

# Testing Background

Product Testing in accordance with ASTM (American Standard Testing Methods) is vital for the acceptance and specification of any product for commercial buildings. Building codes vary only slightly from city to city, but standards are based on ASTM technical data.

Of importance to note is that all tests are given for a complete system. Snap-Tex only manufactures the track for the Snap-Tex System, but test data must be published for the complete system consisting of the track, substrate, fabric and mounting surface. Logistically, it is impossible to test every combination available, so tests are performed using 'typical' combinations of materials. An attempt is made herewith to describe the basics of the three categories of tests for which Snap-Tex has been subjected:

**FIRE RETARDANCY:** The most important of all ASTM tests is that for flame spread and smoke development value. The ASTM-E84 is the test for flame spread and smoke development. This test determines how fast flames can be expected to spread and how much smoke will develop during the process. This test is called the 'Tunnel Test'. This describes a test wherein panel sections of our complete system are placed at the top of a 24 ft.

long tunnel. Flames, at a precise temperature level, are introduced at one end and measurements are taken at regular intervals of time for 15 minutes, determining the flame spread and amount of smoke developed. Class 'A' results are achieved when the Flame Spread value is 25 or less and Smoke Density value is 450 or less (in most areas).

Snap-Tex has been tested with midwall configurations and passed. Test copies are available upon request.

**ACOUSTICS:** A normally configured Snap-Tex System does not result in sound-proofing, i.e., the stopping of sound transmission from one room to the other. Competitive systems also do not accomplish this. Snap-Tex and all competitive systems aim for 'Sound Absorption'. This simply means the reduction of sound bouncing back from the treated surface. Though not required for commercial codes, acoustical tests measuring the NRC (Noise Reduction Coefficient) for a sound absorptive treatment are of extreme importance. Any attempt to project actual NRC values or target effects in a given application should only be done through acousticians. Standard NRC results are gained from the ASTM C423-84a. This designation not only specifies the test method

# Testing Background (continued)

but also the type of mounting of the test panels. There are many variations to this designation and a slightly different test method or mounting will result in greatly varying data. In comparing test data, be sure to note that the test designation is the same.

Theoretically, all wall panel systems should attain the same NRC value provided that the same acoustical substrate and fabric are used, and in the same thickness. Even the wall surface material will effect the actual NRC achieved, but this should be equal for all systems on any specific application. The only variable should be the substrate chosen as this is the main absorbing component. Since Snap-Tex is manufactured in many depths and can be furred out to any depth, there should be no NRC value unachievable by our installers.

Snap-Tex acoustical testing is done by Riverbank Acoustical Laboratories, one of only three testing facilities in the United States certified by The National Bureau of Standards.

Snap-Tex dealers can recommend absorptive, diffusive and reflective substrates. Call 800-762-7875 for information.

**TOXICITY:** The only currently accepted test procedure for this category is designated UPITT Test for Combustion Product Toxicity. Small portions of all the system components are measured out in proper proportion and burned. The gases emitted are introduced to laboratory rats and ingested until mortality. Gradual amounts are increased until values are determined that would prove fatal to humans.

Our test results were better than twice the value needed for acceptance in New York City, which is currently the only city requiring this test. Though not required in most cities, this should be of significant value to concerned specifiers. As restrictions tighten for future standards, it would appear that our system will be well within acceptable tolerances for many years to come.

# Fire Resistance Testing

Snap-Tex track itself is noncombustible.

All of the Snap-Tex profiles are made of flame retardant, rigid PVC, which will not support flame, and is self extinguishing.

To be truly Class A rated as a system, all components must be Class A individually. Snap-Tex as a system has been tested in accordance with ASTM E-84-91a tunnel test, in a variety of track profiles, thickness, substrates and fabric combinations. A Class A rating was achieved each time. Flame spread values as low as 0.0 have been attained for primary components, and as low as 6.3 for the combined system! Flame spread and smoke development of the entire system are directly related to the performance of the fabric selected, as flame and smoke are generally generated, on the most part, by the fabric and substrate. Typical test results are available upon request.

There are several testing configurations that can be presented for testing. The actual configuration of the components during testing has a great affect on the performance rating of the test.

Snap-Tex has Omega Point, a National Bureau of Standards certified test lab, performing its testing. The ASTM E-84-91a has been performed with various profiles, depths, substrates, fabrics and configurations, including midwall longitudinal joint configurations. This testing has always yielded

Class A results. Snap-Tex has also been subjected to the U.L. 10B, a far more rigorous test than the E84-91a...and the system passed! A specifier should note that no two installations are exactly alike and again fabric performance is critical.

As our world's environment continues to change, awareness of airborne and inherent health hazards continue to be of concern. Toxicity under catastrophic fire conditions has long been an issue. Snap-Tex meets the highest criteria for acceptance!

Environmental considerations are spearheading the development of new composite substrates such as rock wool, foams, and fiber-free polyesters. These are being tested for their performance both acoustically and in meeting Class A ratings. The Snap-Tex system has the flexibility to accommodate any new environmentally friendly substrates as they are developed.

