

INSULA®

VDE INSULATED HAND TOOLS USAGE GUIDE

GET SAFE

INDUSTRIAL SAFETY EQUIPMENT





ABOUT VDE INSULATED TOOLS

VDE insulated tools are hand tools manufactured with a precision multi-layer insulation coating, independently tested and certified to IEC 60900 and EN 60900 standards. They are rated for use in live electrical environments up to 1000V AC and 1500V DC. The VDE mark on a tool confirms it has met the strict testing requirements of these international standards and is suitable for work on or near energised electrical parts.

The insulation is not a decorative coating. It is a precision safety component that is engineered to prevent electrical current from passing through the tool to the user in the event of accidental contact with a live conductor. Like any safety component, it must be maintained, inspected, and treated with care. A VDE tool with damaged insulation is not a VDE tool. It is a hazard.



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UNDERSTANDING VDE INSULATION

VDE insulation is applied over the tool body and handle. The outer layer is colour-coded, typically with a contrasting colour on the outer surface and a warning colour on the inner layer, so that any damage to the outer layer immediately reveals the inner layer as a visual warning that the insulation integrity has been compromised.



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GENERAL GUIDELINES – DO'S

- A.** Use only **VDE-certified insulated tools** suitable for live electrical work (up to 1000V AC as per standards like IEC 60900).
- B.** Inspect tools before every use for **cuts, cracks, wear, or insulation damage**.
- C.** Ensure the **insulation layer is intact and fully covers** the required areas of the tool.
- D.** Keep tools **clean, dry, and free from oil, grease, or conductive contaminants**.
- E.** Wear appropriate **electrical PPE** such as insulated gloves, safety glasses/face shield, and arc-rated clothing where required.
- F.** Hold tools **behind the insulation guard/limit mark** to maintain safe hand positioning.
- G.** Use the **correct tool for the specific electrical application**.
- H.** Store insulated tools in a **dedicated toolbox or protective case** to prevent insulation damage.
- I.** Use insulated tools when working on or near **energized electrical systems**.
- J.** Keep tools away from **sharp edges and rough surfaces** that can damage insulation.
- K.** Carry tools carefully to **avoid impact or abrasion**.
- L.** Ensure tools remain **dry during use**, especially in humid or outdoor conditions.
- M.** Periodically **check and test insulation integrity** as per company safety procedures.
- N.** Maintain **clear visibility and controlled handling** while working on live circuits.
- O.** Ensure all personnel are **trained in electrical safety and proper use of VDE insulated tools**.

GENERAL GUIDELINES – DON'TS

- A.** Do not use insulated tools for jobs they are **not designed for** (e.g., prying, hammering unless rated for it).
- B.** Do not use tools with **damaged, cut, cracked, or worn insulation** under any circumstances.
- C.** Do not apply **excessive force** that may compromise insulation or expose conductive parts.
- D.** Do not touch **exposed metal parts** of the tool when working near energized systems.
- E.** Do not use insulated tools in **wet, oily, or contaminated conditions** unless proper precautions are taken.
- F.** Do not **throw or drop insulated tools**, as impact may damage the insulation layer.
- G.** Do not carry insulated tools loosely where they can **rub against sharp edges or metal surfaces**.
- H.** Do not expose insulated tools to **high temperatures, flames, or chemicals** that degrade insulation.
- I.** Do not store insulated tools with **unprotected sharp or heavy tools** that can damage insulation.
- J.** Do not use insulated tools beyond their **rated voltage (typically 1000V AC)**.
- K.** Do not **modify, grind, or alter** insulated tools in any way.
- L.** Do not assume a tool is safe; always **inspect before every use**.
- M.** Do not use insulated tools if they are **wet or damp**.
- N.** Do not bypass **proper PPE requirements** when working on live electrical systems.
- O.** Do not allow **untrained personnel** to use VDE insulated tools.
- P.** Do not hammer with insulated tools or use them as a hammer, as impact can damage the insulation layer and compromise user safety.

