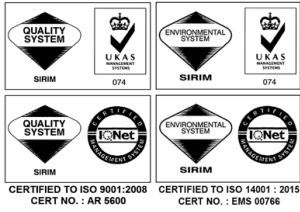


# SUBSTATION AND RAIL SAFETY EQUIPMENT



**Tab 12**

August 2017



# PORTABLE EARTHING EQUIPMENT

August 2017

## FOR SUBSTATION

### Portable Earthing Equipment

Item Code
DSSB-SLE-PEE

#### Description:

- ~ 3 x 7m Lead Conductors
- ~ 4 x 1.22m Operating Rod
- ~ 3 x Line Clamp
- ~ 3 x Earth Clamp
- ~ Carry Bag



## PVC Carrying Bags

Item Code
DSSB-SLE-PEE-BAG

Robust fabric reinforced PVC carrying bags can be supplied for the storage and handling of distribution line. These will provide protection of the equipment during transit as well as easing transportation in the field and keeps the earth equipment clean and dry.

Quick release buckles or straps with Velcro fixings are supplied on the bags which also come with a black webbing shoulder strap.



#### Product Benefits

- Reinforced material
- Easy storage
- Quick release opening
- Carrying strap
- Different colours and sizes available



## Operating Sockets

Item Code
DSSB-SLE-PEE-S9D ESI

#### Description:

OL1 Operating Socket is suitable for the attachment of a line end clamp with a long taper top screw to a P&B style operating pole. Sprung loaded.

#### Product Benefits

- Lightweight Alloy
- Rugged construction
- Excellent anti-corrosive properties
- Adaptors available to convert operating poles types/fitting
- Precision machined



PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION

# FOR SUBSTATION

## Suspended Earthing Spigot

The spigot is an aluminium clamp and spigot system designed to be permanently fitted to new or existing sub station busbar. It accommodates up to five P&B Weir Electrical line end clamps suitable for 38mm diameter busbars, reducing the need to use the heavier 115mm to 250mm range of clamps.

The Suspended Earthing Spigot is designed to be installed easily, either during the initial erection of a new sub station busbar system or subsequently, as an enhancement to an existing system. It comprises a range of three clamps machined to fit any of the busbar sizes currently used in sub stations throughout the UK, from 115mm to 250mm diameter.

The appropriately machined clamp is supplied in two halves that are bolted together around the busbar using the supplied fasteners that are tightened to prescribed torque settings. Its light weight makes it possible for one person to install. A 38mm diameter spigot and corona shield, common to all spigot clamps and busbar sizes, is then bolted onto the clamp. This is positioned horizontally to cater for busbars at any angle from horizontal to 60°, before tightening to a prescribed torque setting.

The Suspended Earthing Spigot fully conforms to the requirements of the UK Electricity Supply Industry and has successfully completed:

- 1 kN mechanical loading trials
- Continuous current test at 900Amps
- RIV and corona discharge tests
- Short circuit current test at 80kA for 1 second including a peak at 200kA
- Short circuit current test at 40kA for 3 seconds including a peak at 100kA



**National Grid Registered  
400kV Earth Spigot  
EGICode:BC4P0001**

Customer Benefits	
• Simple to install	• Improves manual handling
• Suitable for new build or sub station upgrades	• Reduces earth clamp size
• Lightweight	• Reduces outage time
• Fully tested	• No accessories required

Product Dimensions
Height: 530 - 590 mm
Width: 900 mm
Depth: 260 - 380 mm
Clamp: 5 - 7 Kg
Spigot: 3 Kg



**PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION**

**FOR SUBSTATION**

**Line End Clamps**

Item Code	Busbar range	Short circuit rating	Max. number of leads
DSSB-SLE-PEE-CE22A/ESI-L1	10mm-38mm	17.5kA for 2 secs	1 lead
DSSB-SLE-PEE-CE22 A+B	19mm-76mm	17.5kA for 2 secs	1 lead
DSSB-SLE-PEE-CE25	35mm-75mm	38kA for 2 secs	2 leads
DSSB-SLE-PEE-CE22B/ESI-L2	37mm-76mm	17.5kA for 2 secs	1 lead
DSSB-SLE-PEE-CE22C/ESI-L3	60mm-90mm	17.5kA for 2 secs	1 lead
DSSB-SLE-PEE-CE15	90mm	36.5kA for 2 secs	2 leads
DSSB-SLE-PEE-CE27	101.6mm	17.5kA for 2 secs	2 leads
DSSB-SLE-PEE-CE16/5/ESI-L4	127mm only	50kA for 3 secs	3 leads
DSSB-SLE-PEE-CE16/5/.5/ESI-L5	140mm only	50kA for 3 secs	3 leads
DSSB-SLE-PEE-CE51	140mm-160mm	38kA for 2 secs	2 leads
DSSB-SLE-PEE-CE50	190mm-200mm	38kA for 2 secs	2 leads
DSSB-SLE-PEE-CE71	220mm-250mm	17.5kA for 2 secs	1 lead

