APS Power Supplies boasts 86% minimum efficiency. This superior design results in cooler operating temperatures and compact size. These lightweight power supplies, ranging from 4 to 10 lbs., can be connected in parallel for even greater current capability.

CAP-1, CAP MONITOR AND CAP-0.5

A Cascade Audio CAP provides a current reserve that will react much faster than your cars battery.

APS Series Models	APS-30	APS-45	APS-55	APS-75	APS-90
DC Output Voltage (No Load) approx.	13.6 V (DC)	13.6 V (DC)	13.6 V (DC)	13.6 V (DC)	13.6 V (DC)
Output Voltage Tolerance (No Load)	+/- 0.7%	+/- 0.7%	+/- 0.7%	+/- 0.7%	+/- 0.7%
Output Amperage, Max Continuous	30 Amps	45 Amps	55 Amps	75 Amps	90 Amps
Output Voltage (Full Load) approx	>13.4 V (DC)	>13.4 V (DC)	>13.4 V (DC)	>13.4 V (DC)	>13.4 V (DC)
Maximum Output Amps, Single Surge	30 Amps	45 Amps	55 Amps	75 Amps	90 Amps
Maximum Power Output, Continuous	400 Watts	600 Watts	740 Watts	1000 Watts	1200 Watts
Maximum Ripple and Noise	100 mV rms	100 mV rms	100 mV rms	100 mV rms	100 mV rms
Input Voltage Range	96-140 A.C.	96-140 A.C.	96-140 A.C.	96-140 A.C.	96-140 A.C.
Input Voltage Frequency	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz
Maximum AC Current @ 96VAC	8 Amps	12 Amps	15 Amps	18 Amps	24 Amps
Typical Efficiency	>80%	>80%	>80%	>80%	>80%
Max Inrush Current, Single Cycle	16 Amps	20 Amps	20 Amps	22 Amps	24 Amps
Short Circuit Protection	Yes	Yes	Yes	Yes	Yes
Overload Protection	>100%	>100%	>100%	>100%	>100%
Line Regulation	100 mV rms	100 mV rms	100 mV rms	100 mV rms	100 mV rms
Load Regulation	<1%	<1.5%	<1.5%	<1.5%	<1%
Fan Control *	PROPORTIONAL	PROPORTIONAL	PROPORTIONAL	PROPORTIONAL	PROPORTIONAL
Over Temperature	Off @ 80c	Off @ 80c	Off @ 80c	Off @ 80c	Off @ 80c
Working Temperature Range	0-40c	0-40c	0-40c	0-40c	0-40c
Storage Temperature	(-20 to 80c)	(-20 to 80c)	(-20 to 80c)	(-20 to 80c)	(-20 to 80c)
Dimensions	10.5"X 6.45"X 3.42"	10.5"X 6.45"X 3.42"	10.5"X 6.45"X 3.42"	13"X 6.45"X 3.42"	13"X 6.45"X 3.42"
Weight	6.88 lbs	6.92 lbs	6.92 lbs	7.8 lbs	7.8 lbs

* Proportional = Fan speed proportional to case temperature

Your audio components will receive smoother, more stable power resulting in increased system performance. Cascade Audio Engineering CAP's can also be connected in parallel to our APS Power Supplies in mobile audio store displays where car batteries cannot be used.

CAP-DVM

Cap-DVM is a bolt-on digital volt meter kit for the CAP-1 one farad capacitor. It features dual

.75"x1.5" digital displays allowing easy reading of system voltage.

HK-4 FOUR GAUGE HOOK-UP KIT

The APS Four Gauge Hook-Up Kit provides all of the critical components necessary for installation of any APS Power Supply. It features a unique "quick-release" connector allowing the unit to be quickly and easily plugged or unplugged from any vehicle or display.





