



## TECHNICAL DATA

### AL5 (5mil) Electrically Conductive PSA Aluminum Foil Tape

**US Foils, Inc. AL5 ECPSA Tape** is a .005" aluminum foil backed by a 2 mil electrically conductive acrylic transfer adhesive and moisture resistant polycoated liner. The adhesive is designed for laminating to a variety of surfaces including painted surfaces, metals, and various plastic films. Features include good chemical resistance, moderate tack, high shear strength, and excellent Z direction conductivity.

#### **Typical Adhesive Performance Data:**

<b>Adhesive Thickness</b>	2 Mils	
<b>Liner Type</b>	76# Polycoated	
<b>Peel Adhesion</b> (PSTC - 101/180°) Initial to SS (20 min @ RT)	<u>Oz./Inch</u> 47	<u>N/25mm</u> 13.2
<b>Holding Power</b> (PSTC 107 Mod./178°) 2.2 psi (1"x1"x1000g) @ RT	≥600 min.	
<b>Volume Resistivity</b> (ASTM D2739-97 Modified)	0.06 $\Omega \cdot m$	
<b>Observed Resistance</b> (ASTM D2739-97 Modified)	5m $\Omega$	
<b>Contact Resistance</b> (Aluminum to Aluminum)	<0.02 $\Omega/in^2$	
<b>Minimum Application Temperature</b>	50 Degrees F	
<b>No Load Applied, Service Temperature Range</b>	-40 to 250 Degrees F	
<b>Dry Time (Adhesive Strength)</b>	24 Hours (85%) 48 Hours (100%)	

# EMI-SHIELD AL5 EMI/RFI Foil Shielding Tape

## EMI Foil Shielding Tape With Electrically Conductive PSA



**AL5** is a 0.005" (5 mil) (0.127mm) thick aluminum foil for use as an EMI/RFI shield against electromagnetic interference. The foils are easy to work with and offer good shielding effectiveness across a wide range of frequencies, tested from 9 KHz to 40 GHz, shielding against unwanted signals in or out of rooms and buildings. Ideal for ICD 705 Tempest shielding.

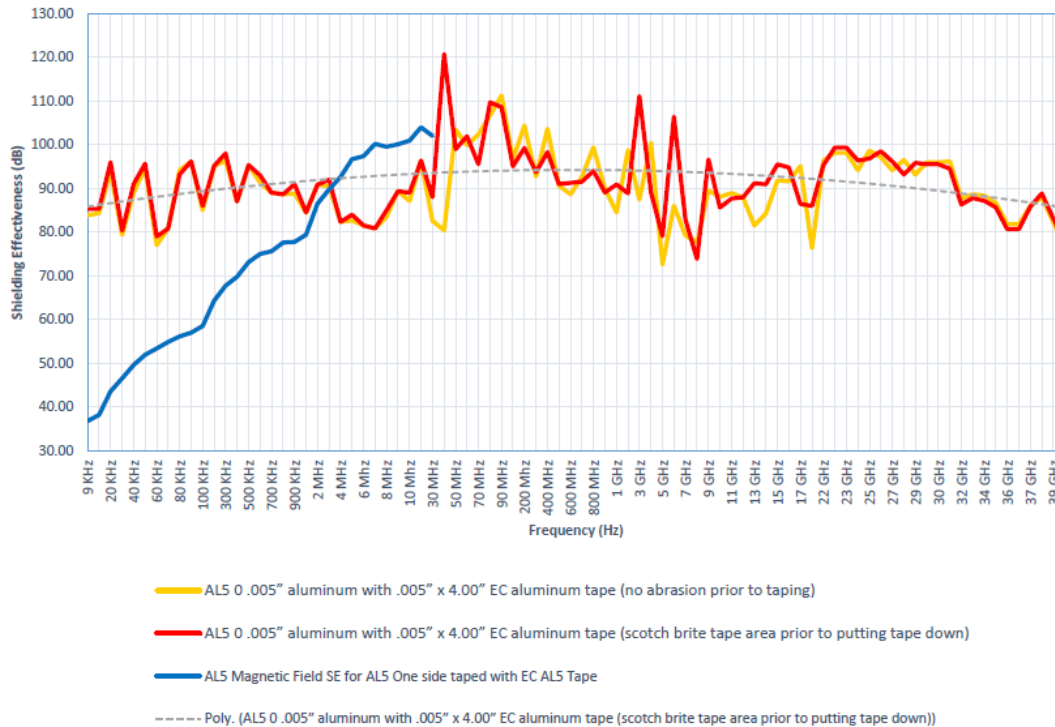
**AL5** may be used to form shielded enclosures of almost any size or shape, with primary use in construction with low-cost shielded rooms, shielded anechoic chambers and other shielded test rooms.

**US Foils** products are unique as they come with 2 mil Pressure Sensitive Adhesive (PSA) as the bonding mechanism. PSA offers a no-mess, no odor simple method of application method for applying the AL5 to substrates. AL5 is also available without PSA backing (bare foil up to 50" wide x 150' long rolls).

**AL5** can be used as a single layer or double layer, see shielding performance below. Staggered or offset overlap of seams are recommended for double layer application.

AL5 TAPE TYPICAL SHIELDING EFFECTIVENESS	
As Installed Butt Jointed & Seam Taped with 4" wide EC Tape	
(Insertion Loss per IEEE-299 : 2006)	
FREQUENCY	dB
1 KHz, Magnetic Field	12
10 KHz, Magnetic Field	38
100 KHz, Magnetic Field	58
1 MHz, Magnetic Field	78
10 KHz, Electric Field	≥85
100 KHz, Electrical Field	≥88
10 MHz, Electrical Field	≥90
100 MHz, Plane Wave	≥90
400 MHz, Plane Wave	≥90
1 GHz Plane Wave	≥85
10 GHz Plane Wave	≥80
18 GHz Plane Wave	≥75
40 GHz Plane Wave	≥75

### AL5 Shielding Effectiveness (Butt Joint & Seam Taped) Tested per IEEE-299 : 2006



**AL5** EMI foil shielding is applied like wallpaper, covering all surfaces: floor, walls and ceiling. Other than normal cleanliness, and dust free, no special preparation is required. Raw sheetrock will be required to be primed if you are using the AL5 with PSA. The foil should be glued in-place or ordered with a Pressure Sensitive Adhesive (PSA). Ultimate Tensile Strength (UTS) 15.5ksi maximum.

### AL5 INSTALLATION OPTIONS:

**Good SE Performance:** AL5 is butt jointed and then seam taped with 4" wide EC AL5 Tape (see graph above).

**Better SE Performance:** AL5 is overlapped by a minimum of 2" and then seam taped with 4" wide EC AL5 Tape.

**Best SE Performance:** AL5 joints are Z-Folded and then seam taped with 4" EC AL5 tape.

### ORDERING INFORMATION

**AL5 Tape** is also available in electrically conductive PSA backing in 1", 2", 3", 4" & 6" x 180 Ft rolls.

**Note:** Standard AL5, 2 mil PSA, does not stick to: unsealed concrete, cinder block, unprimed sheet rock, unprimed particle board and other unprimed rough or porous surfaces.



**Wear correct gloves when installing the foil, the edge is like a razor blade**

**Note:** All information, recommendations, and suggestions contained herein shall only be used as a guide by the Purchaser and not for specification or any other purposes. This information also does not constitute a warranty nor guaranty of any type whatsoever. Purchaser should independently determine suitability of all material purchased and must confirm adaptability and other characteristics by conducting their own tests. US Foils, Inc. shall have no liability as a result of any loss, expense, damage, cost or other injury which results from Purchaser's reliance on the information.

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