- The design of all line end clamps is such that once hooked over the bus bar they become self- supporting whilst the operating screw is tightened or loosened.
- All types, whether sprung loaded or not should be applied by means of an operating socket attached to an insulated operating pole.
- Portable Earthing clamps should be inspected at regular intervals and prior to each application. All clamps should operate freely and moving parts should be lightly lubricated, springs should be protected by heavy grease and contact faces should be clean.



**Customer Benefits:**

- Lightweight
- Precious machine for rigidity



**PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION**

**FOR SUBSTATION**

**Operating Poles**

Item Code
DSSB-SLE-PEE-OP

**Description:**  
Operating poles are manufactured from a lightweight resin-impregnated, electrical insulation grade fibre glass.

The poles are machined to provide rigid assembly and include a double sided snap action apring locking device. Operating poles are available as 2.44m (8ft) top and bottom single sections or two 1.22m (4ft) sections permanently linked to avoid a 1.22m (4ft) length of pole being fitted with



**Earth Leads**

Item Code
DSSB-SLE-PEE-EL

**Description:**  
Earthing Leads is produced from multi-stranded, commercially pure aluminium with an extruded pvc sheath to protect the cable from damage.

The flexible aluminium earth lead comes with tested and approved compression terminations and support sleeves which are used for connecting between a line end clamp and an earth end clamp.



**PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION**

**FOR SUBSTATION**

**Earth End Clamp**

**Earth End Clamp**

Item Code
DSSB-SLE-PEE-CE20/ESI-E1
DSSB-SLE-PEE-CE20/2

For Application to clean or dirty copper or aluminium strip.  
 Maximum thickness 6.5mm  
 Minimum thickness 3.2mm  
 Maximum width 50mm  
 Minimum width 38mm

Note: When secured the spring shall be fully compressed and this shall be readily visible.

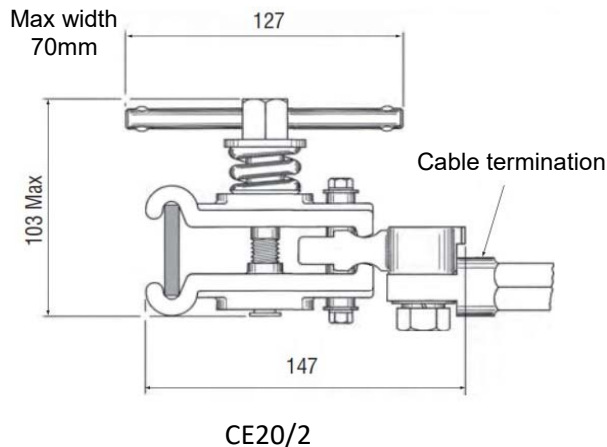
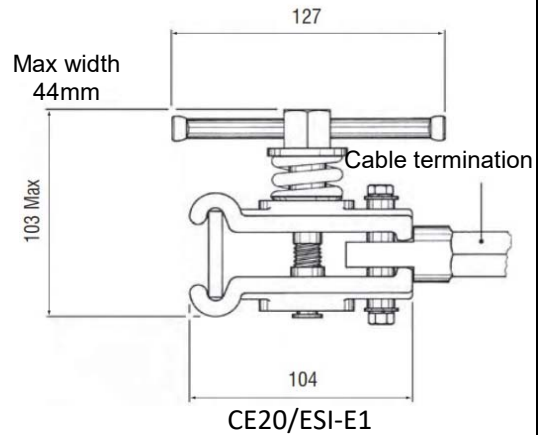
**Tested to 38kA for 2 secs**

**Earth End Clamp CE20/2**

Design initially for use with mechanical aids to the application of portable earths, also readily compatible for use in portable earthing applications.  
 For application to clean or dirty copper or aluminium strip.  
 Maximum thickness 6.5mm  
 Minimum thickness 3.2mm  
 Maximum width 50mm  
 Minimum width 38mm

Note: When secured the spring shall be fully compressed and this shall be readily visible.

