

GET REAL VALUE from the **RIGHT LABELS**

Your Guide to Wire, Cable
& Component Marking



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When time is money, and you rely on skillfully installing and updating wires, cables and components as part of your daily job, effective labeling helps you to add value to your operations. It helps you to achieve aesthetically flawless installations that you can take pride in, while benefiting your company and your customers with increased efficiency, profitability and customer satisfaction. This guide will walk you through the benefits of labeling, how you can get there with the right labels and signs, and the importance of an effective labeling system.

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CHAPTER

1 THE BENEFITS OF LABELING

In the electrical, telecom and datacom industry, hundreds to thousands of cables, wires and electrical components are managed on a daily basis. An effective labeling system can make all the difference to your operations.

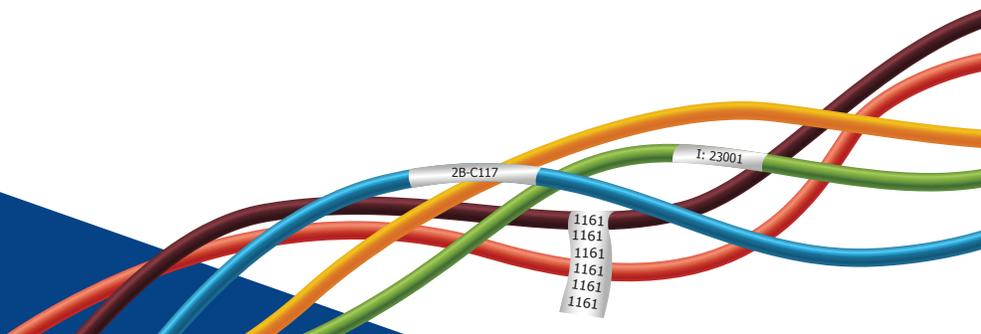


Do you waste time, energy and money...

- Searching for a cable or wire that you need out of hundreds that look just like it?
- Testing cables to find the correct one?
- Tracing through a tangle of wires to find where a cable begins or ends?

While labels might be small, they can have a huge impact on your workplace. An effective and consistent labeling and signage system that you can be proud of offers your facility 5 key benefits:

- 1. Increased Productivity**
- 2. Improved Profitability**
- 3. Enhanced Organization & Ease-of-Use**
- 4. More Reliable, Readable & Durable Labels**
- 5. Heightened Safety & Security**



Here's how labeling benefits you...

1. Increased Productivity

When your first priority is to keep the business up and running, you simply don't have the time to search for the cable or wire you need.

Consistent and reliable labels allow you to:

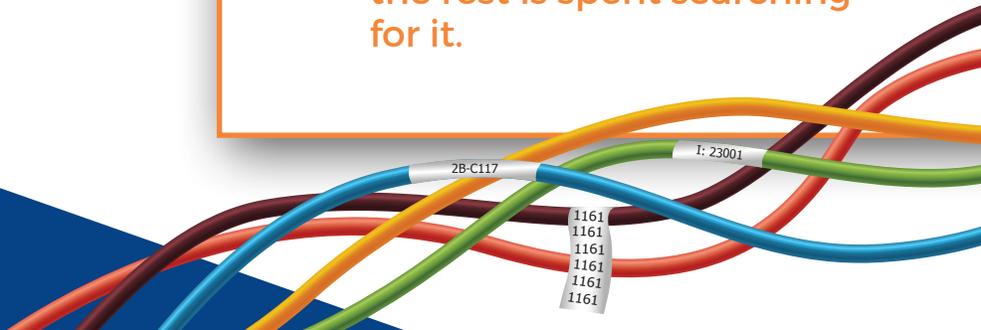
- Immediately recognize what needs to be checked when troubleshooting
- Clearly mark parts in need of maintenance upgrades
- Trace history, lifespan and supplier information
- Add safety warnings and precautions

That means you can keep downtime to a minimum and operations running smoothly by being able to track cables, wires and components at-a-glance. You'll be amazed at just how much more productive you can be when effective labeling is there to make your tasks as efficient as ever.



