

Selection of Conductive Tapes

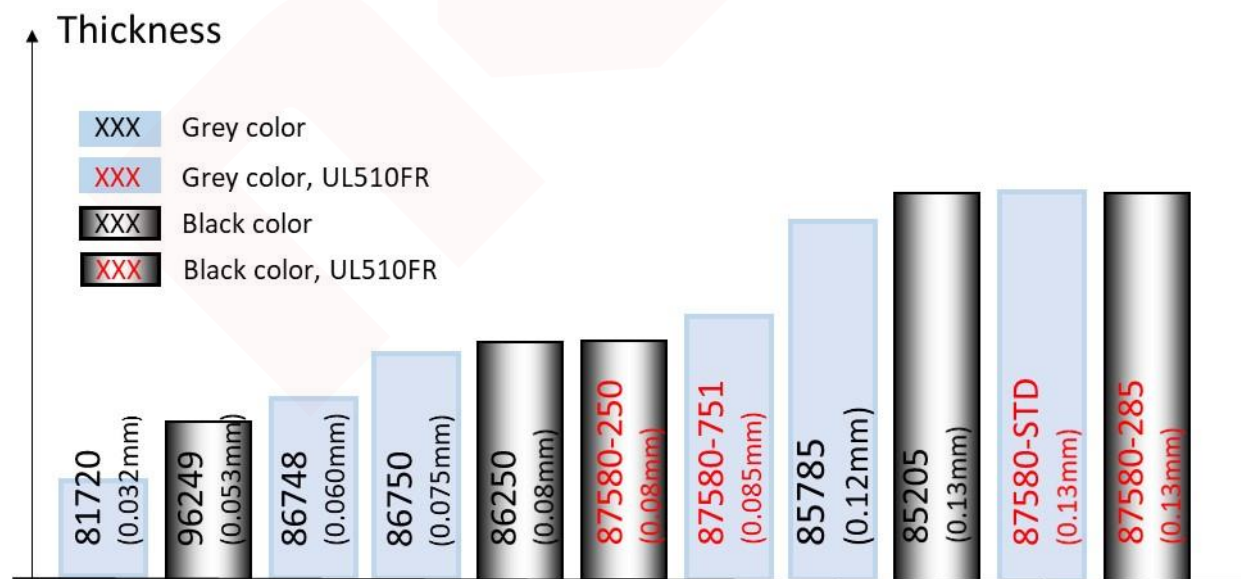
Single Side Conductive Fabric Tapes

Laird Conductive Fabric Tapes are constructed of a copper nickel plated fabric with pressure sensitive adhesive. They offer high electrical conductivity in both XY and Z directions and provide good adhesion and EMI shielding performance.

Laird Conductive Fabric Tapes are available in natural color and black color. Besides, tapes with UL510FR rating (halogen free) are available as well.



Standard Products



| | Thickness (mm) ^{*1} | Color | Peel (N/25mm) | Rz (Ω) ^{*2} | Rs (Ω/□) ^{*3} | UL510FR |
|-----------|---------------------------------|---------------------|------------------|-------------------------|---------------------------|---------|
| 81720 | 0.032 | Grey | >8 | <0.05 | <0.05 | |
| 96249 | 0.053 | Black ^{*4} | >8 | <0.1 | <0.1 | |
| 86748 | 0.06 | Grey | >11 | <0.05 | <0.05 | |
| 86750 | 0.075 | Grey | >9 | <0.03 | <0.05 | |
| 86250 | 0.08 | Black | >12 | <0.04 | <0.06 | |
| 87580-250 | 0.08 | Black | >8 | <0.04 | <0.07 | Pass |
| 87580-751 | 0.085 | Grey | >8 | <0.04 | <0.05 | Pass |
| 85785 | 0.12 | Grey | >11 | <0.04 | <0.05 | |
| 86205 | 0.13 | Black | >11 | <0.04 | <0.06 | |
| 87580 | 0.13 | Grey | >8 | <0.04 | <0.05 | Pass |
| 87580-285 | 0.13 | Black | >8 | <0.04 | <0.07 | Pass |