WHAT DAMAGES VDE INSULATION

- **Mechanical damage**
cuts, abrasions, punctures, or impact from sharp or heavy objects.
- **Chemical exposure**
contact with oils, solvents, acids, alkalis, or cleaning agents that degrade the insulation material.
- **Excessive heat**
exposure to high temperatures softens and degrades insulation, reducing its protective properties.
- **UV and environmental exposure**
prolonged exposure to sunlight, ozone, or harsh weather conditions over time.
- **Improper storage**
storing VDE tools alongside non-insulated tools where contact can cause cuts or abrasion to the insulation surface.
- **Overloading**
using tools beyond their rated capacity causes stress to both the tool body and the insulation coating.



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WRENCHES

VDE Insulated Wrenches are designed for holding & turning screws, bolts, nuts, plugs and various threaded parts in live electrical environments.

The insulation is rated to 1000V AC / 1500V DC, providing critical protection against electric shock.

Ring Wrenches sockets completely surround the nut; they are the strongest type and have the least chance of slipping.

Open end, Flare nut and Adjustable Wrenches do not surround the head completely and are not intended for heavy loads.

Always select inch spanners for inch bolts and metric spanners for metric bolts only



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GENERAL PRACTICES

BEST PRACTICES

- Always pull on a wrench handle & never push.
- Inspect VDE insulation before each use for cuts, cracks, swelling, or damage.
- Wear safety goggles when performing torquing operations.
- Ensure the wrench head fully engages the fastener before applying force.
- Keep insulated tools clean and dry as oil, grease, and solvents degrade insulation.
- Store VDE tools separately to prevent insulation damage.
- Replace any VDE wrench with damaged insulation & never attempt self-repair.
- Confirm the voltage rating meets or exceeds the working voltage before use.

POOR PRACTICES

- Never use a pipe extension on a wrench handle as it damages insulation and over-stresses the tool.
- Never tilt or cock an open-end wrench; the head must fully engage the bolt.
- Avoid over- or under-torquing (use a torque wrench if required).
- Never expose a VDE wrench to excessive heat as it degrades insulation and alters metal structure.
- Never grind a wrench, not even for identification purposes.
- Never use a wrench that is cracked, bent, severely worn, or has damaged insulation.
- VDE insulation is secondary protection only; always follow LOTO and site electrical safety procedures.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

BOX (RING) WRENCHES



Fully surround the nut & preferred for heavy-duty electrical work.

- Always wear safety goggles.
- Inspect insulation on the handle and shaft before each use.
- Use the correct size to avoid slipping.

Ring wrenches are for light-duty only & not for heavy work.

- Never use a pipe extension on the handle.
- Do not attempt to repair ring wrenches.
- Do not use if insulation is damaged.

OPEN WRENCHES



Best used to hold the nut while a ring wrench turns the bolt.

- Ensure full jaw engagement on the fastener.
- Pull toward your body for better control.

Never use an extension (pipe) on the handle.

- Do not attempt to repair open end wrenches.
- Not intended for heavy or high-torque loads.
- Do not use with a damaged or worn jaw.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

ADJUSTABLE WRENCH



Tightly adjust to nut/bolt and pull so force is on the fixed jaw side.

- Periodically inspect for damaged jaws, pins, and rollers.
- Replace damaged parts promptly.

Do not use to free frozen bolts or for final tightening.

- Never pull on loose-fit adjustment.
- Never use a hammer or pipe extension.
- Do not use if jaw adjustment is worn or slipping.

HEX KEY WRENCH



Select the correct size: metric keys for metric bolts & inch keys for inch bolts.

- Apply smooth, controlled force.

Never hammer a hex/Allen key.

- Never use a pipe for extra leverage.
- Discard and replace if bent, deformed, or cracked.
- Do not use with damaged insulation.

RATCHET WRENCH



Select the correct direction (tighten/loosen) before use.

- Inspect the ratchet mechanism for smooth operation before each use.
- Use appropriate torque on ratchet wrenches that are designed for moderate loads.
- Ensure insulation on handle is fully intact.

Never use a pipe extension on a ratchet wrench handle.

- Do not use for heavy-duty or high-torque applications beyond the tool rating.
- Do not use if the ratchet mechanism is slipping, worn, or damaged.
- Never hammer a ratchet wrench.
- Do not attempt to repair the ratchet mechanism.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

TORQUE WRENCH



Set the required torque value before use and confirm the setting is locked.

