

Product Data Section

Composite Or Built-Up Systems To Quiet Pipes, Ducts And Equipment Housings



HUSH WRAP™ composite material type LVQ-210-LAG installed using stick pin fasteners on outdoor fan installation.



HUSH WRAP™ built-up component system on blower piping in a wastewater treatment plant.

Advantages:

- Good for high (LVQ styles) and low temperature applications
- Easy to cut, fit and install
- One step composite insulation or built-up systems are available.
- Suitable for indoor or outdoor applications
- Durable construction is tear and puncture resistant (foil faced barriers)
- Good oil and chemical resistance
- Easily combined with HUSH COVER™ removable blankets where access is needed
- Lead and asbestos free
- Can be installed with fasteners, banding and matching tape
- STC ratings from 25 to 35
- Dual purpose thermal/acoustic materials

Applications:

- Gas utility pressure reducing and metering station piping systems
- HVAC ductwork and plenums
- Pneumatic convey/material transfer lines
- Fan and other equipment housings
- Heat exchangers
- Process piping and controls in refineries and chemical plants
- Wastewater treatment plant blower piping
- Condensate and refrigerant piping
- Industrial exhaust ducting
- Dust collector ductwork
- Heat pumps and air handling units
- Silencers and muffler wraps
- Any rigid vibrating surface which radiates structure-borne noise

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About HUSH WRAP™ Acoustic Insulation Composite Products:

HUSH WRAP™ composite products combine a layer of HUSH BLOCK™ type LV-100-LAG with a layer of type QAB HUSH QUILT™ absorber blanket. The QAB layer is applied to the source and acts as an absorber and more importantly as a spacer or decoupler for the flexible barrier layer. The decoupling or floating of the HUSH BLOCK™ barrier helps achieve greater noise reductions than if the barrier was attached directly to the noise emitting surface. The biggest advantage of HUSH WRAP™ composites is the easy one-step installation of both decoupler and barrier layers thus offering substantially lower installation costs compared with built-up systems. Matching trim tape can be used to seal all seams and edges. This family of composites can usually be installed by factory personnel. Acoustic performance data is listed on the opposite page.



Installation of HUSH WRAP™ LVQ-110-LAG composite material on outdoor industrial exhaust ducts.

About HUSH WRAP™ Acoustic Insulation Built-Up Component Systems:



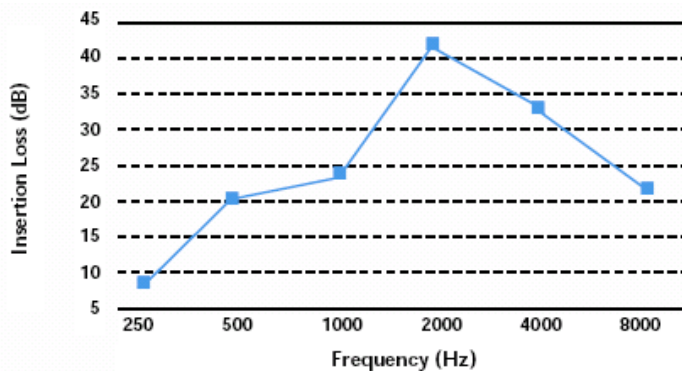
Installation of built-up system using HB-400 HUSH BATT™ insulation covered with type LVAL-100 barrier. HUSH SEALANT™ acoustical sealant, HUSH COVER™ removable covers and HUSH BLOCK™ type LM (loaded mastic) materials are all part of HUSH WRAP™ built-up systems.