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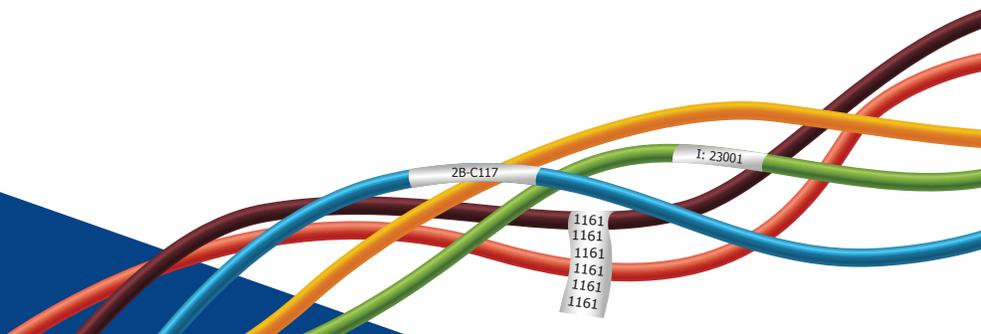
of a tech's service time is spent fixing the problem, the rest is spent searching for it.





2. Improved Profitability

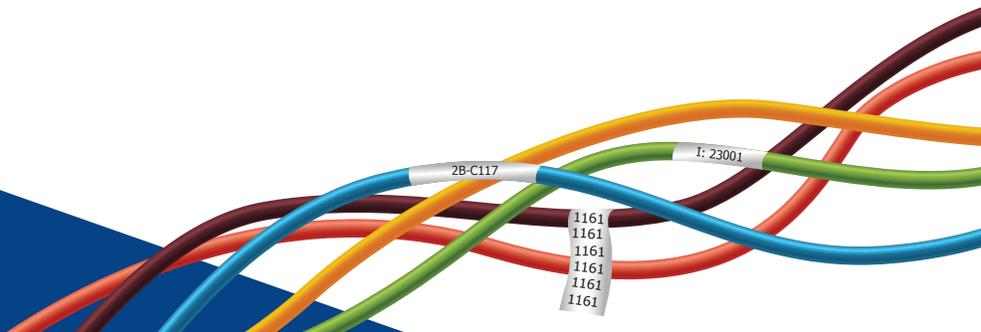
There's no avoiding the identification of wires, cables, components and equipment in the electrical industry. It's simply part of the job. However, how well you label makes all the difference. With the right planning and right labeling, you make the job easier and more efficient for your workers, more professional-looking for your customers, and in turn, more profitable for your operations.



3. Enhanced Organization & Ease-of-Use

The key to successful identification is using a consistent labeling system. The best practice for labeling consistency is to follow the ANSI/TIA-606-B. While this is a voluntary standard, it's a good idea to comply, and here's why:

- 1. Get Organized.** This standard outlines exactly how you should label and track your wires, cables and components. That way your identification is both effective and aesthetic.
- 2. Improve Consistency & Ease-of-Use.** ANSI standards establish guidelines so that everyone involved knows how to label the same way across one or multiple facilities. They make your network easier to follow for current – and future – team members.
- 3. Enhance Flexibility.** The consistency of this voluntary ANSI standard isn't just easier for employees, but it creates a multi-vendor environment. That means you have the ability to select a vendor that's right for you, and you can keep costs low by not having to change labels when you change vendor.



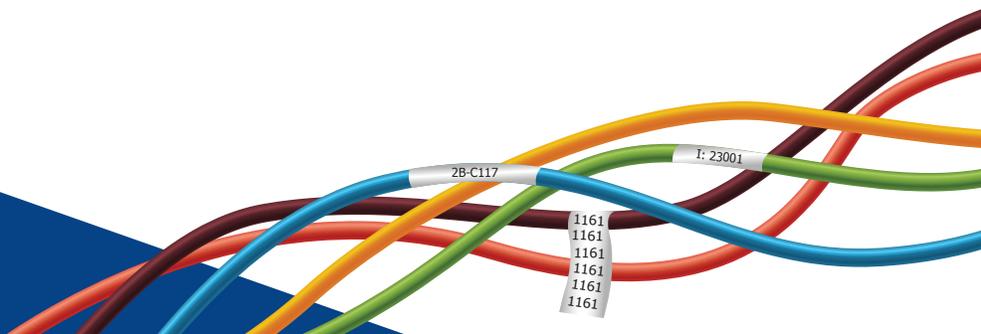
Get to Know the Standard!

ANSI/TIA-606-B

ANSI/TIA-606-B is a voluntary standard that provides uniform labeling and record keeping guidelines for telecommunications and network systems in all types of facilities. It identifies what needs to be labeled and provides a recommended identification scheme that is compatible with the legacy ANSI/TIA/EIA-606-A Addendum 1 and the ISO/IEC TR14763-2-1 international identification scheme.