PRODUCT	COVERAGE	DIMENSIONS	# OF SHT.	WEIGHT	THICKNESS
VB-1Spro	4.5 ft./1.42 m	20 oz. Aerosol Can	--	1.5 lbs./1.68 Kg.	--
VB-1(1G)	20 ft./1.86 m	1 Gal. U.S./3.78 l	--	12 lbs./5.44 Kg.	--
VB-1(5G)	100 ft./9.29 m	5 Gal. U.S./18.93 l	--	60 lbs./27.22 Kg.	--
VB-1X(1G)	20 ft./1.86 m	1 Gal. U.S./3.78	--	12 lbs./5.44 Kg.	--
VB-1X(5G)	100 ft./9.29 m	5 Gal. U.S./18.93	--	60 lbs./27.22 Kg.	--
VB-2GS	12.4 ft./1.15 m	33" X 54"/83.8 X 137.2 cm	1	10 lbs./4.53 Kg.	.075"/1.90 mm
VB-2MP	4.5 ft./1.418 m	12" X 54"/30.48 X 137.16 cm	1	1.4 lbs./1.64 Kg.	.045"/1.14 mm
VB-2	13.9 ft./1.29 m	37" X 54"/93.98 X 137.16 cm	1	4 lbs./1.81 Kg.	.045"/1.14 mm
VB-2SP	41.7 ft./3.87 m	37" X 54"/93.98 X 137.16 cm	3	12 lbs./5.44 Kg.	.045"/1.14 mm
VB-2HD	13.9 ft./1.29 m	37" X 54"/93.98 X 137.16 cm	1	9 lbs./4.08 Kg.	.075"/1.90 mm
VB-2HDSP	41.7 ft./3.87 m	37" X 54"/93.98 X 137.16 cm	3	27 lbs./12.25 Kg.	.075"/1.90 mm
VB-2MAX	5.2 ft./1.48 m	12.5" X 30"/31.75 X 76.20 cm	2	2.2 lbs./1 Kg.	.060"/1.52 mm
VB-2MAXBP	52 ft./4.83 m	12.5" X 30"/31.75 X 76.20 cm	20	21.68 lbs/9.83 Kg	.060"/1.52 mm
VB-3.5	12.25 ft./1.14 m	36" X 49"/91.44 X 124.46 cm	1	16 lbs./7.26 Kg.	.250"/6.35 mm
VB-3	24.5 ft./2.28 m	49" X 72"/124.46 X 182.88 cm	1	32 lbs./14.51 Kg.	.250"/6.35 mm
VB-4.5	13.9 ft./1.29 m	37" X 54"/93.98 X 137.16 cm	1	16 lbs./7.26 Kg.	.250"/6.35 mm
VB-4	27.8 ft./2.58 m	54" X 75"/137.16 X 190.5 cm	1	32 lbs./14.51 Kg.	.250"/6.35 mm
VB-5	2.78 ft.	10" X 10"/25.4 X 25.4 cm	4	.48 lbs./1.22 Kg.	.125"/3.17 mm
VB-TS	13.9 ft./1.29 m	37" X 54"/93.98 X 137.16 cm	1	2.8 lbs./1.27 Kg.	.250"/6.35 mm
VB-TSXL	27.8 ft./2.58 m	54" X 75"/137.16 X 190.5 cm	1	5.6 lbs./2.54 Kg.	.250"/6.35 mm
VB-TSM	13.9 ft./1.29 m	37" X 54"/93.98 X 137.16 cm	1	19 Lbs./8.62 Kg.	1.25"/31.75 mm
DFP5	18.86 in	4.92"/125 mm (Diameter)	2	.2 lbs./109 Kg.	.32"/8 mm
DFP7	37.39 in	6.9"/175 mm (Diameter)	2	.4 lbs./18 Kg.	.375"/9.5 mm
DFP9	61.65 in	8.86"/225mm (Diameter)	2	.6 lbs./27 Kg.	.375"/9.5 mm
DFS	91.03 in	8.26" X 11.02"/210 mm X 280 mm	2	.95 lbs./43 Kg.	.44" X 11.2 mm
DSUB	140.60 in	13.38"/340 mm (Diameter)	1	1.9 lbs./86 Kg.	.44" X 11.2 mm
Insulator 11	24 ft./2.23 m	48" X 72"/121.92 X 182.88 cm	1	7.5 lbs./3.4 Kg.	.250"/6.35 mm
Insulator 12	24 ft./2.23 m	48" X 72"/121.92 X 182.88 cm	1	7.5 lbs./3.4 Kg.	.250"/6.35 mm