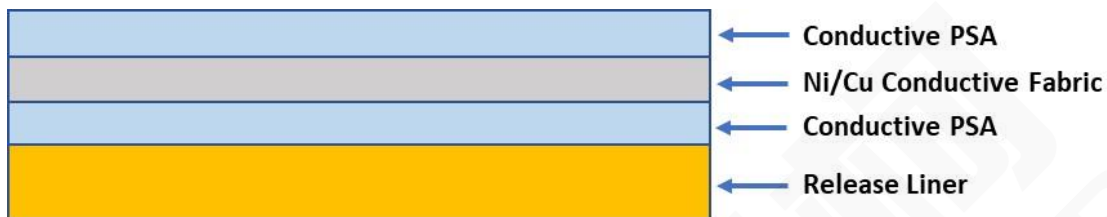
*1: Nominal thickness *2: Z-axis resistance *3: Surface resistivity *4: Black on both sides

Dimension Available

Laird offer several thicknesses of *Single Sides Conductive Fabric Tapes* for selection. Customized thickness request between 0.03mm to 0.13mm are available with MOQ 1000sqm or equivalent. They can be further customized to an application by die-cutting, lamination, or assembling with other flex or metal materials.

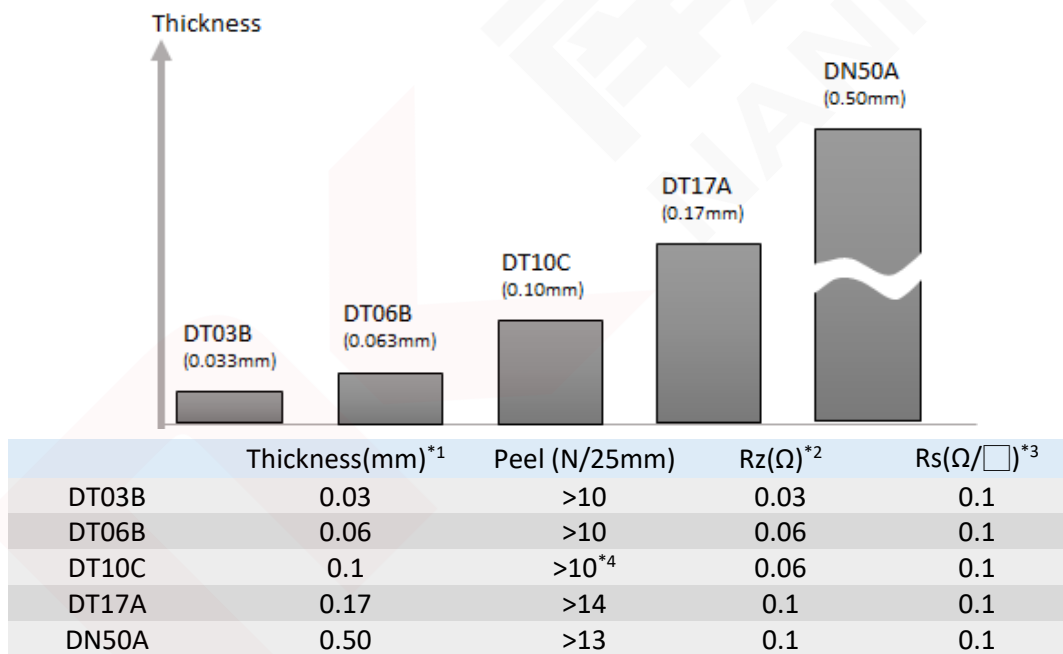
Double Sides Conductive Fabric Tapes

Laird *Double Sides Conductive Fabric Tapes* are constructed of a copper nickel plated fabric with pressure sensitive adhesive on both sides. They offer high electrical conductivity in both XY and Z directions and provide good adhesion and EMI shielding performance.



*note : release liner can be on one side or on both sides. Depends on the request.

Standard Products



*1: Nominal thickness *2: Z-axis resistance *3: Surface resistivity *4: Dual adhesion

Dimension Available

Laird offer several thicknesses of *Double Sides Conductive Fabric Tapes* for selection. Customized thickness request between 0.03mm to 0.50mm are available with MOQ 1000sqm or equivalent. They can be further customized to an application by die-cutting, lamination, or assembling with other flex or metal materials.

