

Key Considerations for Businesses



Figure 1: Thermal Imaging in Industrial Plant for Prevention

NFPA 70B is a standard published by the National Fire Protection Association (NFPA) that provides guidelines for the maintenance of electrical equipment. Specifically, NFPA 70B focuses on establishing best practices for preventive maintenance in order to ensure the reliability and safety of electrical systems in industrial, commercial, and institutional facilities.

For companies aiming to ensure safety and efficiency, staying compliant with these standards is critical. As these standards evolve, it's important for companies to adapt their practices to ensure compliance, avoid safety risks, and maintain operational efficiency. Businesses now face stricter requirements for assessing electrical systems, emphasizing the need for accurate, reliable tools and proper training. Three key areas demand attention: the use of advanced thermal imaging technology, the qualification and training of inspectors, and the adoption of robust reporting tools.

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Access To Advanced Thermal Imaging Technology

One of the primary updates in the 2023 NFPA 70B standards is the emphasis on accurate thermal imaging. Companies now need access to thermal imaging cameras that can precisely measure the ΔT (temperature differential) of similar electrical components under similar loading conditions. This capability is essential for identifying potential hot spots, which could indicate underlying issues such as loose connections, overloaded circuits, or insulation failures.

Traditional thermal cameras may not suffice in meeting these stringent requirements. Companies must use advanced models capable of delivering precise temperature readings, even in challenging environments. These cameras should also offer features such as high resolution and sensitivity to detect even the smallest temperature variations, ensuring that no potential issue goes unnoticed.

The Importance Of Proper Training

Having the right equipment is only part of the equation. The NFPA 70B standards also place a strong emphasis on the proper training and qualification of inspectors. Even the most advanced thermal imaging camera is ineffective in the hands of an untrained operator. Inspectors must be thoroughly trained in using thermal cameras, interpreting the images, and understanding how to measure ΔT accurately.

This training should cover not only the technical aspects of using the camera but also the underlying principles of thermal imaging. Inspectors need to understand the impact of factors such as emissivity, reflectivity, and ambient conditions on their readings. Additionally, they must be able to identify and measure the temperature differential between the target and a reference area accurately, as required by the new standards.



Figure 2: Even the Smallest Temperature Variation Can be a Sign of a Potential Fire



Figure 3: Proper Application of Thermal Imaging Camera

Reliable Reporting Tools For Documenting Findings

The third critical component of staying compliant with the NFPA 70B standards is proper documentation. The standards require detailed reporting of inspection findings, specifically noting the ΔT between the target and a reference area. This documentation is crucial for maintaining records, planning maintenance activities, and, in some cases, providing evidence of compliance during audits.

To meet these requirements, it's essential that your thermography equipment adheres to the latest standards and guidelines. According to NFPA 70B 2023, all thermal inspection equipment should undergo an inspection every 6 to 12 months. Additionally, it's important to ensure that your thermography tools are equipped with advanced analytical functions, such as multiple spot meters, isotherms, and integrated reporting software.

Conclusion

The 2023 updates to the NFPA 70B standards represent a significant shift in how electrical inspections should be conducted. By focusing on advanced thermal imaging technology, ensuring proper training for inspectors, and adopting robust reporting tools, companies can help ensure they remain compliant with these new standards. Adapting to these changes is not just about meeting regulatory requirements—it's about enhancing safety, improving maintenance practices, and ultimately protecting both people and assets.

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