

TitanRF™ Faraday Tape

Technical Installation Guide for Contractors

MISSION DARKNESS **FARADAY TAPE** **TITAN RF**

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HIGH-SHIELDING CONDUCTIVE ADHESIVE TAPE SIZE VARIATIONS

PRODUCT	1" WIDTH	2.5" WIDTH	10" WIDTH
SMALL ROLL	1"W X 10'L [2.54cm x 3.05m]	2.5"W X 10'L [6.35cm x 3.05m]	10"W X 10'L [25.4cm x 3.05m]
LARGE ROLL	1"W X 164'L [2.54cm x 50m]	2.5"W X 164'L [6.35cm x 50m]	10"W X 164'L [25.4cm x 50m]

Scope & Intended Use

This document provides installation guidance for professional contractors using TitanRF™ Faraday Tape in:

- SCIF (Sensitive Compartmented Information Facility) construction
- Zoned room construction (Zone 2–5)
- EMI / RF shielding applications
- Secure facilities and retrofits

This guide assumes familiarity with general construction practices and RF-shielding assemblies.

 **Important:** Manufacturer's instructions take precedence. If unavailable, contact Aus Security Products before installation.

Product Description

TitanRF™ Faraday Tape is a high-shielding conductive adhesive tape specifically engineered for constructing DIY Faraday cages, seaming fabric panels, EMI shielding applications, and field repairs. Its conductive adhesive ensures continuous shielding across all sealed seams, making it essential for SCIF and zoned room constructions.

Primary functions:

Sealing RF shielding fabric seams

Maintaining joint conductivity

Preventing RF leakage

The adhesive is conductive and permanent. **Plan placement carefully before application.**

Technical Specifications

Parameter	Specification
Shielding Compliance	IEEE 299-2006 Certified, MIL-STD-188-125 Certified
Conductive Composition	Nickel / Copper
Adhesive Type	High-shielding conductive construction-grade
Bond Strength	Permanent
Available Widths	1", 2", 2.5", 6", 10"
Standard Lengths	10 ft (3.04 m), 164 ft (50 m)

Product Selection Guidance

Application	Recommended Product	Notes
SCIF & Zoned Rooms	2.5" x 50m (MDFT-50M-2.5)	Optimal for critical applications requiring robust shielding.
Inter-Layer Bonding	2" x 50m Double-Sided (MDFTDS-50M-2I)	Designed for secure attachment between shielding fabric layers.
Detail Work / Repairs	1" Single-Sided	Ideal for intricate areas, small seams, and touch-ups.
Large Panel Seams	6" or 10" Single-Sided	Best for broad overlaps and extensive surface coverage.

The tape is designed specifically for TitanRF™ fabric to ensure a continuous conductive barrier, and the extremely strong adhesive creates a permanent bond.

Available Product Configurations

Width	Length	Type	SKU	Primary Application
1"	10ft / 164ft	Single-Sided	Contact Supplier	Detail work, small repairs
2"	50M	Double-Sided	MDFTDS-50M-2I	Inter-layer bonding
2"	10ft / 164ft	Single-Sided	Contact Supplier	Standard seaming
2.5"	50M	Single-Sided	MDFT-50M-2.5	SCIF/Zoned rooms (Most Popular)
6"	10ft / 164ft	Single-Sided	Contact Supplier	Wide seam coverage
10"	10ft / 164ft	Single-Sided	Contact Supplier	Large panel seaming

Note:

- ★ MOST POPULAR FOR SCIF & ZONED ROOM CONSTRUCTION: 2.5" x 50M (SKU: MDFT-50M-2.5)
- 🔄 DOUBLE-SIDED TAPE FOR INTER-LAYER BONDING: 2" x 50M (SKU: MDFTDS-50M-2I)

Surface Preparation & Application Procedure

Surface Preparation Requirements

Before applying tape, ensure surfaces are clean, dry, and free of dust/oils; fabric edges are straight; overlap dimensions are verified; and final placement is confirmed (adhesive is difficult to remove).

General Tape Application Process

01	02	03
Cutting	Backing Removal	Application
Cut tape cleanly; avoid frayed edges.	Peel backing carefully; do not touch adhesive.	Apply with firm, even pressure; avoid wrinkles/air gaps.