Key guidelines include:

- The size, color and contrast of labels should allow identifiers to be easily read and visible during normal maintenance
- Labels should be resistant to the environmental conditions at the point of installation and should last as long, or longer, than the labeled component
- Text on labels should be machine generated



4. More Reliable, Readable & Durable Labels

When you can rely on your labels to stay in place, stay readable and provide the information you need through color coding and consistent messaging, you can stay focused on the more essential aspects of your job. Having a labeling system you can trust quickly improves the effectiveness of your daily tasks.

When it comes to wire, label and component labeling, your labels can offer:

- **Clear, readable print** to reduce mistakes and improve efficiency
- **Barcoding** when you have too much information to fit on a label, or need additional traceability
- **Durable labels and inks** that stay put over time, when faced with extreme conditions



CHECK OUT CHAPTER 2

for more on durable label
characteristics!



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5. Heightened Safety & Security

Labeling is more than efficiency, convenience and clarity; it can be used to keep your workplace safer, more secure and more compliant.

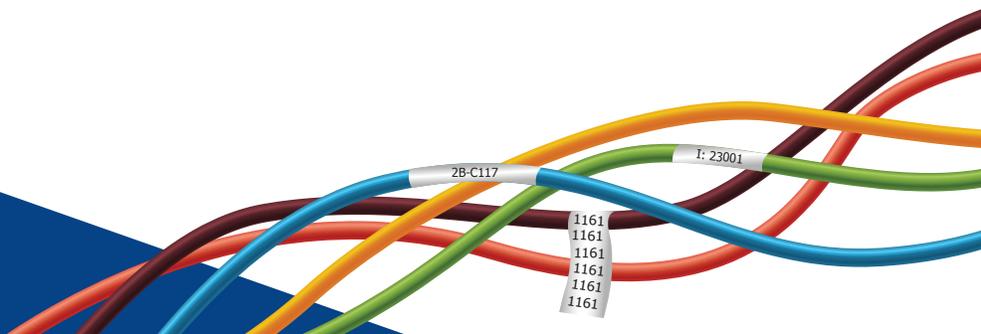
Regulations supporting electrical safety:

NFPA 70E Standard For Electrical Safety In the Workplace

The NFPA 70E Standard was updated in 2015 to help keep facilities safe. This regulation instructs employers to conduct an arc flash analysis, define a flash protection boundary and determine the level of arc-rated personal protection equipment required when employees cross the boundary. Learn more at BradyID.com/arcflash.

NFPA 75 Fire Protection for Electric Data Processing Equipment

This standard covers the requirements for the protection of information technology equipment and information technology equipment areas from fire, smoke, corrosion, heat and water. It includes warning signs, training, record keeping and audits to protect servers, cables and storage devices.



Signs & Labels Supporting Safety & Security

Beyond wires, cables and components, labels and signs can be used throughout your facility to help improve safety and security.

Here are some workplace visuals to consider:

- Arc Flash Labels
- Safety Signs
- Lockout Tagout
- Emergency Egress
- Temp Badges
- Floor Marking
- Asset & Equipment ID



CHECK OUT CHAPTER 4

for more on safety and security identification options, along with wire, cable and other label and sign solutions.

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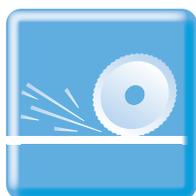
2 LABEL DURABILITY

Find the right label materials that stand up to the challenges of your environment.



When considering a labeling system that aligns with your needs, keep in mind the various conditions that your wires, labels and components face on a daily basis. Label materials and adhesives are made differently to stand up to a variety of challenges.

When finding the right quality and type of label, consider these characteristics you might need:



Abrasion resistance



Self-extinguishing/
anti-flammability



Fuel/oil resistance



Low-temperature resistance



High-temperature resistance



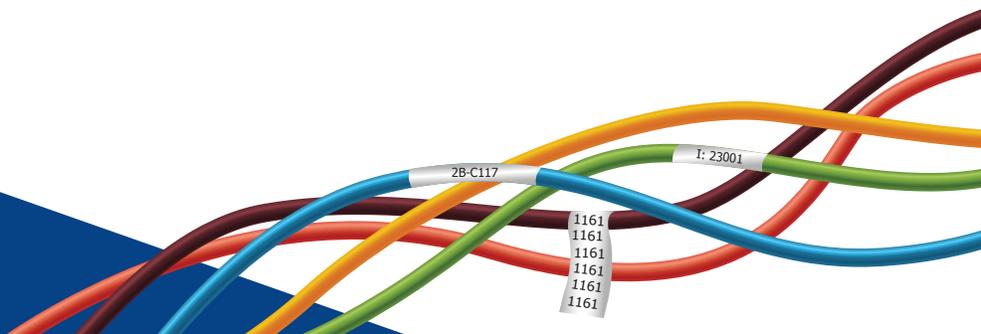
Solvent/
chemical resistance



Outdoor durability



Ultra-aggressive adhesion



Typical Construction of a Durable Label

The combination of label liner, adhesive, substrate and topcoat provide a label with its features, resistances, capabilities and durability.

