



ALPHASEPTIC®

ACOUSTICAL CEILING PANELS/FUNCTIONAL ABSORBERS FOR FDA, USDA, NSF, GMP/CMP AND CLEAN ROOM APPLICATIONS



Good Acoustics and sanitary conditions are critical in food prep and point of sale areas.

ALPHASEPTIC Ceiling System Reduces Clean Room Noise and Reverberation while Enhancing Visual Acuity and Sterility

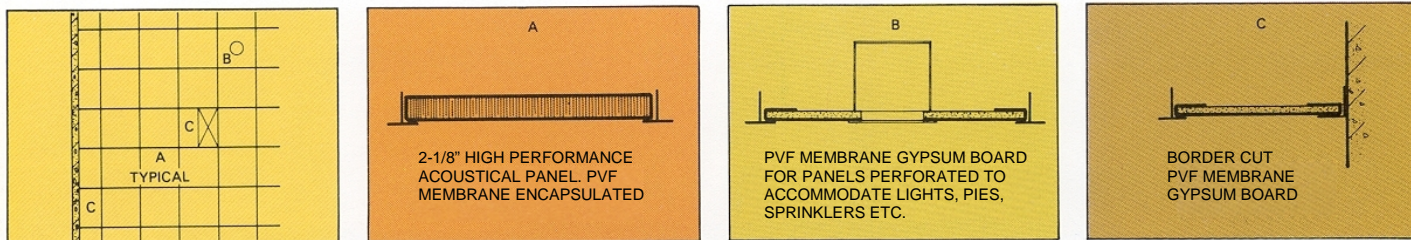
The need for sound control in food, drug and beverage production areas as well as hospitals and clean rooms is especially demanding because all surfaces must meet rigorous sanitary standards. Each surface must be easily cleaned and environmentally stable. ALPHASEPTIC lay-in ceiling panels meet these requirements while absorbing up to 95% of the noise (noise reduction coefficient of up to 0.95). Extensive research has developed a superior method of totally encapsulating a panel of compressed, sound absorbing material in a PVF membrane. The PVF membrane is a rugged material that is inert to common solvents, acids, greases and sanitizing chemicals.

It is easily cleaned with ordinary cleansing agents. It remains tough and flexible from -100° F to 225° F to absorb almost any form of impact without physical degradation. ALPHASEPTIC acoustical ceiling panels will provide years and years of service without cracking or peeling. They have received the U.S. Department of Agriculture's approval as a component of ceilings and walls in meat or poultry preparation areas. Our unique method of totally encapsulating the acoustical material assures a complete seal to prevent fiber migration. ALPHASEPTIC panels fit into standard suspended grid ceilings. Standard sizes are 24" x 24" and 24" x 48". Special sizes are also available.



High Technology manufacturing areas mandate a clean room environment with low ambient noise.

Where fitting and trimming is necessary, AEC provides border panels of ½" gypsum board with the same PVF membrane covering. This allows a uniform ceiling finish while providing superior sound absorption in areas where acoustical materials could not be previously used. Additionally, ALPHASEPTIC ceiling panels may be used as functional absorbers or as encapsulated media in ALPHALOC Silencers for fans, blowers or HVAC systems. Application engineering is available.



First step in acoustic remediation is to determine empirical reverberation time in the concerned area. Measured reverberation indicates architectural contribution to noise. AEC engineers utilize special procedures to maintain use certification in clean room spaces.



A leading source of noise in High Technology clean rooms is attributable to ventilation systems due to large volume airflow. ALPHASEPTIC modules may be utilized internally in HVAC systems or acoustically engineered to retrofit for noise remediation.

TESTING / DESIGN / SYSTEM INTEGRATION / IMPLEMENTATION / CERTIFICATION

Acoustical Control Example for ALPHASEPTIC Ceiling Panels:

BEFORE, Pharmaceutical Manufacturing Area: 70' long x 120' wide x 12' high:

Surface	Material	Area	Coefficient	Sabines
Ceiling	Plaster on concrete	8144	0.02	162.88
Floor	Quarry Tile	5631	0.02	112.62
Walls	Glazed Tile	3543	0.02	70.86
Windows & Lights	Glass	316	0.03	9.48
Production Equipment & Working Surfaces	Stainless Steel	3585	0.01	35.85
				A₁ = 391.69

AFTER Addition of ALPHASEPTIC Ceiling Panels to all ceiling area (except light fixture area):

Surface	Material	Area	Coefficient	Sabines
Ceiling	ALPHASEPTIC	8144	0.95	7736.80
Floor	Quarry Tile	5631	0.02	112.62
Walls	Glazed Tile	3543	0.02	70.86
Windows & Lights	Glass	316	0.03	9.48
Production Equipment & Working Surfaces	Stainless Steel	3585	0.01	35.85
				7965.61
Minus wall area lost from installation				-7.60
				A₂ = 7958.01

Reduction in Decibel = $10 \log_{10} (A_2/A_1)$ This example = $10 \log_{10} (7958.01/391.69) = 13.08 \text{ dB}$

The addition of ALPHASEPTIC Ceiling Panels creates a 13.08 Decibel reduction.

Aeroacoustic Engineering Consultants, LLC, 8014 Olson Highway / #210, Minneapolis, MN 55427-4712
Phone: 763-355-2030, Fax: 763-544-1149
United States of America
Website: www.aecnoise.com