Sealing TitanRF™ Faraday Fabric Seams

Follow these steps for a robust, conductive seal:

1. **Prepare & Overlap Fabric:** Cut fabric sheets and overlap edges 1-2 inches. Handle fraying woven fabric carefully to prevent damage.
2. **Apply Tape (Side 1):** Apply tape along the seam, covering the overlapped edge.
3. **Apply Tape (Side 2):** Turn fabric, apply tape to the reverse side, mirroring the first application.
4. **Ensure Full Coverage:** Inspect all raw fabric edges are completely covered.
5. **Press Firmly:** Apply firm, even pressure to both sides for adhesion and conductivity.

Best Practice: Taping both sides of every seam is crucial. This prevents discontinuities and ensures consistent shielding throughout the installation.

❏ For optimal shielding, all RF fabric seams must be sealed on both sides where possible. Sealing only one side may compromise effectiveness.

Advanced Installation Techniques

Fastening Methods

Stapling (Preferred Method):

- Stapling is preferable for fabric attachment to structural elements.
- Most construction adhesives are insulative and can seep into the fabric, disrupting electrical continuity.
- Certain conductive glues have been used successfully, but are not typically used in construction installation.
- Staples work well as long as all penetrations are securely covered with TitanRF tape to maintain the conductive barrier.

Layer Compression and Bonding

In practice, double-sided conductive tape is strongly recommended for adhering fabric layers to each other. This guarantees continuous electrical contact even if there are small voids or uneven compression.

Seam Overlap Techniques

Standard Overlap Requirements:

- A 2-inch overlap is required for all seam connections.
- Best practice: Tape both sides of every seam wherever possible.
- Double-sided tape applied between the layers at each seam provides extra assurance of continuous conductivity.
- The key is ensuring a continuous conductive path across every joint without gaps or discontinuities.

Double-Sided Wall Panel Optimization:

To reduce labor and tape for double-wall panels, use conductive double-sided tape at the seam between the two layers.

Interior Side	Single tape on interior surface	Single-Sided (MDFT-50M-2.5)
Between Layers	Double-sided tape at seam	Double-Sided (MDFTDS-50M-2I)
Exterior Side	Single tape on exterior surface	Single-Sided (MDFT-50M-2.5)

✓ **RESULT:** Only 3 tapes required instead of 4+ individual tapes. The double-sided tape keeps layers in close contact, significantly improving shielding performance while reducing installation time.

- ❑ **Tape Handling Note:** Woven tape types may fray. Careful attention is needed during cutting and application for clean edges and optimal performance.

Material Compatibility & Safety

Material Compatibility & Corrosion Prevention

Isolating RF fabric from direct contact with galvanized steel (zinc-coated) framing is recommended for permanent or long-term installations:

- Galvanic corrosion can occur between the Faraday fabric (primarily copper and nickel) and galvanized coating (zinc)
- Even in dry environments, the anodic voltage between these materials can cause corrosion over time
- Using barrier tapes to separate the two layers is generally the easiest and most effective solution

TitanRF™ Tape Compatibility:

TitanRF™ tape is specifically designed for use with TitanRF™ fabric, ensuring optimal conductive barrier performance. The extremely strong adhesive creates a permanent bond that maintains continuous electrical conductivity across all sealed seams.

Safety & Handling

CRITICAL SAFETY WARNINGS:

- All conductive materials are HIGHLY CONDUCTIVE and FLAMMABLE
- Keep away from electrical outlets and open flames at all times
- Plan installations carefully - once applied, tape is difficult to remove
- Removing tape may damage the fabric substrate
- Always measure and verify placement before final application

Handling Instructions:

- Woven tape types may fray - handle with care during cutting and application
- Store tape in a cool, dry location away from direct sunlight
- Keep tape sealed until ready for use to maintain adhesive quality
- Wear appropriate PPE (gloves, safety glasses) during installation

Overall Benefits

Reduced material usage

Improved layer contact & adhesion

Increased shielding continuity

Enhanced long-term durability & safety

Contractor Quick Reference & Compliance

Contractor Quick Reference

Item	Requirement
Seam Overlap	≥ 2 inches
Typical SCIF Width	2.5"
Inter-Layer Bonding	Double-Sided Tape
Seam Coverage	Both sides required
Fabric Fastening	Staples + tape sealing
Galvanised Steel	Isolate with barrier
Adhesive Type	Permanent
Rework Risk	High – plan placement

Compliance & Responsibility

This guide supplements professional installation but does not replace:

- Manufacturer specifications
- Project engineering
- Local codes/security authority requirements

Contractors are responsible for verifying compliance with all applicable standards.