- Always pull & never push the torque wrench.
- Release the torque setting to the lowest value after use to preserve the spring mechanism.
- Calibrate periodically as per manufacturer's schedule.
- Store in its protective case when not in use.

Never use a torque wrench as a regular.

- Never exceed the maximum torque rating of the wrench.
- Do not use a pipe extension on the handle.
- Never drop a torque wrench as it affects calibration.
- Do not apply heat to the wrench.
- Never hammer or strike the torque wrench.

△ VDE Insulation- Important Reminder

VDE insulated tools are rated for 1000V AC / 1500V DC. The insulation provides secondary protection only. Always follow your site's electrical safety procedures, LOTO requirements, and IEC 60900 / EN 60900 standards when working on or near live electrical parts.

Inspect insulation before every use. | Damaged insulation = replace the tool immediately. | Never repair insulation.

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SOCKETS & ACCESSORIES

VDE Insulated Sockets and Accessories are designed for safe fastener work in live electrical environments. The insulation is rated to 1000V AC / 1500V DC.

The sq. dr. size of the socket represents an increase in strength.

Always use metric sockets for metric bolts and inch sockets for inch bolts.



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GENERAL PRACTICES

BEST PRACTICES

- Select the correct socket size; metric sockets for metric bolts, inch sockets for inch bolts.
- Select the appropriate handle for the application.
- Inspect insulation on sockets and accessories before every use.
- Wear safety goggles when using sockets.
- Keep sockets and accessories clean and dry; contamination degrades VDE insulation.
- Store VDE sockets separately to avoid insulation damage from other tools.
- Adapters and extensions reduce load capacity; do not use for heavy applications.

POOR PRACTICES

- Do not use a pipe with any socket accessory to increase leverage.
- Using a large handle with a small socket can create excessive torque, leading to socket breakage.
- Using a small handle with a large socket can create excessive torque, leading to handle breakage.
- Do not attempt to repair sockets.
- Never use a nail or other improvised means to hold a socket in place.
- Never dwell on a socket after it has stopped turning as it damages both the socket and the bolt.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

SOCKET



Select correct socket size and drive.

- Use the largest possible drive size for strength.
- Inspect insulation before each use.
- Wear safety goggles during use.

Do not use a pipe with socket to increase leverage.

- Do not attempt to repair sockets.
- Never use regular hand sockets with impact wrenches.
- Do not use if insulation is damaged.

TORX SOCKET



Select the correct Torx size (T-number) for the fastener.

- Ensure the socket is fully seated on the Torx head before applying torque.
- Inspect insulation and socket profile for wear before use.

Do not use a worn or damaged Torx socket as it will strip the fastener head.

- Never use a standard socket as a substitute for a Torx socket.
- Do not apply excessive torque beyond tool rating.
- Do not attempt to repair.

DEEP SOCKET



Use deep sockets for recessed fasteners or long bolt projections.

- Ensure full engagement of the socket on the fastener.
- Inspect insulation integrity before use.
- Select appropriate drive size.

Do not use a deep socket where a standard socket is sufficient; deep sockets have lower torque tolerance.

- Never use a pipe extension for extra leverage.
- Do not use if the socket is cracked or deformed.
- Do not attempt to repair.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

HANDLE & EXTENSION BAR



Select the appropriate handle type (T-bar, L-bar, sliding T) for the application.

- Extension bars must be VDE insulated. Inspect the insulation before each use.
- Ensure the extension bar and socket connection is secure before applying torque.
- Use the shortest extension bar practical for the job to maintain control.
- Repairs to ratcheting mechanism handles must use manufacturer parts only.
- Use handles, extension bars, and accessories from the same manufacturer as the socket to ensure proper fitment, secure engagement, and safe operation.

Do not use a pipe on any handle to extend leverage.

- Do not use adapters for heavy applications as they reduce load capacity.
- Never use a non-insulated extension bar in live electrical environments.
- When adapting up (large handle, small socket) risk breaking the socket; when adapting down (small handle, large socket) risk breaking the handle.
- Do not attempt to repair handles or extension bars.

△ VDE Insulation- Important Reminder

VDE insulated tools are rated for 1000V AC / 1500V DC. The insulation provides secondary protection only. Always follow your site's electrical safety procedures, LOTO requirements, and IEC 60900 / EN 60900 standards when working on or near live electrical parts.

