

## High Leverage Combination Pliers CombiMax VDE

- | American pattern
- | For holding, gripping, bending and cutting work
- | For cutting hard and soft wires
- | Cutting edges inductively hardened
- | With Nail- & wire holder
- | Gripping zones for flat and round materials
- | Asymmetric inside jaws for better grip on the workpiece
- | Integrated ring spanner
- | Power transmission with optimum leverage for easy and effortless work
- | Handles with ergonomically shaped SoftGripp multi-component safety sleeves according to DIN EN/IEC 60900
- | SoftGripp handles with SystemSocket for holding optionally available accessories, e.g. the easily attached SystemClip for fall protection
- | Made of tool steel, forged, oil-hardened

SKU: 109-49-VDE-165

### Related Products

	Art-Nr.: 819-1 System Clip with Lanyard		Art-Nr.: 819-2 System Clip with Opening Spring, Size 1+2		Art-Nr.: 819-3 System Clip with Opening Spring, Size 3+4
	Art-Nr.: 819-4 E-Detector		Art-Nr.: 820-12 Tool Tethering System		

## Safety Notes



For working at or close to electrical parts please observe safety regulations for electrical works and additional national safety regulations.

Check that insulation is not damaged each time before using the tools. Do not use damaged tools anymore. Keep your safety tools clean and dry. Ensure that the workplace where you are working on live equipment is clean and tidy. Use protective clothing and safety equipment (eg. safety gloves, cover clothes and safety sleeves), especially when working in narrow areas.

Electrical work (worked carried out on electrical devices an systems) must be either conducted by a qualified electrician or supervised and checked by one.



Use tools for indicated purposes only.

Before using the cutting tools please wear body protection such as safety mask, safety glasses and hand protection.

Beware of wire ends flying off!

## General Information

### Finish 49 VDE

The pliers, cutters and wrenches in the 49 VDE series are subjected to regular inspections by VDE, the Association for Electrical, Electronic and Information Technologies, to ensure the very high standards of safety that are required when working on "live" electrical components. To enable strain-free, concentrated working over longer periods of time, the handles are non-slip and safe thanks to the SoftGripp sleeves, on the one hand, and fit snugly in the hand due to the ergonomically designed soft zones, on the other. The pliers, cutters & wrenches themselves are drop-forged tool steel, special tool steel or chrome vanadium steel and are oil hardened. The cutting edges of all these cutting tools are induction-hardened to ensure they are able to cope with the needs of professionals in industry and the trades.



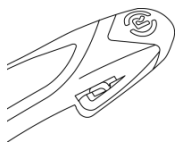
Better safe than sorry.

Electricians put their faith in their tools daily. Electricity is always a potential hazard. Whether they are cutting cables to size, fitting socket outlets or configuring switch cabinets, they need tools they can rely on without fail. When an electrician picks up a set of VDE tools made by NWS, he or she is handling quality tools subjected to stringent testing for practical, hands-on applications in electrical jobs. This is, after all, what professional working, health & safety are all about.



Safety testing method according to IEC 60900

- Visual check and check of measurements: single check of the lettering on the basis tool as well as on the insulation.
- Check of resistance under hot and cold conditions: under normal temperatures of the surroundings (23° C) as well as under low temperatures (-25° C) on three different positions easy to hurt.
- Single voltage check: check of the electrical insulating characteristics by putting on a 10 KV voltage in a water bath for three minutes and measuring the deflecting electricity.
- Pressure check - check of puncture: storage of tools in a warming box for 2 hours at the temperature of 70° C putting on a 5 KV Voltage for three minutes and raising a power of 20 N on the insulation.
- Check of the adhesive power of the insulation: storage of tools in a warming box for 168 h at a temperature of 70° C raising a power of 500 N for three minutes on the area between the conductive part and the insulation.
- Check of fire risk: raising a flame on the insulation for 10 seconds.











#### SoftGripp with SystemSocket


When we developed our handle sleeves, the focus was on functionality, safety and environmental compatibility. The SoftGripp sleeves provide firm but comfortable grip as you work thanks to the triple-component texture. The tailored shape of the handles and the combination of different, environmentally compatible materials makes the tool rest more snugly in the hand. The ergonomically designed SoftGripp, with its multi-zone blend of handle textures, coupled with the optional spring-loaded opening mechanism, ensure strain-free working.

To ensure maximum safety, the tools feature an optimised shape to prevent hands slipping off the tool and the SystemClip, which secures the tools when working on a roof, scaffolding or construction site. The SystemClip, which is easily attached on the SystemSocket, creates a quick, secure connection between the tool and the strap and features an integrated pocket for storing the opener spring.

## Downloads

	109-49-VDE-180.jpg		detail_109-49-VD E-180_130726142 4.jpg		detail_109-49-VD E-180_090918164 9.jpg
	detail_109-49-VD E-180_090918164 6.jpg		detail_109-49-VD E-180_090918164 3.jpg		detail_109-49-VD E-180_090915184 6.jpg
	detail_SystemSocket 49-VDE.jpg		detail_819-1_130 7121731.jpg		

## Technical Data

109-49-VDE-165		
↔	Length - mm	165
↔	Length - in	6 1/2
▣	Jaw shape	▣
✂	Cutting edge shape	✂
⦿	Soft wire (220 N/mm <sup>2</sup> ) copper, aluminium, plastic - cutting capacity - Ø mm	4
●	Medium hard wire (750 N / mm <sup>2</sup> ) nail, wire nail - cutting capacity - Ø mm	3,1
●	Hard wire (1800 N / mm <sup>2</sup> ) wire rope fiber, steel rope - cutting capacity - Ø mm	2
⊕	Cable - Al + Cu multi-wired conductor single and stranded conductor - cutting capacity - Ø mm	10
○	Wrench size - mm	15
DIN	DIN standards - National, European and worldwide	DIN ISO 5746
⊞	Design	

 HRC	Cutting edge hardness - HRC	57 - 59
	Weight - g	185
	Packing unit	6
	Barcode	40 03758 40936 7