

Electrical Requirements for Rack Permitting

If you're looking to expand your warehouse operations into North Carolina, you'll need to learn about or work with someone who already understands rack and warehouse permitting. High-pile storage refers to any storage system that houses products at a height of 12 feet or more and it requires rack permitting in order to be legal. A permit process ensures safety compliance and exists to protect the lives of warehouse workers, so it's important to follow permit requirements to the letter of the law.

Permitting Basics

In order to obtain your permits, you need to adhere to building and fire codes in addition to other regulations. Although these codes have been fairly standardized, not every municipality within the state interprets them the same way. Mecklenburg County is a good example. Typically, permitting agencies ask us to submit only structural and architectural plans in order to obtain permits. In Mecklenburg County, however, we must also submit electrical plans.

This may seem strange since your warehouse racking system won't be directly connected to any electricity, but these plans undergo a review prior to warehouse permitting for building safety reasons. Large warehouses full of storage racks are maze-like and confusing to navigate at times, especially in an emergency situation where the lighting may fail. Electrical plans detail the intended locations of emergency lighting and exit signs. They also outline how these systems will receive electricity if the main power goes out.

Emergency Lighting

In order to obtain rack permitting approval, emergency lighting is required in all high pile storage areas. This lighting must, naturally, go on automatically when the main power fails. It must also produce one foot of candlepower (1 FC) at the ground. In most cases, meeting this requirement is easy with simple "wall pack" fixtures. In others, you may need to install a battery backup on the existing overhead light fixtures.



Exit Signage

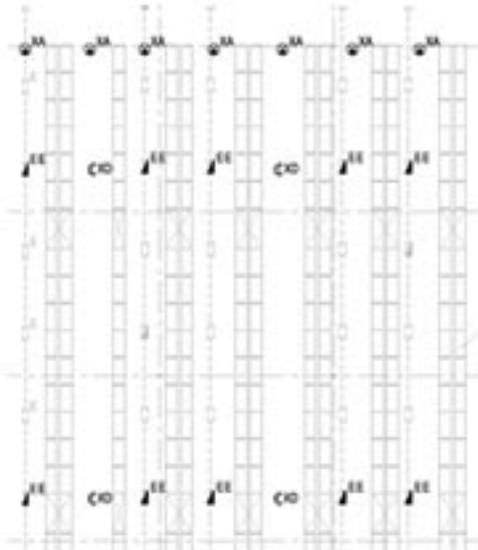


The rules are just as important for exit signage. In high pile storage areas, you need to place exit signs so that they are visible from anywhere in the aisle. This means that every aisle will have, at a minimum, two exit signs - one at each end of the aisle. In longer aisles, you may need several, depending on the length of the aisle and the rated visibility of the sign. In Mecklenburg County, these signs must be illuminated. Lit signs are required to stay lit even if the building experiences a power failure, so a battery or generator backup plan of some type is necessary for exit signs just as it is for emergency lighting.

Electrical Plan Approval

Installing the required safety features isn't always enough. In some locations, we must submit sealed drawings from a licensed electrical engineer as part of our permit package. These drawings must show where the exit signs and emergency lighting will be placed. Once these drawings are approved, a licensed electrician must install these safety features where and how indicated on the plans. The completed work is then inspected by an electrical inspector from the relevant municipality.

An inspection is required after installation of the rack system itself is complete. This inspection is performed by the local building inspector and fire marshal. During all of these inspections, the functionality of your exit signs and emergency lighting undergoes testing. Once the plan is approved, the electrical work will begin.



*XA & XB symbols
represent exit signs.*

*EE symbol is a light
fixture with a battery
back-up to provide
lighting in a power
outage*

Rules Up for Interpretation

All of these specific rules and their related compliance inspections can add substantially to a project's cost. Unfortunately, the more stringent rules enforced in Mecklenburg County are gaining popularity and are being adopted by other municipalities in North Carolina. Additionally, based on our experience, rules can be interpreted on an inspector-by-inspector case basis. What is acceptable to one inspector may not be acceptable to another within the same city. Plans can sometimes be approved by one inspector but another inspector may require modifications for approval.

We Help Navigate the Permitting Process

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In a perfect world, the additional electrical requirements generated by high pile racking would get installed during warehouse construction. This would eliminate the need for retrofitting these systems. In the real world, however, new buildings are often well underway before finishing details like racking systems get decided on. In many other cases, existing warehouses change hands and the new owners use the space differently than the previous tenant. Different usage requires adherence to different codes.

Stein Service & Supply is a fully licensed general contractor in both North and South Carolina, and we have experience working with various municipalities in both states. We understand the electrical and permitting work required to get your warehouse up and running and are happy to handle these issues for you so you can focus on your business.