



# Southern Shield

## Good/ Best Practice feedback

Nature of works

The use of measuring devices

Date of good practice note

27/01/2020

### Insulated Measuring Tape, Measuring wheel and Distance Lasers.



#### Description of good practice

Whilst undertaking surveys, inspections, deliveries or work within traction or sub stations containing high voltage AC or DC equipment, or trackside near AC or DC electrified lines there is a risk of measuring devices coming into contact with live equipment.

The following points should be implemented when using measuring devices:

- All tasks should be risk assessed and processes put in place to make sure that any electrical equipment is fully isolated, and details recorded in the Work Package Plan. Everyone must be inducted on site and briefed on a Task Briefing Sheet.
- Everyone working on or near electrical equipment must hold the relevant competency (i.e. Level A, B) and suitable supervision must be in place.
- Always Wear as a minimum for this task: Protective clothing to EN ISO 11612 which is also Arc Flash (EA) rated as a minimum to IEC 61482-2 and a base layer of either 100% cotton or Flame-retardant material.
- Measuring devices must be insulated in accordance to BS8020:2011; checks must be made prior to undertaking any work to confirm that the device is not damaged such as insulation missing, and that it is dry. If the equipment is wet, then it should not be used until dry. Additional precautions should be taken when using measuring equipment in wet conditions.
- Report any structural damage (i.e. leaking roofs) immediately to the ECO and vacate the structure until a safe system of work can be established.
- Do not enter any structure containing electrical equipment if you are unsure of the conditions; report it to the ECO and do not enter until it can be made safe.

## What are the benefits?

**Insulated fiberglass tape measures** are the ideal choice. They are designed to withstand the wear and tear that occurs at worksites while giving you the level of protection and accuracy you need to complete your Tasks.

Insulated Tape measures are a major advancement in safety and a significant mitigation against electrical safety hazards, but provision of an isolation should always be the first choice when undertaking any tasks within a live electrical environment.

Insulated Tape measures remove the risk of Track circuit issues and contact with live busbar which have occurred in the past with steel tape measures.

In addition to their high level of durability, insulated fiberglass tapes are rust-resistant (even to saltwater), tear-resistant and tend to be a more economical option.

**The Insulated Measuring Wheel** is purposely designed to provide protection to the operator when working near to live conductor rails when measuring lengths of rail sections.

The rail measuring wheel is **not** designed to be used to measure lengths/distances of live conductor rail sections. The function of the design is to provide protection should the rail measuring wheel accidentally come into contact with a live conductor.

**Distance Lasers** are another means of safely carrying out your task without any electrical risks.

Below are some main benefits in using a laser:

- Safer as you do not need to walk near live 3<sup>rd</sup> Rail areas.
- Fully insulated from Live AC or DC circuits therefore taking Conductor Rail measurement or Live OLE doesn't require Isolations.
- Single person use (you can take measurements by yourself easily)
- More accurate readings / Records measurements using the unit memory feature.
- Long distance measuring/ Quicker measuring.
- Compact and less bulky than carrying a large measuring tape or measuring wheels.

### Caution:

Care should be taken when using Distance lasers within the railway boundary to ensure they do not impact the safety of the operational railway and cause a visual distraction to train drivers.

## Are there any drawbacks?

None

## Supporting Information

**Electricity at Work Regulations 1989:** All electrical equipment, including portable equipment and installations, should be maintained (so far as reasonably practicable) to prevent danger.

### Insulated Rail Measuring Wheel:

Network Rail Reference PADS 0094/007203 certificate reference PA05/06192

### Distance Laser

Leica DISTO D2

### Insulated Tape Measure:

Network Rail Reference URLT/018332

### We will always comply with our Lifesaving Rules:

Lifesaving Rules go to [safety.networkrail.co.uk/LSR](http://safety.networkrail.co.uk/LSR)

Please send completed forms back to [shield@networkrail.co.uk](mailto:shield@networkrail.co.uk)