Inspect insulation before every use. | Damaged insulation = replace the tool immediately. | Never repair insulation.

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SCREWDRIVERS

VDE Insulated Screwdrivers are designed for driving and withdrawing threaded screws in live electrical environments. The insulation is rated to 1000V AC / 1500V DC.

Screwdrivers are available in many types: Slotted, Phillips (Star), TX (Torx), Nut, and Hex, each designed for specific screw head profiles.

Always match both the type and size of the screwdriver tip to the screw being worked on.



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GENERAL PRACTICES

BEST PRACTICES

- Match both the type and size of the screwdriver to the screw head. A snug fit prevents cam-out and damage.
- Inspect VDE insulation on the handle and blade before every use.
- Keep the screwdriver blade clean and dry; contamination degrades insulation.
- Apply firm, steady pressure along the axis of the screw while turning.
- Use the correct hand grip, turn with your wrist, not your elbow, for controlled torque.
- Store VDE screwdrivers separately to prevent insulation damage.
- Replace any screwdriver with a damaged tip, worn insulation, or cracked handle immediately.

POOR PRACTICES

- Never use a screwdriver as a chisel, punch, or pry bar.
- Never use a screwdriver near a live wire without confirming VDE insulation is intact.
- Never expose a screwdriver to excessive heat, as it degrades insulation and softens the blade.
- Never hammer a screwdriver.
- Do not hold the workpiece in the palm of your hand when using a screwdriver.
- Do not use a screwdriver with a broken or cracked handle.
- VDE insulation is secondary protection; always follow LOTO and site electrical safety procedures.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

SLOTTED SCREWDRIVER



Match the tip width exactly to the screw slot; too-narrow bends or too wide bends damage the work surface.

- Keep the tip square and sharp. Regrind if worn.
- Apply downward pressure while turning to prevent cam-out.

Never use a worn, rounded, or chipped slotted tip.

- Do not use as a chisel or pry bar.
- Do not use with a bent or cracked handle.
- Never expose to excessive heat.

PHILLIPS SCREWDRIVER



Select the correct Phillips size (PH0, PH1, PH2, PH3) for the screw.

- Apply firm downward pressure to prevent cam-out.
- Replace tip if it shows signs of rounding or wear.

Never use a worn Phillips tip; it will strip the screw head.

- Do not use a Phillips screwdriver on Pozidriv screws or vice versa.
- Do not hammer the screwdriver.
- Do not use as a punch or chisel.

TX (TORX) SCREWDRIVER



Select the correct TX/Torx size (T6, T8, T10, T15, T20, T25, T30...) for the fastener.

- Ensure full seating of the tip in the screw recess before applying torque.
- Inspect the tip for wear; a worn TX tip will damage the fastener.

Do not use a worn or incorrect-size TX tip.

- Never force a TX screwdriver into a non-Torx fastener.
- Do not use as a punch or pry bar.
- Do not apply excessive force. Torx fasteners have defined torque limits.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

NUT SCREWDRIVER



Select the correct hex nut size for the fastener.

- Ensure full engagement of the nut driver on the nut or bolt head before turning.
- Inspect insulation on the handle and shaft before each use.

Do not use a nut screwdriver on an incorrectly sized nut; it will slip and damage the fastener.

- Never use excessive force; nut screwdrivers are designed for hand-torque levels.
- Do not use as a pry bar or chisel.
- Do not use if the tip is worn or deformed.

HEX SCREWDRIVER



Select the correct hex size metric for metric fasteners, and inch for inch fasteners.

- Apply smooth, controlled torque.
- Inspect tip and insulation before every use.

Never hammer a hex screwdriver.

- Do not use if the hex tip is rounded, deformed, or cracked.
- Never use a pipe or extension for extra leverage.
- Do not attempt to repair the tool.

⚠ VDE Insulation- Important Reminder

VDE insulated tools are rated for 1000V AC / 1500V DC. The insulation provides secondary protection only. Always follow your site's electrical safety procedures, LOTO requirements, and IEC 60900 / EN 60900 standards when working on or near live electrical parts.