# Fire Resistance Testing (continued)

## FLAME SPREAD and SMOKE DEVELOPMENT ASTM E84 TUNNEL TEST

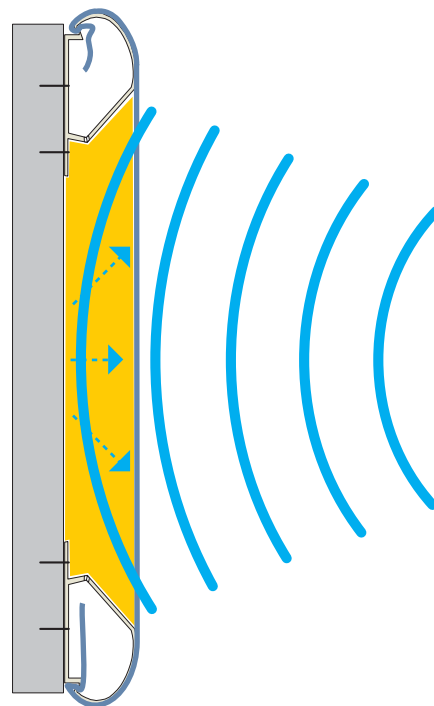
### ASTM E84-91a:

	FLAME Spread	SMOKE Developed
1" Beveled Snap-Tex System 6# Fiberglass Substrate Architex Pebble Beach Fabric ( 100% Polyester )	5	90
2" Square Snap-Tex System 6# Fiberglass Substrate Architex HOCH Fabric ( 100% Cotton Treated to ASTM E-84 )	25	70
1" Beveled Snap-Tex System 6# Fiberglass Substrate Knoll Nuage Fabric	5	40
1" Radius Snap-Tex System Polyester Substrate Carnegie Xorel Fabric	6	16.5
1" Square Snap-Tex System 6# Fiberglass Substrate Carnegie Xorel Fabric	14	3
1" Square Snap-Tex System 6# Fiberglass Substrate Guilford 701 Fabric ( 100% Polyester )	15	52
ASTM E84-95: (MIDWALL CONDITION) 1" Square Snap-Tex System 6# Fiberglass Substrate Guilford 701 Fabric ( 100% Polyester )	20	80
COMPONENTS ALONE:		
Polyester Substrate	0	20
6# Fiberglass Substrate	15	0
Mineral Fiber Board ( MICORE 300 )	25	50

# Acoustical Performance

Sound absorption is a result of the combination of fabric, substrate and wall surface. Sound travels through the panel being partially absorbed, hits the wall surface and, on its journey back, is again absorbed and dissipates as heat.

The human ear is said to only detect differences of .10 in NRC level. The common noise that is to be absorbed is in the frequency range of human hearing. Human voices are in the higher frequency levels of common sound and are absorbed much more efficiently than lower frequency sounds. For this reason, the 3/8" and 1/2" Snap-Tex profiles can be sufficient for many situations — and very economical. Where installations require a higher degree of absorption, our various 1" profiles can be used or furred out to even greater depths as needed. With Snap-Tex as well as all other similar systems, wall type, the acoustical substrate, and the fabric are the actual components in sound absorption and are therefore the only significant factors in determining the NRC of a particular installation. Snap-Tex has been tested with various fabrics and substrates to get representative tests results for comparison. As a rule of thumb in our testing the end result of a test will be the substrate manufacturers NRC rating for a given thickness and pounds per cubic foot density, plus .05 NRC for the fabric, and .05 for the mounting.



Sound travels through the panel, hits the wall surface and on its journey to and back, is absorbed in the acoustical substrate and dissipated as heat energy.

# Sound Absorption

## NRC VALUES

ASTM C428 w/'A' Mounting

RIVERBANK ACOUSTICAL TESTING LABORATORY (A National Bureau of Standards certified testing laboratory)

### ASTM C423-84a:

	NRC
3/8" Snap-Tex System	
Polyester Substrate	
100% Wool Fabric	.35

### ASTM C423-90a and E795-92:

1/2" Snap-Tex System	
6# Fiberglass Substrate	
Guilford 701 Fabric	
( 100% Polyester )	.50 - .55

1" Snap-Tex System	
6# Fiberglass Substrate	
Guilford 701 Fabric	
( 100% Polyester )	.80 - 85

1 1/8" Snap-Tex System	
1" 6# + 1/8" 18#-20#	
Fiberglass Substrate	
Guilford 701 Fabric	
( 100% Polyester )	.85 - .90

2" Snap-Tex System	
2" 6# Fiberglass Substrate	
Guilford 701 Fabric	
( 100% Polyester )	.90 - 1.05

### COMPONENTS TESTED ALONE:

3/8" Fiberglass Substrate	.35
1" 6# Fiberglass Substrate	.75
3/8" Perforated Mineral Fiber Board	
( MICORE 180 )	.25
1/2" Perforated Mineral Fiber Board	
( MICORE 180 )	.50