Conductive Transfer Adhesives

Laird *Conductive Transfer Adhesives* are developed for the application in a lot of Laird Products such as fabric over foam, conductive foam, conductive fabric tape, etc. They offer high electrical conductivity in Z directions and provide good adhesion, high shear properties, and EMI shielding performance.

Laird *Conductive Transfer Adhesives* are available in natural color and black color. Besides, after laminating with specific fabrics, some of them are also UL510FR rating.

Dimension Available

Laird offer several thicknesses of Conductive Transfer Adhesives for selection and can be further processed with die cutting or lamination. Customized thickness request between 0.01mm to 0.10mm are available with MOQ 1000sqm or equivalent.

Standard Products

| Family | Available Thick.(mm) | Typical PSA | Peel Strength (N/25mm) | Features | Key Application |
|------------|----------------------|-----------------------|------------------------|---|---|
| GT Family | 0.05-0.09 | LT307C, LT301, LT210H | 12 | Well-balance in adhesion and resistance | Conductive foam; PTAF,NRS, or mesh based gasket (FOF) |
| 86 Family | 0.03-0.07 | LT209, LT210 | 10 | Excellent in long term adhesion | Conductive fabric tapes ex. 86773, 86785, 86748 |
| 10U Family | 0.01-0.02 | LT212 | 7.5 | Very thin with good adhesion | Conductive fabric tapes ex. 81720, DT03B, DT06B |
| 96 Family | 0.015-0.05 | LT315 | 8 | Black color adhesive | Black conductive fabric tapes ex. 96249 |
| 87 Family | 0.04-0.08 | LT87 | 8 | Flame retardant | Flame retardant(UL510FR) tapes ex. 87580 Series, DT17A |
| HT Family | 0.03-0.07 | LT209HT | 8 | Pass solder reflow temp. profile | BLS cover application |
| 591 Family | 0.02-0.11 | LT591, LT350 | 12 | Non-conductive PSA | Good adhesion to wide variety of metal and plastic substrates |

Note : These adhesives were developed for Laird products such as FOF, fabric tapes, or conductive foams only. If any customer is interested in adhesive only, please contact Product Management Team to confirm in advance.

Application Techniques

1. Adhesion is dependent upon the amount of adhesive-to-surface contact developed. Apply pressure to the bonding surface will develop better adhesive contact, and thus improve adhesion.
 - ◆ To a 25mm(1in.) width tape, recommend a 2Kgf rubber roller to press back and forth twice under the speed of 5mm/sec. Users may adjust the speed (recommended within 3-10mm/sec.) or roller loading (recommended 1-3Kgf) according to different application. If available, apply heat up to 120°C for several seconds would be help to adhesion.
 - ◆ Users may also apply 10-30psi for 5-15sec to the surface. The loading and residual time can be adjusted as well according to the application, area(dimension), and surface. In general, higher loading and longer residual time will make the contact between adhesive and the surface more stable and enhance the conductivity and adhesion.
2. After applying the tape onto a surface, the adhesion will build up gradually. Keep the PSA assembly under recommended compression or loading for 24 to 72 hours would be help to reach high adhesion.
3. To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. A typical surface cleaning solvent is isopropyl alcohol. Use proper safety precautions for handling solvents.
4. Ideal tape application temperature range is 21°C to 38°C. Initial tape application to surfaces at temperatures below 10°C is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

Operation Temperature

Most of Laird *Single Side and Double Sides Conductive Fabric Tapes* will keep in well adhesion and very little resistance changed for several years under -40°C to 80°C after application. Even under high temperature environment such as 105°C or even 125°C, the performance of some tapes will be good as well after weeks to months.

Shelf Life and Storage Condition

1 year from date of shipment in sealed bag under 0-40°C. No humidity control is required.

Manufacturing Sites

LT-Shenzhen and LT-Kunshan are the key manufacturing sites of EMI Tapes.