Inspect insulation before every use. | Damaged insulation = replace the tool immediately. | Never repair insulation.

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PLIERS

VDE Insulated Pliers are used to hold objects firmly, bend, compress, cut, and strip wires and cables in live electrical environments.

The insulation is rated to 1000V AC / 1500V DC. Pliers are available in many types for specific tasks.

Always select the correct plier for the job. Never use a plier as a substitute for another tool category such as a wrench or hammer.



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GENERAL PRACTICES

BEST PRACTICES

- Inspect VDE insulation on handles before every use, check for cuts, cracks, or swelling.
- Always cut at right angles to the wire or cable.
- Oil plier joints occasionally to ensure smooth operation.
- Wear safety glasses when cutting wires, as off-cuts can fly unpredictably.
- Keep pliers clean and dry; contamination degrades VDE insulation.
- Store VDE pliers separately to prevent insulation damage.
- Replace any plier with damaged insulation or worn jaws immediately.

POOR PRACTICES

- Never use a plier as a hammer; this damages both the plier and the work surface.
- Do not hammer the plier handles, as it causes damage or breakage.
- Pliers should never be used on bolts or nuts; use the correct wrench.
- Never attempt to cut hardened wire unless the plier is specifically rated for it.
- Never attempt to cut live (HOT) wires without confirming VDE insulation is intact and following LOTO procedures.
- Never expose pliers to excessive heat, as it changes the hardness, structure, and degrades insulation.
- VDE insulation is secondary protection; always follow LOTO and site electrical safety procedures.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

COMBINATION PLIER



Use for gripping, bending, and general holding tasks.

- Select the correct jaw opening for the object being held.
- Inspect both jaws and insulation before use.
- Use the flat jaw section for gripping flat surfaces; use the serrated section for round objects.

Never use it as a wrench on nuts or bolts, as this damages both the fastener and the plier.

- Never use it as a hammer.
- Do not use for cutting hardened wire unless rated for it.
- Do not use if jaws are worn, cracked, or insulation is damaged.

CUTTING PLIER



Always cut at right angles for a clean, safe cut.

- Wear safety glasses, as off-cuts can fly at high speed.
- Use only for wire and cable within the tool's rated capacity.
- Inspect cutting edges for nicks or damage before use.

Never attempt to cut hardened wire or rod beyond the tool's rated capacity.

- Never use as a gripping or bending plier.
- Never cut live wires without confirmed VDE insulation and LOTO compliance.
- Do not use if cutting edges are nicked, chipped, or worn.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

WIRE STRIPPER



Select the correct notch/gauge for the wire being stripped.

- Ensure the wire is fully seated in the correct notch before stripping.
- Apply smooth, controlled pulling force when stripping insulation.
- Inspect cutting edges and insulation before each use.

Do not use an incorrect gauge notch, it will nick or cut the conductor.

- Never use it as a cutting plier for work beyond its rated capacity.
- Do not use on live conductors without confirmed VDE insulation and LOTO procedures.
- Do not use if cutting edges are dull or damaged.

RATCHETING CABLE CUTTER



Select the correct tool size for the cable diameter being cut.

- Engage the ratchet mechanism fully before beginning each cut.
- Position the cable squarely in the cutting head for a clean cut.
- Inspect the ratchet mechanism and insulation before each use.
- Release the ratchet pawl only after the cut is complete.

Do not cut cables beyond the tool's rated capacity.

- Never force the cutter on an oversized cable, it will damage the blades and ratchet mechanism.
- Do not use on live cables without confirmed VDE insulation and LOTO procedures.
- Do not use if the ratchet mechanism is slipping or not engaging properly.
- Do not attempt to repair the ratchet mechanism; replace the tool.

TOOL-SPECIFIC GUIDELINES

TOOLS

PUMP PLIER (WATER PUMP PLIER)



BEST PRACTICES

Adjust the jaw to the correct size before gripping.

- Pull toward yourself for better control.
- Use for gripping pipes, fittings, and round or irregular objects.
- Inspect jaw teeth and insulation before each use.

POOR PRACTICES

Never use pump pliers on nuts or bolts as a substitute for a wrench; pump pliers damage fastener heads.