1. Topcoat

gives the label its color and finish, receives the print and increases resistance against weathering, flames, chemicals and heat.

2. Substrate

gives the label its form and provides tensile properties, such as strength and flexibility, and physical properties, such as chemical and temperature resistance.

3. Adhesive

attaches the label to a chosen surface type and ensures resistance against environmental conditions.

4. Liner

is a very thin carrier that releases the self-adhesive label.

CHAPTER

3 LABEL CONSIDERATIONS

Sizes, materials, styles – when it comes to your identification needs, you can find a solution that fits just right.



Label Material

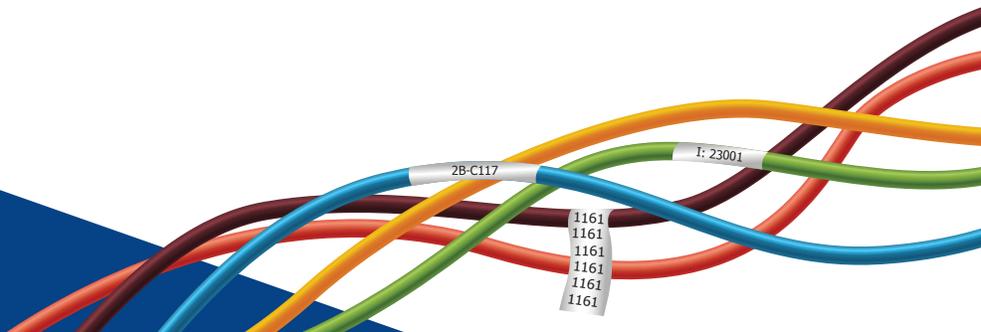
There's a variety of options when it comes to label material, depending on what your application and environment needs are.

- **Polyolefin labels** and sleeves remain legible in wet environments, and have excellent resistances against chemicals and high temperatures.
- **Vinyl labels** offer excellent oil and dirt resistance, and are ideal for non-flat sub-surfaces.
- **Nylon labels** offer excellent resistance against chemicals and hot and cold temperature ranges. They are ideal for use on curved surfaces and are very strong and flexible.

Cable Thickness

Depending on the thickness of your wires or cables, you'll need to decide which sleeves or self-laminating labels to use in order to make sure they'll fit. Use these tips:

- Cable sleeves should have at least twice the height of the cable diameter
- Self-laminating labels should be +/- 6,5 times the cable diameter ($2r \times 2\pi$)
- Wrap-around labels should have +/- 3,5 times the cable diameter ($2r \times \pi$)
- Very thick cables can be identified using straps and a cable bundle tag



Cable Types

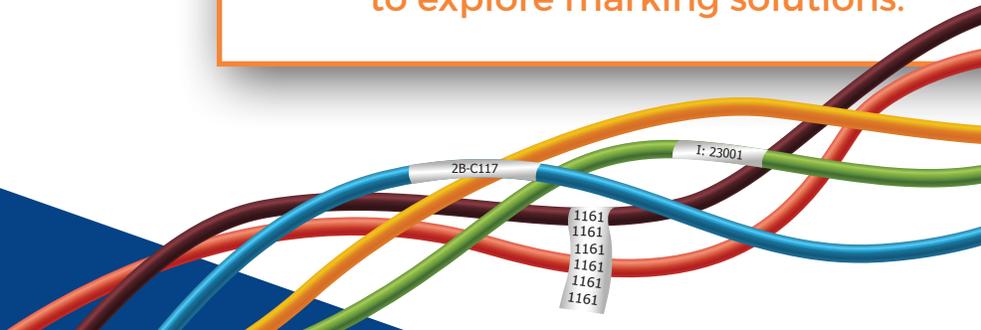
If you want to limit the contact surface between your wire or cable and your identification solution, use a P- or T-shaped flag label. This label type will minimize contact with fiber optic cables for example, while maximizing label space to print a code or barcode on.