**Tested to 38kA for 2 secs**



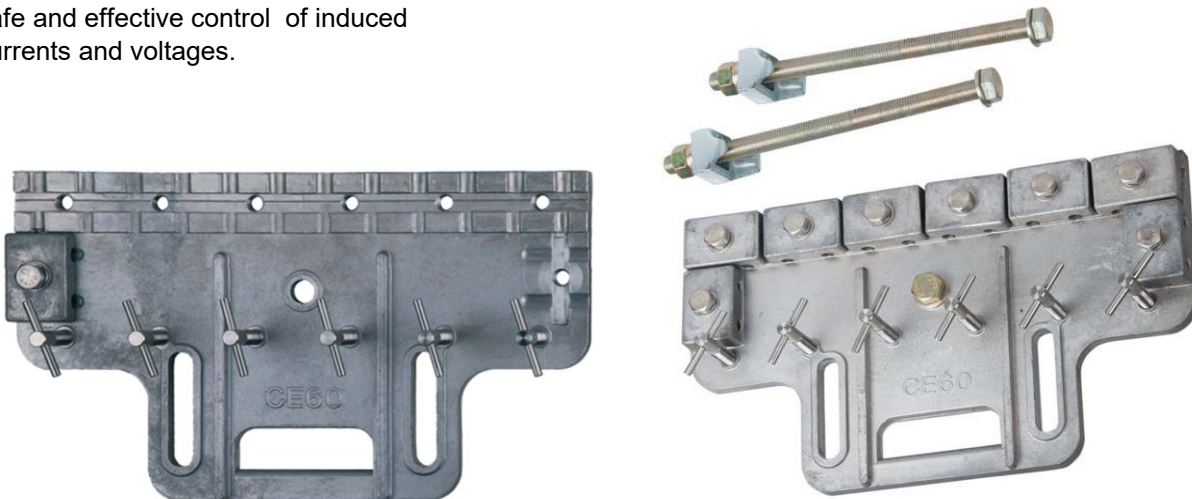
**PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION**

## FOR SUBSTATION

### CE60 Sparrow Plate

Item Code
DSSB-SLE-PEE-CE60

Used to provide a common point of connection for portable drain earths that will permit the safe and effective control of induced currents and voltages.



The new CE60 '2014 pattern' Sparrow Plate is a multiple earth tower bonding plate. The registered design is for the control of induced currents and provides a common point of connection for earths which will permit the safe and effective control of induced currents and short circuit.

Manufactured from aluminium alloy, it can be accommodate multiple earths. They are also provided with connections for interconnecting leads fitted with ferrule type terminations. Six thumb screws fitted with (replaceable) hardened tips effectively bond to the tower structure.

Also available is the CE84 Transmission line DrESS tee connector employing cable clamps for use with the bonds having ferrule terminations. Additionally, a new 'back to back' CE60 Sparrow Plate fitting kit has been developed and tested.

The short circuit rating for the CE60 Sparrow Plate is 31.5kA/1s and the continuous current rating is 900A. The short circuit rating of the CE84 is 36kA/1s and its continuous current rating is 600A.

#### Product Benefits:

- Lightweight aluminium alloy
- Excellent corrosion resistance





**FOR SUBSTATION**

**Earth Tape Repair Kits**

<b>Item Code</b>
DSSB-SLE-PEE-CE57

We are able to produce portable earthing for use on outdoor high voltage substations to meet ENA technical specifications 41/21.