- Do not use as a hammer.
- Do not use if jaw teeth are severely worn or if the adjustment mechanism is slipping.
- Do not use if insulation is damaged.

△ VDE Insulation- Important Reminder

VDE insulated tools are rated for 1000V AC / 1500V DC. The insulation provides secondary protection only. Always follow your site's electrical safety procedures, LOTO requirements, and IEC 60900 / EN 60900 standards when working on or near live electrical parts.

Inspect insulation before every use. | Damaged insulation = replace the tool immediately. | Never repair insulation.

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Cutting Tools

VDE Insulated Cutting Tools are designed for use in live electrical environments where accidental contact with energised conductors is possible.

The insulation is rated to 1000V AC / 1500V DC. Cutting tools covered in this section include Knives and Hacksaws.

These tools demand particular attention to safe handling due to their sharp cutting edges.

Always direct cuts away from your body and ensure the workpiece is securely held before cutting.



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GENERAL PRACTICES

BEST PRACTICES

- Inspect VDE insulation on handles before every use, check for cuts, cracks, or swelling.
- Always direct the cutting motion away from your body and bystanders.
- Wear appropriate PPE, cut-resistant gloves and safety glasses when using cutting tools.
- Secure the workpiece firmly before starting any cut.
- Keep cutting edges sharp and clean. A sharp tool is safer than a dull one.
- Cover or cap sharp edges when tools are not in use to prevent accidental contact.
- Store VDE cutting tools separately to prevent insulation damage and accidental injury.
- Replace any cutting tool with damaged insulation, a cracked handle, or a damaged blade immediately.

POOR PRACTICES

- Never cut toward yourself.
- Do not carry a sharp cutting tool in your pocket; use a protective sheath or tool belt.
- Never use a cutting tool as a screwdriver, chisel, pry bar, or for any other purpose it was not designed for.
- Do not use a cutting tool with a loose, cracked, or damaged handle.
- Never throw cutting tools; hand them handle-first directly to another person.
- Do not use on live conductors without confirmed VDE insulation and LOTO compliance.
- VDE insulation is secondary protection; always follow LOTO and site electrical safety procedures.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

KNIVES (UTILITY / CABLE KNIFE)



Always direct the blade away from your body when cutting.

- Use a cutting board or firm surface; never cut against your hand or palm.
- Retract or cap the blade when not actively cutting.
- Keep the blade sharp. Replace dull or nicked blades promptly.
- Use the correct knife for the task: utility knives for general cutting, cable knives for stripping cable sheathing.
- Inspect handle insulation and blade condition before each use.
- When passing a knife to a colleague, always present the handle first.

Never cut toward your body or fingers.

- Do not carry an open or uncapped knife, always retract or cap the blade.
- Never use the knife as a screwdriver, chisel, or pry bar.
- Do not use a knife with a loose blade or cracked handle.
- Never use a blade that is chipped, cracked, or severely worn.
- Do not use on live conductors without confirmed VDE insulation and LOTO compliance.
- Never throw or toss a knife to another person.

TOOL-SPECIFIC GUIDELINES

TOOLS

BEST PRACTICES

POOR PRACTICES

HACKSAW



Select the correct blade for the material.

- Ensure the blade is tensioned correctly in the frame, a slack blade wanders and breaks.
- Keep teeth facing forward (away from the handle). Hacksaws cut on the push stroke.
- Apply moderate, even pressure on the push stroke; reduce pressure on the return stroke.
- Secure the workpiece in a vice or clamp before sawing.
- Wear safety glasses, as metal chips can fly during cutting.
- Inspect the frame, blade, and handle insulation before each use
- Cover the blade with a guard or blade cover when not in use.

Do not use an over-tensioned or under-tensioned blade, as both cause blade breakage.

- Never cut toward your body.
Do not use a bent, cracked, or dull blade; replace promptly.
- Do not use the hacksaw as a pry bar or lever.
- Never use a hacksaw on live conductors without confirmed VDE insulation and LOTO compliance.
- Do not use a hacksaw with a loose or cracked handle.
- Do not apply excessive downward pressure; let the blade do the cutting.