When you need to identify cables or wires that are already attached, sleeves are not an option because they need to be slid over a wire or cable. Tags can be used as a non-adhesive alternative, and self-laminating labels, wraparounds and flag labels are a self-adhesive alternative for terminated cables.



VISIT

BradyID.com/BMP21pluslabels
to explore marking solutions.



CHAPTER

4 IDENTIFICATION OPTIONS

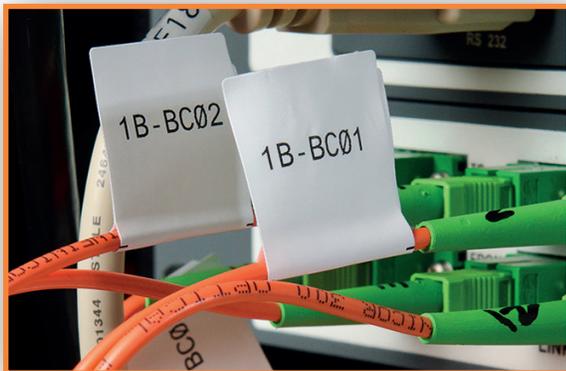
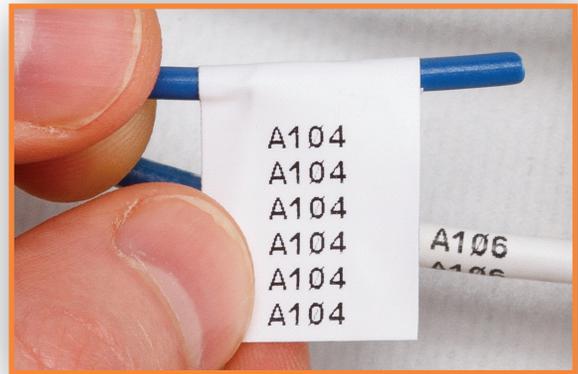
Explore the cable and wire label options, additional electrical labeling, and safety and security identification solutions for your facility.



Cable & Wire Labeling

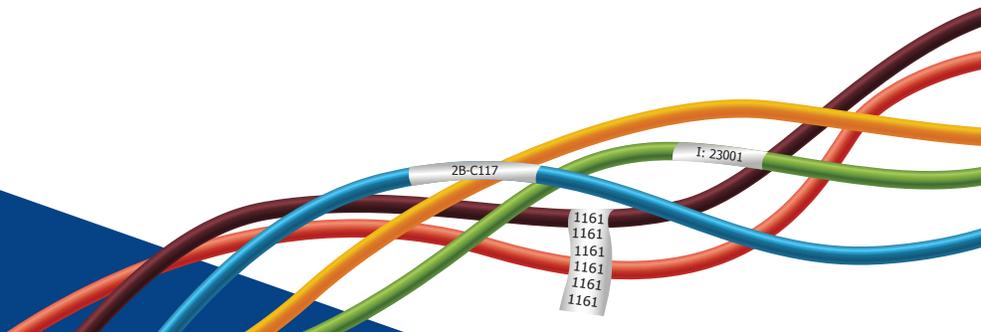
Wrap Around Labels

Self-laminating or repositionable wrap around labels are a permanent or temporary solution that provide fade and abrasion resistance.



Cable Flags

Cable flags are an ideal labeling solution when more information or a barcode is needed to properly identify the wire or cable.



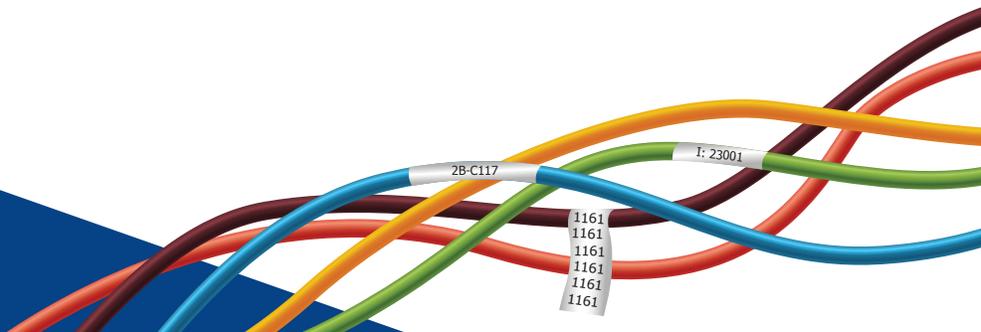
Cable Tags

Cable tags, usually attached with cable ties, offer a lot of space for identification data and provide tear, solvent and heat resistance for indoor or outdoor use.



