



# **KLEIN TOOLS**

**For Professionals... Since 1857®**

**Presents**

# **Insulated Tools**



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# KLEIN Insulated Tools



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# KLEIN Insulated Tools

## Topics

- Who needs insulated tools?
- Who uses insulated tools?
- What *is* an insulated tool?
- Insulated Tool Standards
  - The Klein Difference
- Summary

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# Who Needs Insulated Tools?

**Anyone Who Works in an  
Energized Environment of**

# 50 Volts

**Or More !**

**(relative to ground)**

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# Who Uses Insulated Tools?

- Electricians
- HVAC Technicians
- CATV Trades
- Plant Maintenance
- Building Maintenance
- Utility Workers

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# What *is* an Insulated Tool?

## An Insulated Tool is NOT...

- ... a tool with plastic comfort grips!
- ... a tool with three wraps of electrical tape on the handle!

## An Insulated Tool IS...

...a tool that meets the **Standards** set forth in  
**IEC 60900: 2004** and **ATSM F1505-01**



# What are IEC and ASTM ?

International Electrotechnical Commission  
and  
American Society for Testing and Materials

These organizations promulgate  
the technical standards for Insulated Tools.

If insulated tools are required, compliance with these  
standards is mandatory.



# Three Applicable Standards

□ IEC 60900: 2004



□ ASTM F1505-01

□ NFPA 70E





# IEC 60900: 2004

- In the mid-1980s, the IEC in Geneva, Switzerland issued a Standard for Insulated Tools (IEC900)
- - It covered dimensions, guards, and more, and included test procedures to insure that tools would protect users from incidental contact with voltages up to 1000 VAC.
- IEC 60900: 2004 is the current version of this standard.





# ASTM F1505-01

In 1994, **ASTM** issued their own standard, ASTM F1505-94

The ASTM standard also included elements from the IEC standard, adopted with minor changes to allow for cultural language interpretation and translation.

The current version, issued in 2001, is **ASTM F1505-01**

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# Insulated Tools: Required Markings

- Manufacturer's Name or Trademark
- Manufacturer's Part Number
- Year of Manufacture
- **AC Voltage Rating**



**Klein Insulated Tools Comply  
With All Required Markings**

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# Insulated Tools

**⚠ WARNING:** Only use tools that are marked with the official international 1000-volt rating symbol shown below, if there is any chance that the tools will make contact with an energized source.



# Insulated Tools

**⚠WARNING:** Whenever possible, always de-energize lines and equipment prior to working on or around them. Klein insulated tools are designed only to reduce the chance of injury where the tool may make contact with an energized source.

**⚠WARNING:** Do NOT touch uninsulated portion of the tool or any conductive object when either might contact an energized source.



# Insulated Tools

**⚠WARNING:** Wear approved eye protection. Always inspect your tools before use. Do not use if orange coating cracks, breaks or becomes damaged. Destroy tool if white layer shows through orange layer.

**⚠WARNING:** Because moisture, films, or other surface contaminants are conductive, Klein insulated tools must be kept clean, dry, and free of any surface contaminants.



# What is NFPA 70E?

- **NFPA** is the National Fire Protection Association
- **NFPA** promulgates a safety standard, **NFPA 70E**, which focuses on electrical safety in the workplace.
- **NFPA 70E** covers three different electrical hazard categories: Electric Shock, Arc-Flash, and Arc-Blast.

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**Klein Insulated Tools are NFPA 70E Compliant**



# Klein Insulated Tools

## All Klein Insulated Tools...

- Meet or Exceed IEC 60900: 2004 Standards
- Meet or Exceed ASTM F1505-01 Standards
  - Are NFPA 70E Compliant





# The Klein Difference

Integral Guards  
help prevent hand  
contact with  
conductive parts.

All Klein insulated tools comply  
with the IEC 60900 and ASTM F 1505  
standards for insulated tools,  
and are clearly marked with the 1000  
volt rating symbol.



Two layers of  
insulation provide  
protection against  
electric shock.