A COMMITMENT TO SAFETY

This guide has covered five categories of VDE insulated hand tools:

Wrenches, Sockets & Accessories, Screwdrivers, Pliers, and Cutting Tools. Each tool has its own characteristics, its own best practices, and its own risks. But across all of them, one principle remains constant: the way a tool is selected, inspected, used, and stored determines whether it protects the person holding it or puts them in danger.

Electrical work carries risks that are often invisible. A live conductor does not announce itself. VDE insulated tools, **rated to 1000V AC / 1500V DC and manufactured to IEC 60900 / EN 60900 standards, provide a critical layer of protection in such environments.** But that protection is only as reliable as the condition of the tool and the awareness of the user.



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THE THREE HABITS FOR EVERY TOOL, EVERY TIME

Regardless of the tool category, three habits apply universally and without exception.

Inspect

Before picking up any VDE insulated tool, examine the insulation carefully. Look for cuts, cracks, swelling, discoloration, or any sign of damage. A tool that fails this inspection must not be used.

Use Correctly

Select the right tool for the right job. Use it within its rated capacity, in the manner described in this guide. Never improvise, never force, and never use a tool as a substitute for another.

Store Safely

After use, clean the tool, allow it to dry if necessary, and store it separately from non-insulated tools to prevent insulation damage. Return it to its designated storage in good condition.

VDE INSULATION IS A SECONDARY PROTECTION

VDE insulation does not replace electrical safety procedures. It supports them. Before working on or near any live electrical part, the following must be in place regardless of the tools being used.

- **Lockout / Tagout (LOTO)**

Isolate and de-energise the circuit wherever possible before commencing work. VDE tools are not a reason to skip this step.

- **Personal Protective Equipment**

Appropriate PPE, including insulated gloves, safety glasses, and arc-flash rated clothing where required, must be worn at all times.

- **Site Electrical Safety Procedures**

All work must comply with site-specific electrical safety rules, permit-to-work systems, and applicable national and international standards including IEC 60900 and EN 60900.

- **Voltage Confirmation**

Always confirm the working voltage is within the rated capacity of the VDE tools being used before beginning any task.

DAMAGED TOOL- REMOVE FROM SERVICE IMMEDIATELY

This rule applies to every tool in this guide without exception.

If any of the following conditions are found, the tool must be withdrawn from use immediately and must not be returned to service until it has been formally assessed and replaced.

- **Damaged Insulation**

Any cut, crack, swelling, peeling, or discolouration on the VDE insulation coating.

- **Structural Damage**

Cracks, bends, deformation, or fractures in the tool body, head, jaw, or blade.

- **Worn Working Surfaces**

Rounded wrench jaws, blunt cutting edges, worn screwdriver tips, or damaged socket profiles.

- **Loose or Damaged Handles**

Any handle that is cracked, loose, or no longer securely attached to the tool body.

- **Mechanism Failure**

Ratchet mechanisms, torque settings, cable cutter pawls, or adjustment mechanisms that are not functioning correctly.

Insulation must never be repaired by the user. A tool with compromised insulation is a tool that has failed its primary safety function and must be replaced.

TRAINING AND INDIVIDUAL RESPONSIBILITY

- A tool is only as safe as the person using it. Reading this guide is the beginning, not the end. Every user of VDE insulated tools has a personal responsibility to understand the tools they are working with, to follow the practices set out here, and to raise concerns immediately if a tool appears damaged or a procedure seems unsafe.
- Supervisors and safety officers are responsible for ensuring that all personnel working with insulated tools have received adequate training, that tools are periodically inspected and recertified as required, and that damaged tools are removed from circulation without delay.
- Safety is not enforced from the outside. It is built through habit, awareness, and a shared understanding of why these practices matter.

THE RIGHT TOOL. IN THE RIGHT CONDITION.
USED THE RIGHT WAY. EVERY TOOL.
EVERY INSPECTION. EVERY JOB. EVERY TIME.

Referenced Standards

IEC 60900- Live working:
Hand tools for use up to
1000V AC and 1500V DC

EN 60900- European
equivalent of IEC
60900

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Bombay Tools Centre Bombay Private Limited

A407, Byculla Services Industries CHS Ltd, 510, Dhaku Prabhuchi Wadi,
Byculla E, Mumbai, 40002

☎ 022 66668781/ 82/ 83 | ✉ info@bombaytools.in

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