Sleeves

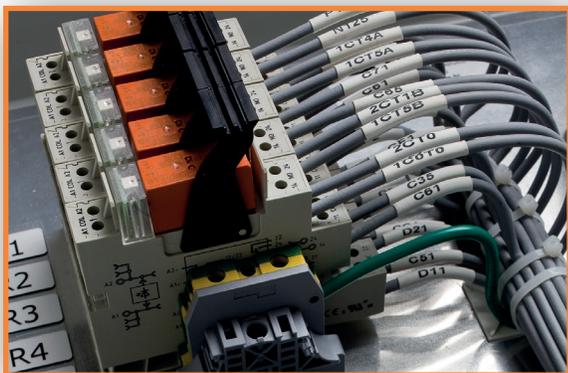
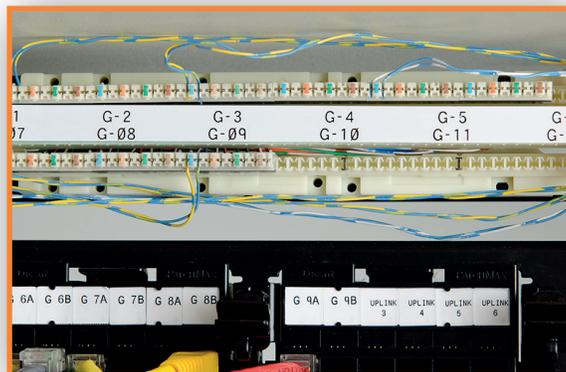
Sleeves are a flexible identification solution that can be moved along a cable until heat shrunk into position. This enables you to adjust sleeve position once cables are terminated. The sleeve needs to be slid over the cable before termination.



Additional Electrical Labeling

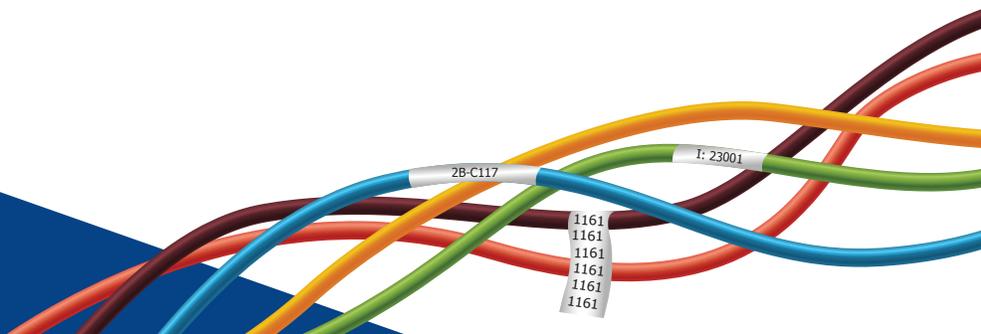
Component Identification

In addition to a great number of wires and cables, electrical, telecom and datacom installations also contain a large number of small and medium sized components whose function or number can be identified for faster maintenance and follow-up operations.



Terminal Blocks & Breaker Boxes

Using pre-printed clips is still very popular for identifying terminal blocks. However, labels that can be applied on the clip or directly on the terminal block are a cost-effective alternative that do not require a large stock of pre-printed clips. You only need to carry a few blank clip sizes and a printer that can print both your component and wire identification labels.



Raised Panel Labels

Raised panel labels are used to identify enclosures, push buttons, property and more. With bright colors and clear text, they help employees identify each button at-a-glance so tasks can be performed safely and efficiently.



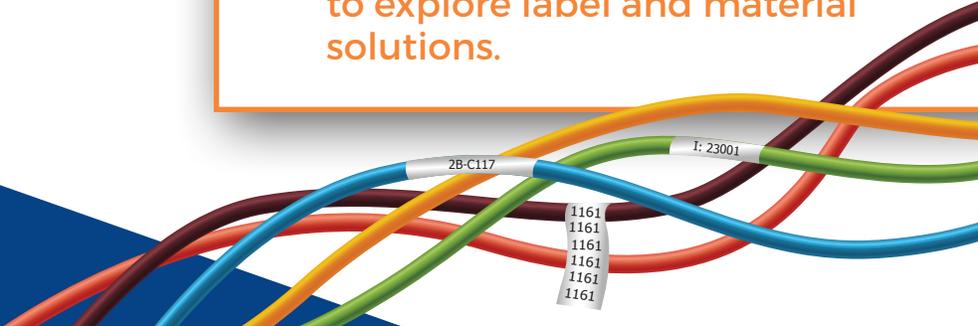
Patch Panels & Outlets

Telecommunication outlets are usually identified manually using a pen, resulting in increasing legibility issues and loss of information over time. A quality printed label can remedy these problems.