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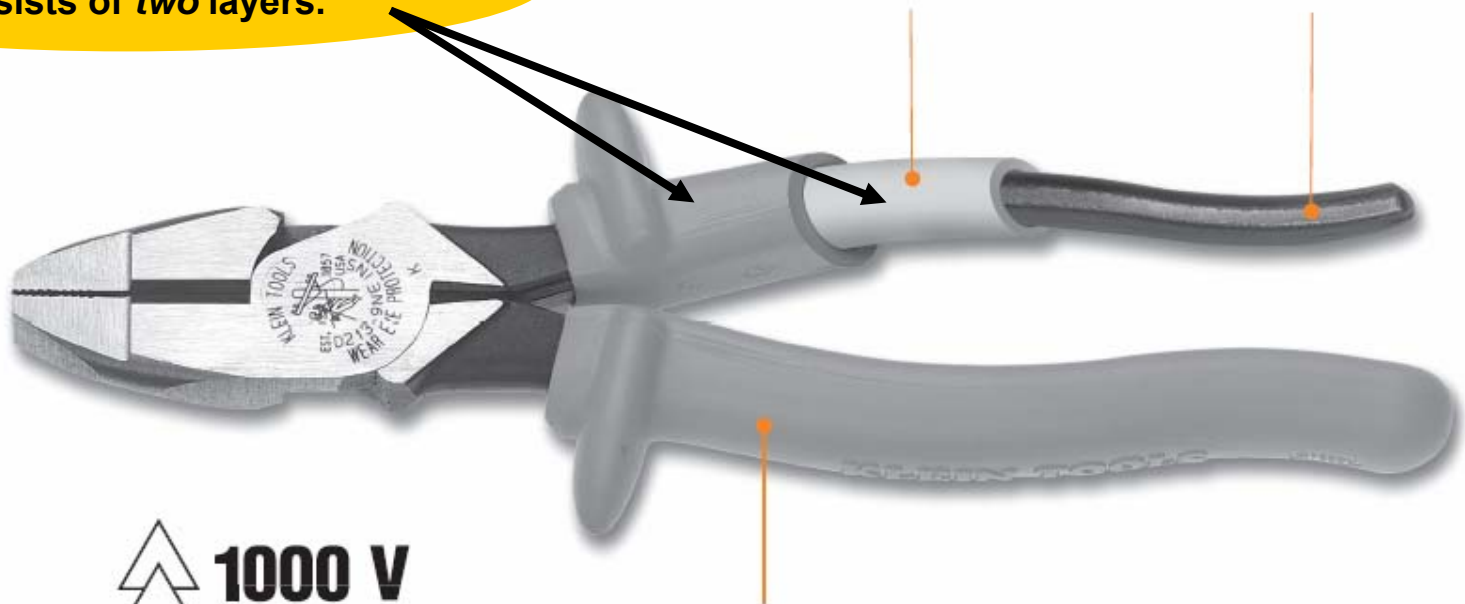


# The Klein Difference

The insulation on each tool consists of *two* layers.

Thick, exceptionally tough, high-dielectric white inner coating is bonded to the tool.

Forged steel handle.



 **1000 V**

A flame retardant, impact-resistant, bright orange outer coating.



# The Klein Difference

The large, bright orange handles make the tool comfortable to use all day and easy to identify in the field.



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# The Klein Difference

***Individually tested to  
exceed standards!***



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# The Klein Difference

Klein insulated tools maintain the highest level of quality Klein is known for, and they offer added protection against shock from energized sources with voltage up to 1000 volts.

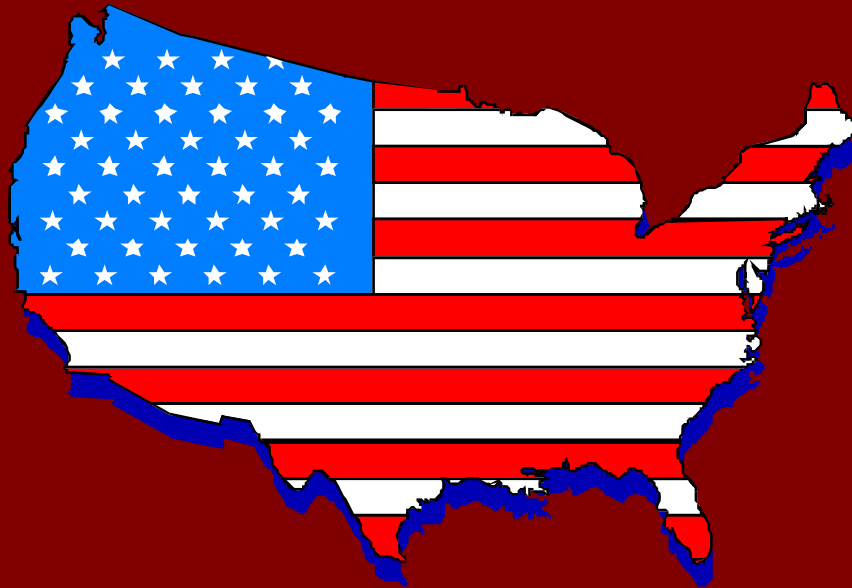


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# The Klein Difference

**MADE IN THE USA!**



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# Key Point Summary

- Insulated Hand Tools are required at **≥ 50 Volts**.
- Applicable Standards:
  - IEC 60900:2004 and ASTM F1505-01
  - NFPA 70E (covers electrical safety in the workplace)
  - Compliance is MANDATORY
- All Klein Insulated Tools meet or exceed IEC and ASTM standards and are NFPA 70E compliant.

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# The Klein Difference

■  
QUESTIONS ?

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