

THREE CLUES FOR DETECTING WHEN IS A FUSE TOO OLD FOR STOREROOM INVENTORY

Storeroom managers often have the responsibility for identifying obsolete inventory. There are advantages to having the right inventory for needs, without the clutter of fuses that should never be used. Obsolete fuses can mask stock-out of important spare fuses resulting in needless emergencies. Sometimes, an electrician will mistakenly use an obsolete fuse and create a dangerous safety condition.

What conditions would make a fuse obsolete? There is functional obsolescence, concealed damage obsolescence, and age obsolescence. Any of these conditions justify discarding a fuse. The electrical safety experts at Mersen offer the following three clues for determining when a fuse should be removed from storeroom inventory:

1. Functional Obsolescence

Functional obsolescence occurs when the fuse can't protect the equipment due to changes in the electrical system, or when the end-use equipment needing this particular fuse has been abandoned. Either way, the fuse will not help in restoring the equipment to service. If it's accidentally used by an electrician, it could create a hazardous situation.

An example of a functionally obsolete fuse is a One-Time with a safety rating of only 10kA IR. When the fuse was originally purchased, it could have had an adequate safety rating. Now the electrical system has changed and requires a safety rating of more than 10kA. If the fuse is installed without adequate IR as required by OSHA, it could explode or cause personal injury.

2. Concealed Damage

Obsolescence can be caused by concealed damage. An electrician normally only checks for fuse continuity to determine its suitability for continued service. But other concealed damage can occur in storage. The biggest threat to fuses in storage is moisture.

Once fuses absorb too much moisture, they lose their interrupting (safety) capacity. Even if they are dried out after the exposure, they are permanently damaged. In normal use they generate enough heat to keep themselves safe from absorbing moisture, but not in storage. The absorption of moisture permanently changes the structure of the filler packing around the fuse link and consequently decreases the safety capacity.

A common check for water damage is to check for wrinkling on the fuse's paper label. If the paper label is wrinkled, it indicates excessive moisture during storage. Also, any water stains on the fuse body or corrosion on the ends can indicate moisture damage.

Other concealed damage can occur when a fuse is used and returned to the storeroom. Any fuse that show scratches on the blades or ferrules was probably inserted into fuse clips and returned to inventory.

3. Fuses Over 10 Years Old

When fuses are more than 10 years old, the history of these fuses is uncertain. More than likely, they were exposed to moisture or damaging conditions sometime during the 10 years of storage. This would make them unsafe and unreliable for maintenance. Most manufacturers mark a date code on their fuses.

Summary

If storeroom fuses exhibit functional obsolescence, signs of moisture damage, or are more than 10 years old, they should be replaced. For a free fuse audit and inventory analysis, visit call 978-462-6662.