



ULTRA NT SCIF Barrier – Perforated Product Submittal

Toll free: (800) 753-9090
 Website: ultrantscifbarrier.com



ULTRA NT SCIF Barrier - PERFORATED RF Shielding Barrier is designed and has been tested for use in Sensitive Compartmented Information Facilities (SCIFs). ULTRA NT SCIF Barrier - Solid is engineered to provide enhanced security and protection for SCIF environments. It is designed to prevent the transmission of electromagnetic signals, sound, and physical vibrations that could potentially compromise the confidentiality of the information being handled within the SCIF.

PRODUCT TESTING: ULTRA NT SCIF Barrier – PERFORATED product testing was performed at MET Laboratories, Inc., 914 West Patapsco Avenue, Baltimore, Maryland. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology. Testing was evaluated using IEEE-299 guidelines.

Physical Properties	Test Standards	Aluminum Foil / Scrim / Aluminum Foil
65.55 minimum shielding effectiveness	IEEE-299	Tested between 100 MHz to 10 GHz.
58.69 minimum shielding effectiveness	IEEE-299	Tested between 30 MHz to 18 GHz.
Temperature Range	ASTM C411	-60 F to 190 F (-51 C to 88 C)
Fire Rating	ASTM E84-10	Class 1 / Class A
Fire Rating	ASTM E84-10	Flame spread = 0 Smoke Development = 5
Pliability	ASTM C1313-07	No Cracking or Delamination
Permeability	ASTM E96-10	5.88 Perms
Resistance to Fungi & Bacteria	ASTM C-1338	Pass – No Growth
Emissivity	ASTM C-1371	0.03
Reflectivity	---	97%
Roll size	---	48" wide x 125' long (500 square feet)
500 square foot roll weight = 16.75 lbs.	---	0.0335 per sq/ft or 0.000232 per sq/in
Tensile Strength – Tear Resistance	ASTM D882	Length: 16.75 lbs. / 500 feet = 0.0335 psf.
	ASTM D882	Width: 16.75 lbs. / (500/48) = 16.75 lbs. / 10.4167



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65.55 minimum shielding effectiveness tested between the frequencies of 100 MHz to 10 GHz	
Frequency (MHz)	Minimum Shielding Effectiveness
100 MHz	84.94 dB
400 MHz	93.40 dB
800 MHz	89.06 dB
1,000 GHz	77.39 dB
2,000 GHz	74.07 dB
4,000 GHz	70.76 dB
5,000 GHz	73.23 dB
10,000 GHz	65.55 dB

58.69 minimum shielding effectiveness tested between the frequencies of 30 MHz to 18 GHz	
Frequency	Minimum Shielding Effectiveness
30.00 MHz	66.90 dB
31.30 MHz	86.99 dB
34.80 MHz	96.43 dB
100 MHz	84.94 dB
400 MHz	93.40 dB
800 MHz	89.06 dB
1,000 GHz	77.39 dB
2,000 GHz	74.07 dB
4,000 GHz	70.76 dB
5,000 GHz	73.23 dB
10,000 GHz	65.55 dB
18,000 GHz	58.69 dB

PRODUCT TESTING: ULTRA NT SCIF Barrier – SOLID product testing was performed at MET Laboratories, Inc., 914 West Patapsco Avenue, Baltimore, Maryland. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology. Testing was evaluated using IEEE-299 guidelines.

The suggested installation instructions for our ULTRA NT SCIF Barrier are detailed below. These installation instructions should never be allowed to override your job's specific architectural details and/or specifications. ULTRA NT SCIF Barrier is distributed by National Building Supplies, LLC. If you have questions, need to check product availability and pricing or if you need technical data sheets for any of our products, please call Michael Thrift on (800) 753-9090. You may also visit our website at www.ultrantscifbarrier.com

Section 1: How to measure and cut our ULTRA NT SCIF Barrier

1. Measure the surface area that needs to be covered with ULTRA NT SCIF Barrier then add 12 inches on each end or 24 inches overall to the length, because you must extend the ULTRA NT SCIF Barrier at the top of the wall onto the ceiling for 12 inches and also at the bottom of the wall onto the floor for 12" unless otherwise specified in the Architectural Specifications.
2. Here is an example, if your wall height measures 84 inches tall you must add an additional 24 inches to the overall length so you can extend the SCIF Barrier onto both the floor and ceiling for 12 inches, this would make your overall required length 108 inches.
3. Unroll the ULTRA NT SCIF Barrier onto a flat surface and measure the overall length required as detailed above then using a straight edge draw a straight line across the material then cut using a utility knife or scissors.

Section 2: How to measure, cut and install ULTRA NT SCIF Barrier in between two layers of drywall.

1. Install your first layer of drywall onto your studs following all the architectural specifications and details for your specific job.
2. Measure the surface area that needs to be covered with ULTRA NT SCIF Barrier then add 12 inches on each end or 24 inches overall to the length, because you must extend the ULTRA NT SCIF Barrier at the top of the wall onto the ceiling for 12 inches on also at the bottom of the wall onto the floor for 12" unless otherwise specified in the Architectural Specifications.
3. Here is an example, if your wall height is 84 inches tall you must add an additional 24 inches extend the SCIF Barrier onto both the floor and ceiling for 12 inches, this would make your overall required length 108 inches.
4. Unroll the ULTRA NT SCIF Barrier onto a flat surface and measure the overall required length as detailed above then using a straight edge draw a straight line across the material then cut using a utility knife or scissors.
5. You have the option to make your 12-inch fold on the top and bottom section of your pre-cut ULTRA SCIF Barrier while it is still laying on your flat surface. This helps speed up and make a cleaner-looking installation.
6. Install your first layer of ULTRA NT SCIF Barrier onto your drywall temporarily holding it in place with staples or 3M Super 77 general-purpose construction adhesive which is available in 24 fluid ounce spray cans or in five-gallon pails for larger areas.
 - One option when you are applying 3M Super 77 General purpose construction adhesive for larger areas to drywall is using an inexpensive adjustable paint sprayer.
7. As you are applying the ULTRA NT SCIF Barrier to your first layer of drywall remember that you must sure overlap all your side to side seam by six inches. Then you must tape all the seams using the tape that is specified in the architectural specifications and details for your project. Note: the most used tapes are shown below in section 3.
8. After you have the ULTRA NT SCIF Barrier in place, and you have followed each step on your specified in the architectural specifications and details for your project. You can install your second layer of gypsum board on top of the ULTRA NT SCIF Barrier. The Manufacturer recommends using black phosphate fine thread drywall screws when installing your drywall unless otherwise specified in the Architectural Specifications.

