

KnollTextiles offers a range of fabric options appropriate for wrapped acoustical panel applications. We test all panel fabrics in our line, as well as several of our wallcovering and upholstery fabrics to determine their acoustical properties.

ASTM C423 is the industry recognized test for evaluating the sound absorption of a building material. The test uses a reverberation chamber and measures the rate of decay of sound waves. We use this test to assess which fabrics in our line are appropriate for acoustical panel use.

The test report lists the Noise Reduction Coefficient (NRC), which is calculated from the absorption data of 4 frequencies (18 or more are collected during the span of the test). The NRC number is always between “1” and “0”. If the material achieves a “1”, it is said to have perfect absorption. If the material receives a “0”, it is said to be perfectly reflective. At KnollTextiles, we ensure that our panel fabrics do not interfere with the panel’s ability to absorb sound, so we report the NRC difference.

In order to find the NRC difference, the ASTM C423 test is conducted twice—once with the panel alone and secondly with a fabric covered panel. The Noise Reduction Coefficient is then calculated by averaging those 4 frequencies. By subtracting the NRC result of the fabric covered panel from the NRC result of the panel alone, we are able to define the NRC difference. In other words, we report the change in absorbency that was detected between these specific frequencies. The closer this number is to “0”—whether positive or negative—the less interference the fabric caused in the panel’s ability to absorb. Depending on the level of noise control that the acoustician is looking to attain, it may be necessary to review the full report showing the absorption at all frequencies tested. Please contact your KnollTextiles Customer Service Representative for the full test report.

The fabrics listed below have been tested and, based on the NRC difference, are considered to be acoustically neutral. The range deemed acoustically neutral is between -0.25 and 0.25.

KnollTextiles Acoustically Neutral Fabrics

Acme	Chance	Improv	Slumber
Akita	Circle Line	Innuendo	Spellbound
Alias II	Circuit	Intermission Unbacked	Symbolic Details
Alibi	Cosma	Knoll Felt	Tailor Made II
Alloy	Crossroad	Logic	Tranquil
Amalfi	Delite	Mainframe	Transfer
Amplify	Edo	Match Point	Trophy
Annex	Element	Messa	Tryst
Antares	Film Reel	Mezzo	Twilight
Apollo	Flow	Micro	Twister
Arena	Foil Rap	Nematic II	Ultrasuede
Asterisk II	Foundation	North Star	Utmost
Bandwidth	Gem II	Overture	Utmost QK
Bauhaus Block	Giza Poly	Palladium	Versatility
Beacon	Glam	Petra	Zenith
Bistro	Glaze	Pivot	
Bocce	Glisten	Photon II	
Bollywood (unbacked)	Grand Boulevard	Prague	
Boundary	Growth Spurt	Ransom	
Broadcloth II	Guild	Reflect	
Cable Twist	Hard Rock	Relay	
Candela	Heavy Metal	Repertoire	
Capital	Hourglass	Ricochet	
Cats Cradle	Illume	Skylark	

ASTM C423 is the industry recognized test for evaluating the sound absorption of a building material. Sound absorption is the ability of a material to reduce sound reflections, reverberation and echo within an enclosed place. The test uses a reverberation chamber and measures the rate of decay of sound waves.

The test report lists the Noise Reduction Coefficient (NRC), which is calculated from the sound absorption coefficients of 4 specified frequency bands, then rounded to the nearest 0.5. The test reports show results obtained with the fabric hanging in a drapery configuration at 5 inches from a wall. The NRC rating is typically between a range of “1” and “0”. If the material achieves a “1”, it is said to have 100% absorption (like an open window). If the material receives a “0”, it is said to be perfectly reflective. If a fabric has an NRC rating of .65, it means that 65% of the sound energy that contacts the fabric is absorbed, rather than reflected.

Depending on the level of noise control that the acoustician is looking to attain, it may be necessary to review the full report showing the absorption at all frequencies tested. Please contact your KnollTextiles Customer Service Representative for the full test report.

The fabrics listed below have been tested and, based on the NRC difference, are considered to be acoustically sound absorbing.

KnollTextiles Sound Absorbing Drapery Fabrics

Bewitched (.65)
Bon Nuit (.35)
Hint (.75)
Irving (.80)
Knoll Velvet (.6)
Noren (.65)
Slumber (.75)
Utmost (.70)
Utmost QK (.70)