

From: allen.jones@ieee.org
To: "[Ian Matheson](#)"
Cc: "[Daniel Eisenbraun](#)"
Subject: RE: IEEE Region 3: Project Update - March
Date: Saturday, April 08, 2023 2:54:08 PM
Attachments: [Adhesive Mounts Guide.pdf](#)

Ian and Daniel,

Thanks for the update and I apologize for taking so long to get back to you on it. It looks like you're still making good progress and I look forward to seeing your final report. If the final report encompasses the progress made in April, then there is no need to send an additional report on just that April progress. I don't want to create more work for you than necessary.

I'm not suggesting that you make this change at this point, but I've attached an Application Note that you might find helpful if you ever need to attach cable ties onto a somewhat brittle surface in the future. Panduit, and several other companies, make cable tie adhesive mounts. They can come in handy when you need to attach a cable tie to a smooth surface but don't want to drill a hole in the surface. The Application Note includes info on what adhesives work in what temperature and UV environments.

Thanks,

Allen

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From: Ian Matheson <imatheson@valenciacollege.edu>
Sent: Sunday, April 02, 2023 5:42 PM
To: allen.jones@ieee.org
Cc: Daniel Eisenbraun <deisenbraun@mail.valenciacollege.edu>
Subject: IEEE Region 3: Project Update - March

Hi Allen,

I've attached the March report and a zip file with all the photos.

As the semester is coming to a close, we will be wrapping up all testing, writing the final report, and giving our final presentation during the month of April. Thus, the monthly report for April will be the last report you receive from us. If you like, we can send you a report of any progress made in April along with the final report. The final report will be in a much longer format, detailing all the work done from the beginning of the project.

Please let us know if you have any questions or feedback.

Best,
Ian

A.
System
Overview

Selection and Use of Adhesive Mounts

Panduit adhesive mounts provide a quick, economical, and dependable method of supporting, routing, and protecting wires or cables. Some are used with Panduit cable ties and others can be used without cable ties. Adhesive backed mounts adhere to a variety of surfaces. This alternative to mechanical fasteners offers the advantage of lower installed cost with safe, easy to use, quality products.



B1.
Cable Ties

B2.
Cable
Accessories

Applications

- To route wires in control panels and switchboards
- To support bundles of wires away from moving mechanical devices
- Routing and harnessing cables, both indoors and out, to prevent safety hazards
- To organize flat cables in many locations with low profile construction
- Ideal for supporting wire bundles where holes cannot be made in the substrate
- To separate groups of wires for identification

B3.
Stainless
Steel Ties

C1.
Wiring
Duct

C2.
Surface
Raceway

C3.
Abrasion
Protection

C4.
Cable
Management



General Mount Guidelines

Panduit pressure sensitive adhesive (foam tape) mounts are intended to secure wire bundles or other light objects to smooth surfaces. These mounts are not designed to support excessive loads and should not be used when the maximum expected load exceeds the rated capacity of the mount.

Choosing the Right Adhesive

Panduit offers two standard pressure sensitive foam tapes which are available on most adhesive backed wiring accessories products. The general purpose tape is produced with a rubber based adhesive and is identified by an “-A” in the part number. This tape develops its strength extremely fast and can be used in environments with temperatures ranging from -20°F (-29°C) to 120°F (49°C). It is recommended that rubber based adhesive mounts dwell 2 hours after installation, prior to loading. Rubber based adhesive tape is the best choice for most adhesive mount applications, including powder coated surfaces.

D1.
Terminals

D2.
Power
Connectors

D3.
Grounding
Connectors

Acrylic based adhesive tape is also available and is identified by an “-AT” in the part number. This tape is for use in environments where continuous exposure to temperatures ranging from -20°F (-29°C) to 180°F (82°C) is possible. Acrylic based adhesive develops its maximum strength over a longer period of time than rubber based adhesive. It is recommended that acrylic adhesive mounts dwell 8 hours after installation, prior to loading. Acrylic based adhesive tape is a good choice for environments with exposure to UV rays or temperatures above 120°F (49°C).

E1.
Labeling
Systems

E2.
Labels

E3.
Pre-Printed
& Write-On
Markers

Panduit adhesive backed cable accessories are also available pre-installed with high bond acrylic-based adhesive. This adhesive can be used in applications with continuous use temperatures ranging from -31°F (-35°C) to 200°F (93°C), though higher temperatures may be possible for short-term exposure. High Bond cable accessories are recommended for use in demanding applications such as where high temperatures are required, or where fatigue loading is expected.

E4.
Permanent
Identification

E5.
Lockout/
Tagout
& Safety
Solutions

Panduit also offers a 2-part epoxy for use in applications where excessive loading is required, or where the surface to which the mount must be applied is porous rather than smooth. Panduit EMA adhesive is a 2-part epoxy cement which is packaged in convenient mixer cups containing an equal amount of resin and hardener. Peel the protective covering off and pop the center of the cup in to form a mixing bowl. Each cup is supplied with a mixer stick and contains enough epoxy to properly apply three EMS mounts. The resin and hardener should be thoroughly mixed together until the epoxy is a consistent and uniform color. The mixer stick can then be used to apply the adhesive to the mount. The epoxy should be forced into the grooves on the bottom of the mount to obtain optimum bond performance. The mount should be applied to the surface with light pressure and a back-and-forth twisting motion. Hardening of the epoxy begins five minutes after mixing at room temperature.

