

ACOUSTICALLY NEUTRAL FABRICS

Knoll Textiles 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 Knoll Textiles, 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 Knoll Textiles Customer Service Representative for the full test report.

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

Knoll Textiles Acoustically Neutral Fabrics

Akita	Dottie	Pivot Stitch	Twister
Alias II	Edo	Photon II	Ultrasuede
Alloy	Element	Plus One	Utmost II
Annex	Firenze	Ponder	Utopia
Antares	Glam	Prague	Versatility
Apollo	Growth Spurt	Ransom	Vertical Velvet
Arena	Hard Rock	Reflect	Viewpoint
Asterisk II	Hourglass	Relay	Wrap Up
Beacon	Infinite	Repertoire	
Bistro	Knoll Felt	Script	
Bocce	Latitude	Shadow Play	
Bollywood (unbacked)	Messa	Silhouette	
Boundary	Micro	Skylark	
Broadcloth II	Mystique	Soliloquy	
Circle Line	Nematic II	Symbolic Details	
Circuit	North Star	Tailor Made II	
Counterpoint	Overture	Tranquil	
Crossroad	Petra	Transfer	
Delite	Pivot	Trophy	

For additional information,
please contact Customer Service at
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SOUND ABSORBING FABRICS

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 0.65, 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 Knoll Textiles Customer Service Representative for the full test report.

Knoll Textiles Sound Absorbing Drapery Fabrics

Bewitched (0.65)
Bon Nuit (0.35)
Chill (0.60)
Double Eclipse (0.45)
Ease (0.80)
Equation (0.45)
In Tune (0.35)
Knoll Velvet (0.60)
Noren (0.65)
Phantom (0.60)
Signal (0.65)
Utmost II (0.90)
Vertical Velvet (0.95)
Zone (0.40)

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