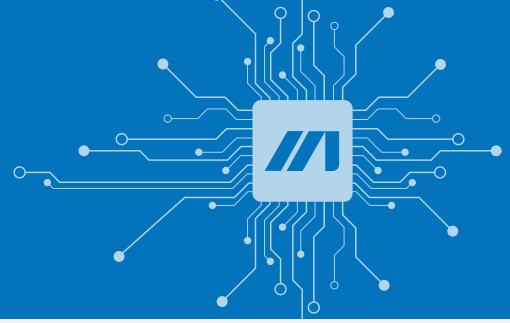# DATA CENTERS, ARTIFICIAL INTELLIGENCE ... AND LABELS? A PERFECT MATCH!

It seems you can't read a business publication or news site these days without seeing articles about artificial intelligence and the rapid growth of supporting data centers. From Silicon Valley to Dallas to Virginia, the big news is data center build-outs and investment.

So why would a manufacturer like Melrose pay so much attention to the needs of AI and their supporting data centers? Well, that's a great question with a simple answer. Data centers require labels, overlays, and die-cut materials as these components play critical roles in hardware identification, organization, safety, and compliance. Providing solutions to help with thermal management, static electricity, graphics, and other challenges within data center environments is where Melrose can add a great deal of value for our clients.

Here's a breakdown of the products, applications, and solutions Melrose provides within the data center environment:

LABELS

Cable & Wire Labels

Purpose:
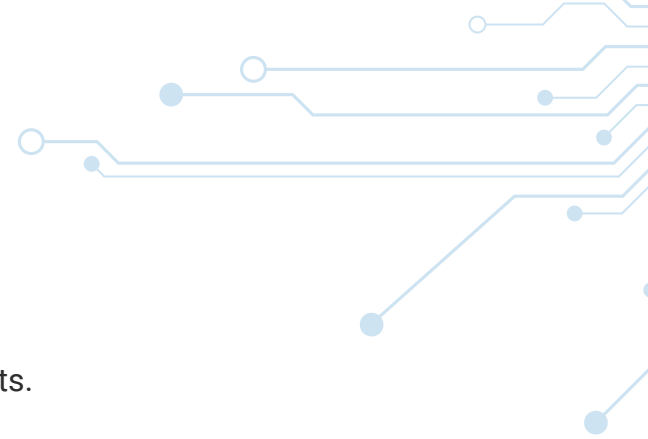Identify and organize fiber optics, Ethernet, and power cables.

Materials:

Vinyls and Polyesters – Flexible,
often used with wrap-around or flag-style designs

Features:

- Thermal transfer or laser printable
- UL-recognized and RoHS compliant
- Resistant to abrasion, heat, and chemicals

Asset & Equipment Labels

Purpose:

Tag servers, racks, switches, storage units, and other IT assets.

Materials:

- **Polyester (PET):**
  High durability, heat resistance, UL969 compliance
- **Anodized aluminum (for fixed, long-life assets)**

Features:

- Barcodes/QR codes or other printed identifiers for inventory tracking.
- Tamper-evident or destructible options available for security and authentication requirements

Safety & Compliance Labels

Purpose:

Warn of electrical hazards, ESD zones,
or other critical instructions related to health and safety.

Materials:

- Polyester or polycarbonate with high-contrast graphics
- Reflective vinyls

Features:

- UL969 compliance
- High-temperature and flame-rated materials
- Abrasion and chemical-resistant properties
- Reflective safety marking

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OVERLAYS & FACEPLATES

Control Panel Overlays

Purpose:

Markings for buttons, LED indicators, and display windows on power distribution units (PDUs), HVAC controls, or access control systems

Materials:

- **Polycarbonate (Lexan) –** Excellent clarity and abrasion resistance
- **Polyester (Mylar) – Chemical resistance and flexibility**

Features:

- Rear-printed for durability
- Matte, gloss, or textured finish
- ESD-safe options available for sensitive electronics

graphic overlay label

DIE-CUT ADHESIVE MATERIALS & INSULATORS

Gaskets, Insulators, & EMI Shielding

Purpose:

Seal, isolate, or protect electronics in server enclosures and control units.

Materials:

- **Open & Closed Cell Foams, Rubbers –** For cushioning and vibration dampening.
- **Polyimide, Polycarbonate, Polypropylene –** Dielectric insulators with medium to high temp performance and UL94 flame ratings.
- **Conductive Foams, Foils, and Thermal Materials –** EMI/RFI shielding and absorption, thermal pads, electrically conductive materials.

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Adhesive Mounting & Spacers

Purpose:

Attach components like sensors, fans, or boards inside enclosures.

Materials:

- **3M VHB tapes –**
  For strong permanent bonds,
  replacing mechanical fasteners while adding
  dampening performance.
- **Double-sided foam tape**
  Light-duty mounting and attachment needs.

Features:

- Die-cut to exact sizes and tolerances
- Cleanroom-compatible materials if used near sensitive electronics
- Combination of materials for application-specific requirement
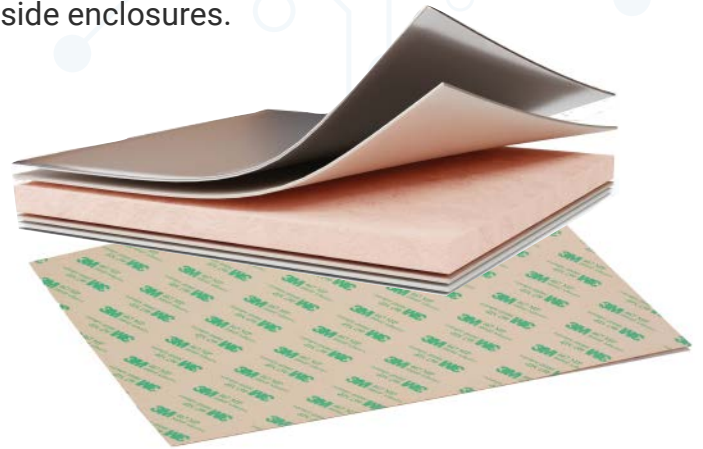
SPECIAL CONSIDERATIONS FOR DATA CENTER APPLICATIONS

Requirement	Material Solution
High heat	Polyimide labels, polycarbonate overlays
Static Electricity	ESD-safe labels, insulators, static dissipative materials
Durability	UV, solvent, and abrasion-resistant materials
Traceability	Serialized and barcoded asset tags

As investments in AI and the growth of data centers continue throughout the US, the need for compliant, safe, and functional solutions will only accelerate. Melrose is dedicated to delivering engineered material solutions to this market through thoughtful collaboration and support – from design to production, our US based manufacturing team is ready to assist with every stage of your project.

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Technical Solutions Through Expertise & Partnership