F.
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Selection and Use of Adhesive Mounts (continued)

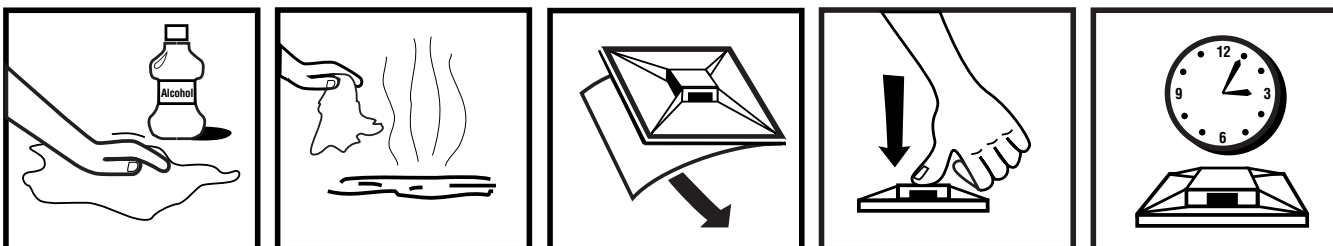
Surface Preparation

For best results, Panduit adhesive mounts should be applied to clean, dry, grease-free surfaces. We recommend that the surface be cleaned prior to mount installation. For rubber and acrylic based foam tape adhesives, a blend of isopropyl alcohol and water 50/50 may be used to clean most surfaces.

For epoxy type adhesives, especially masonry surfaces, be sure to clean all loose particles away before mount installation. Some surface abrasion is recommended to achieve maximum strength. A light rubbing with medium grit emery cloth or sandpaper is best. Wash after abrading.

Proper Installation Techniques For Pressure Sensitive Adhesive Mounts

For proper installation of adhesive mounts with foam tape, simply remove the release liner and place the mount in the desired location. Avoid touching the adhesive prior to positioning the mount. Apply firm pressure to the mount for 5 seconds to insure proper adhesion.



- 1) Clean surface with a clean cloth and isopropyl alcohol.
- 2) Allow surface to air dry.
- 3) Remove the release liner, being careful not to touch the adhesive.
- 4) Apply full thumb pressure for at least 5 seconds.
- 5) Allow mount to properly dwell.

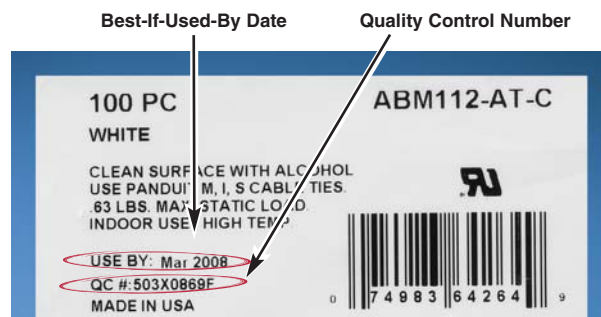
Proper Storage Conditions

All Panduit adhesive products have an expiration date printed on the package label. Use the following storage guidelines:

1. For rubber and acrylic based foam tape adhesives, store in temperatures of 70°F (21°C) and 45% Relative Humidity (R.H.).
2. For epoxy type adhesives, store in temperatures of 40°F (4°C) to 75°F (25°C) and relative humidity not in excess of 45%. Storage in opened containers is not recommended. Using the guidelines above, the shelf life of foam tape is 3 years. Shelf life of epoxy is 1 year. Deviation from the recommended storage conditions may reduce the shelf life or adhesive strength. In any case, adhesive products should never be stored near heating vents or other heat sources, and storage in lower temperatures than those recommended may increase the shelf life.

Stock Rotation

Adhesive mount inventory should be rotated in order to insure the quality of the adhesive foam tape. Each package of Panduit adhesive backed mounts has a quality control number and a best-if-used-by date on the package label. The best-if-used-by date provides the customer with an accurate way to control the rotation of inventory, and, as is the case with all Panduit products, the quality control number provides complete traceability for all components that go into a specific production run of product.



Mount Removal

There is no simple or easy method for removing Panduit adhesives. A thin wire or razor blade can be moved in between the surfaces when removing foam tape mounts; however, the adhesive residue will remain on the surface. Epoxy adhesives may be removed with a commercial paint stripping solution.

A.
System
Overview

B1.
Cable Ties

B2.
Cable
Accessories

B3.
Stainless
Steel Ties

C1.
Wiring
Duct

C2.
Surface
Raceway

C3.
Abrasion
Protection

C4.
Cable
Management

D1.
Terminals

D2.
Power
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E1.
Labeling
Systems

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Labels

E3.
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E4.
Permanent
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E5.
Lockout/
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