Section 3: Tapes:

These are the most used tapes that our customers order when they are installing our ULTRA NT SCIF Barrier. These commonly used tapes should never override the architectural specifications and details for your specific job. The technical data sheets for all the tapes shown above are available upon request by calling Michael Thrift at (800) 753-9090 or by visiting our website: www.ultrantscifbarrier.com.

3M 1520-CW aluminum foil non-conductive tape is a nominal 2 mil high strength dead soft non-conductive aluminum foil coated tape with Venture's CW cold weather solvent acrylic pressure-sensitive adhesive. The malleable foil applies easily to both fibrous and sheet metal ducts and conforms to irregular surfaces. Venture Tape 1520CW excels in demanding temperature and humidity applications and provides superior performance and durability over a wide range of environmental conditions.

- 2" wide x 150' long
- 3" wide x 150' long

3M™ 3302 Conductive Aluminum Foil Tape is a high-strength, dead soft aluminum foil-coated tape with a specially formulated conductive pressure-sensitive acrylic adhesive system. The tape features good adhesion, malleability, and adhesive conductivity to allow for extremely low resistance and to make this an excellent shielding tape for EMI and RF shielding applications in the electronics industry.

- 2" wide x 108' long
- 4" wide x 108' long
- 8" wide x 108' long

3M™ 1170 Conductive Aluminum Foil Tape is a 3-mil (0.076 mm) thick tape composed of a 2-mil (0.051 mm) flat aluminum foil backing coated on one side with a non-corrosive, electrically conductive acrylic pressure-sensitive adhesive supplied on a removable liner for easy handling.

- 1" wide x 54' long
- 2" wide x 54' long
- 3" wide x 54' long

Section 4: Commonly used Adhesive

3M™ Super 77™ Multipurpose Construction Adhesive is an extremely versatile, fast-drying spray adhesive that bonds a wide range of lightweight materials. Our permanent bond provides fast results to keep projects moving ahead. The photo-safe spray formula is easy to dispense and apply directly onto surfaces and materials where needed, with no soak-in or yellowing over time.

- 24 Fluid ounce spray cans
- Five-gallon pails (The estimated coverage is shown below)

One option when you are applying 3M Super 77 General purpose construction adhesive for larger areas to drywall is using an inexpensive adjustable paint sprayer.

The estimated coverage per five-gallon pail applied at .5 grams per square foot is 12,000 square feet and the estimated coverage per five-gallon pail applied at 1 gram per square foot is 6,000 square feet.

Section 4: How to prepare your concrete floor before installing your ULTRA NT SCIF Barrier

1. Make sure that the concrete surface is as clean and dust free before beginning the installation of the ULTRA NT SCIF Barrier
2. Make sure there are no jagged areas on your concrete floor that could cut into the ULTRA NT SCIF Barrier during the installation.
3. Be sure to fill any cracks and or holes in your concrete with a concrete patching material before installing the ULTRA NT SCIF Barrier

Section 5: How to install ULTRA NT SCIF Barrier to your concrete slab.

If you want to install Ultra-NT SCIF Barrier onto your concrete floor using 3M Super 77 Construction Adhesive, here are the steps you can follow:

1. Prepare the concrete floor: The concrete floor must be clean, dry, and free of any debris. Any unevenness or cracks in the surface of the concrete should be addressed before installing the barrier.
2. Cut the barrier to size: Measure the dimensions of the area that needs to be covered and cut the Ultra-NT SCIF Barrier to size using a utility knife.
1. Option 1: Spray the adhesive: Apply 3M Super 77 Construction Adhesive to the back of the Ultra-NT SCIF Barrier in a thin, even layer. Be sure to apply the adhesive to all edges and corners of the barrier.
2. Option 2: Apply the 3M Super 77 Construction Adhesive to your concrete using a paint roller that is designed for painting concrete rolling the adhesive in a smooth layer at approximately 1 gram per square foot, each five-gallon pail of 3M Super 77 Multipurpose Adhesive will cover approximately 6,000 square feet when applied at 1 gram per square foot.
3. Apply the barrier: Carefully align the Ultra-NT SCIF Barrier with the area of the concrete floor you want to cover and press it firmly into place. Use a hand roller or weighted roller to roll the barrier onto the concrete floor. This will help ensure that the adhesive makes good contact with the concrete surface and that the barrier is installed evenly.
4. Secure the edges: Use conductive adhesive tape or a conductive caulk to seal the edges of the barrier and ensure that there are no gaps where RF signals can leak through.
5. Test the barrier: Once the Ultra-NT SCIF Barrier is installed, you should test it to make sure that it is effective in blocking RF signals. This can be done using specialized testing equipment.

It is important to note that the installation of Ultra-NT SCIF Barrier can be complex and may require specialized knowledge and expertise. It is recommended that you consult with an experienced professional who can help you determine the best way to install the barrier and ensure that it is installed correctly.

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