HUSH WRAP™ built-up component systems also combine both decoupler and barrier components for maximum performance. Built-up systems require a multi-step installation procedure. The absorber/decoupler layer is usually type HB HUSH BATT™ thermal/acoustic insulation in 2" to 4" thickness and a density of between 4 lbs. and 8 lbs. per cubic foot. The exterior barrier jacketing is type LVAL consisting of a smooth or stucco embossed aluminum or other metallic skin bonded to a layer of loaded vinyl. Built-up systems offer greater flexibility on selection of materials in order to fine tune frequency specific performance in contrast to the average all purpose performance of HUSH WRAP™ composites. Actual field testing of HUSH WRAP™ built-up systems shows insertion loss performance as high as 42 dB at 2000 Hz. Built-up component systems are also superior to composite treatments where durability and abuse resistance are important in severe service and heavy industrial applications. The neat, clean and more attractive appearance of this technique is also a factor in deciding which treatment to use. Disadvantages of built-up systems are higher installation costs and the need to use outside installation contractors who are experienced with acoustical applications.

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Acoustic Performance Data:

Product	Description	Roll Size	Transmission Loss at Octave Frequencies (Hz)						STC
			125	250	500	1000	2000	4000	
LVAL-100	.019" aluminum bonded to 1 lb. density loaded vinyl	48" W x 25' L	12	17	22	28	32	37	27
LVAL-200	.032" aluminum bonded to 2 lbs. density loaded vinyl	48" W x 25' L	12	21	26	30	35	42	29
LV-100-LAG	1 lb. density foil faced loaded vinyl	48" W x 60' L	13	17	22	26	32	37	26
RLV-100	1 lb. density reinforced loaded vinyl	54" W x 60' L	13	17	22	26	32	37	26
LVQ-110-LAG	1" quilted blanket bonded to foil faced 1 lb. density loaded vinyl	48" W x 30' L	18	18	23	30	39	46	29
LVQ-210-LAG	2" quilted blanket bonded to foil faced 1 lb. density loaded vinyl	48" W x 30' L	19	20	23	33	44	53	30



Insertion loss field test data from gas transmission compressor piping application for a built-up system using LVAL-100 and HUSH BATT™ HB-300.



Dust collector material transfer ducting treated with LVAL-100 and HUSH BATT™ HB-200 insulation.

Understanding Lab Tests:

The table at the top of this page shows lab test data to indicate relative performance of one material to another and further by frequency. Transmission loss lab data is not a very good indicator of field performance when products are applied to pipes, ducts and equipment housings. Because of this BRD has built an extensive backlog of field test data that can accurately predict future performance in similar applications. One such set of field data is shown in the graph above.



LVQ-110-LAG composite material (Velcro is not standard)

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How To Install HUSH WRAP™ Composite Acoustic Insulation:

- Determine circumference of duct or pipe to be wrapped. Add a minimum of 4" overlap of product onto itself allowing also for additional length required to accommodate the thickness of the material.
- Utilize standard 48" wide rolls of HUSH WRAP™ LVQ composite to cut lengths as required.
- Band or tape the material in place on large ductwork. Stick pins or weld pins should be utilized with additional emphasis on supporting the product across the bottom of rectangular duct systems.
- It is recommended that the quilted portion of the product wrap around and butt with the last 4" (+/-) of quilt trimmed off so that the barrier only overlaps onto the starting point of the wrap. Use an appropriate adhesive such as BURR-STICK-R-100 to secure the overlap.
- Cut and install the next section in the same fashion while overlapping the seam lightly. Tape or glue this seam as well.
- In all cases the important element is to assure there are no gaps or leaks whatsoever.
- Seams should be on underside of pipes/ducts.

How To Install HUSH WRAP™ Built-Up Component Acoustic Insulation:

- For built-up systems, installation procedures are complex and are best handled by a qualified insulation contractor. This contractor should comply with standard practices outlined in the National Insulation Contractors Association (NICA) insulation standard.
- The detail below shows how flat material can be cut using patterns detailed in the NICA insulation standard to form material around an elbow. This is commonly referred to as a gore type elbow.
- The use of HUSH SEALANT™ caulk is required to seal off all sectioned pieces.
- Avoid the use of screws and rivets as they tend to loosen and fall out. Ideally, hemmed seams provide the best acoustic seal, aesthetic appearance and longest service life.
- Call BRD for a list of qualified installers.