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GET STARTED!

Visit BradyID.com/BMP21pluslabels to explore label and material solutions.



Signs & Labels Supporting Safety & Security

Arc Flash Labels

Did you know up to 80% of all electrical injuries are burns resulting from an arc flash and ignition of flammable clothing?

Arc flash labeling includes labeling of electrical equipment, such as switchboards, panel boards, industrial control boards, meter socket enclosures and meter control centers. These labels keep employees safe by providing minimal system voltage, arc flash boundary and personal protective equipment information.



Safety Signs

Beyond wire, cable and electrical labeling, safety signs can be used throughout your facility to clearly tell workers and visitors of hazards at-a-glance. Warning, hazard and caution signs provide quick, visual cues at the point of need to ensure employees are taking the necessary precautions to stay safe.



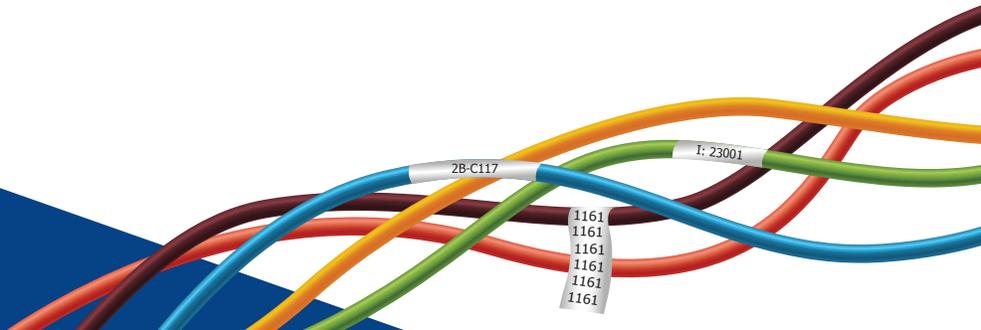
Lockout Tagout

When it comes to lockout tagout, effective identification is key to achieving compliance and safety. Along with tags that show that equipment is locked out and provide contact information, electrical disconnect labels should be placed on equipment that is electrically powered to state the location of the disconnect switch or energy isolating point.



Emergency Egress

Help employees and visitors to safely exit the building during an emergency – especially in the event of low light and smokiness – with glow-in-the-dark signs and markings. These can be used to mark egress paths, stairwells, exits, emergency utility shut-offs, fire extinguishers, alarm pulls and more.



Temp Badges

Keep your facility secure with employee identification badges and temporary badges for visitors. That way, you know who's coming in and out of the workplace for improved safety and security.

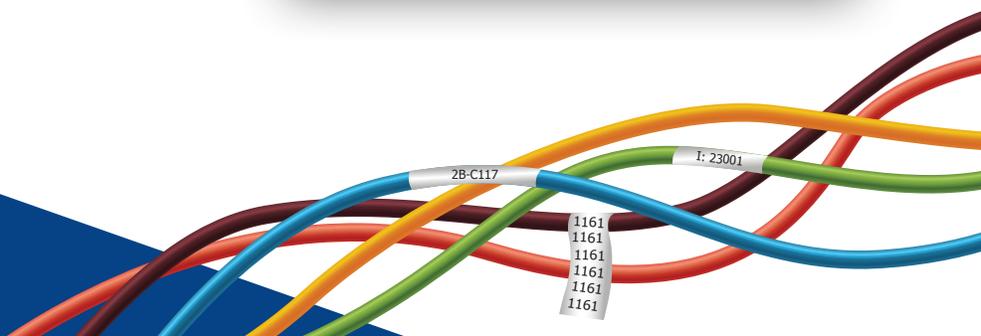


Floor Marking

Floor marking tape can be used to mark pathways, storage areas, electrical hazard areas and more, keeping workers away from danger and on a safe path in the workplace.

Asset & Equipment ID

Labels can be used throughout your facility to identify equipment, inventory, safety hazards, procedures, safe state and maintenance information, and anything else you can think to label.



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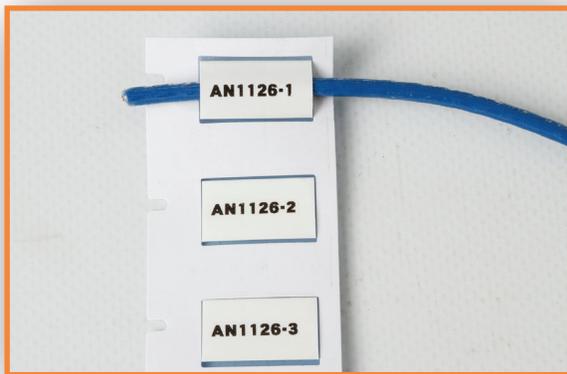
5 A COMPLETE LABELING SYSTEM

Going beyond the labels, a complete labeling system provides you with the tools to manage and maintain your wire, cable, component and overall facility identification system.



Pre-Printed vs. Printing System

Once you decide on the labels that would work best on the cables, wires, components and equipment in your facility, the next decision is how to get those labels. You have two options:



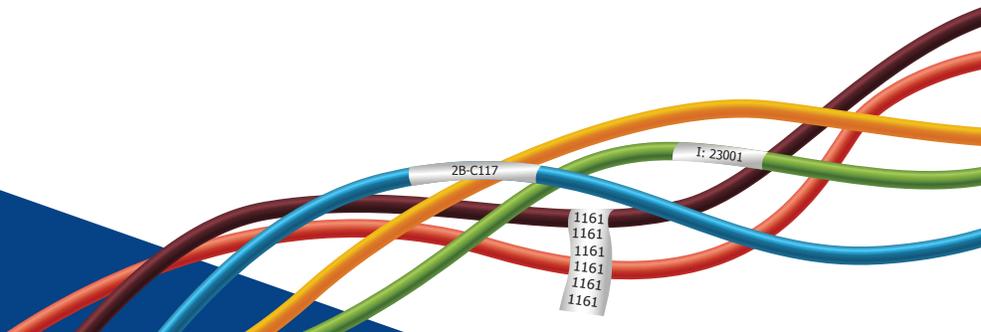
- **Pre-printed labels:**
Ordering pre-printed labels gives you the opportunity to shop around for the particular label you need, input your information and place an order. This solution is ideal when a low quantity of labels is needed.
- **On-site printing:**
A quicker solution, on-site printing gives you the flexibility to print the labels you need, right when you need them. That also means you don't have to carry around loads of label sheets that can become disorganized or misplaced.

Cable Management Software

When you need to track and manage hundreds and thousands of cables and wires on your network, software can be an extremely useful tool.

Depending on the software that you choose for your program, you have the options to:

- Easily and efficiently identify, locate and fix problems within a physical network
- Simplify and import data to create and print labels
- Document and generate reports, including connections between your horizontal and backbone cables, hardware, assets, pathways, locations, users and much more



CHAPTER

6 CONCLUSION

Where do you go from your current state?

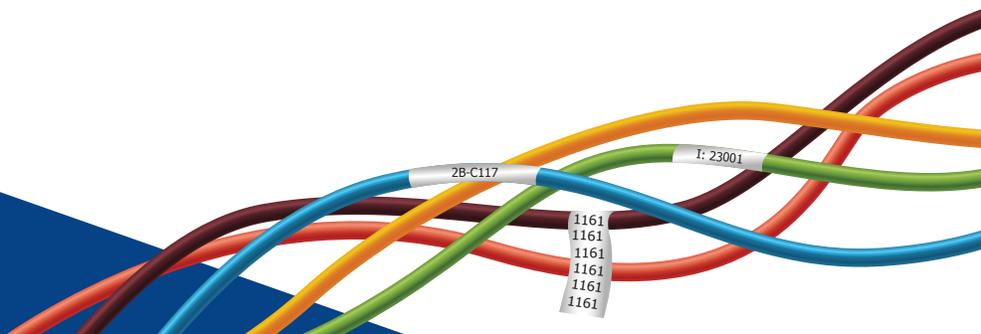




Well-labeled wires, cables and components give you immediate insight into how an installation works and how it's connected. That way you can perform repairs, installation updates and upgrades in a safer, more secure way, with a reduced risk of human error.

By finding the right label type and material, the right way to acquire labels and a software system when it's needed to manage your network, your job becomes more efficient. Brady offers a variety of durable sign, label and tag materials, reliable printing systems and easy-to-use software solutions to support your labeling system and take your operations to the next level.

Explore labeling solutions at [BradyID.com/BMP21pluslabels](https://www.bradyid.com/BMP21pluslabels)



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