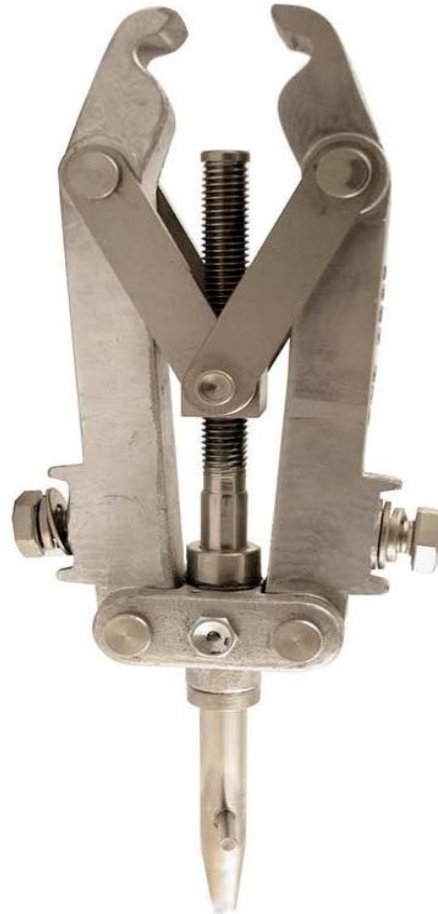
Portable earthing kits have been developed to provide safe and secure high voltage connections to dirty or heavy oxidized copper/aluminium earth bars, stubs or stranded conductors, ranging from 25mmx3mm to 100x6mm.

The CE57 Earth Tape Clamp provides a drain earth before fitting a bridging earth suitable for fault protection.

Theft of earth tape is normally of the above ground connections to the bases of the primary plant, but less commonly, earth tape is also taken from underground.

Earth tape defects range from deterioration of welded underground jointed interfaces on an earthing grid to a high resistance bolted connection between a tape and the primary plant.

Both defect types can result in a depleted earthing system that may present danger from electrocution, burns or injury from flying debris.



**Carrying Case ( Very Heavy Duty)**

**Carrying Case**

<b>Item Code</b>
DSSB-SLE-PEE-CC



**PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION**

## FOR TRANSMISSION

### Portable Earthing Equipment

Item Code
DSSB-TLE-PEE

**Description:**

- ~ 3 x 7m Lead Conductors
- ~ 4 x 1.22m Operating Rod
- ~ 3 x Line Clamp
- ~ 3 x Earth Clamp
- ~ Carry Bag



## Operating Poles

Item Code
DSSB-TLE-PEE-OP

**Product Benefits:**

- Open weave hand grips
- Rain shields available
- snap action' button joints
- Lightweight rigid sections

Telescopic Pole (retracted)



Telescopic Pole (extended)



## Earth Leads

Item Code
DSSB-TLE-PEE-EL

**Product Benefits:**

- Aluminium is less expensive than copper
- Light and flexible
- Aluminium is less vulnerable to theft than copper
- Available in any lengths on request



PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION

## FOR TRANSMISSION

### Earth End Clamps

Item Code
DSSB-TLE-PEE-CE10/A2
DSSB-TLE-PEE-CE18/A

The CE10/A2 clamp is for direct application by hand to steelwork. The large thumbscrew of the device has a captive hardened steel tip which penetrates through painted, weathered or non-conductive surfaces and indents into the steel work, ensuring a strong connection to earth potential.

The CE18/A clamp is for earthing the line conductor over the tension set insulators to tower arm coupling during maintenance. It bolts to the coupling through the clearance hole for the arcing horn bolt which is removed prior to earthing.



CE10/A2



CE18/A



### Line End Clamps

Item Code
DSSB-TLE-PEE-CE13/A
DSSB-TLE-PEE-CE69

The CE13/A line end clamp is intended to be apply by means of an operating socket, which is attached to an OL1 insulated operating pole and designed to be applied in a near horizontal position, from the tower cross arm over tension set insulators to the conductor. The CE13/A clamp accomodates a range of conductors from 19mm to 42mm.

The CE69 is to be applied in either an upward or downward direction and only by means of an OL1 operating socket attached to an insulated operating pole. The spring loaded jaws enable the clamp to be slipped easily over the line conductor and retains the clamp position whilst the operating screw is being tightened or loosened. The clamp is suitable for application to conductors ranging from 13mm



CE13/A



CE69



**PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION**

## FOR TRANSMISSION

### Running Earth CE24/A

Item Code
DSSB-TLE-PEE-CE23/A

The CE23/A Running earth clamp is designed specifically for earthing line conductors during "Stringing" operations.

CE23/A running earth enables the cable to run freely between contact roller faces whilst providing a positive contact to earth. The earth is anchored to a convenient

The maximum size of conductor that can be accommodated is 42mm. The CE23/A has a short circuit rating of 18kA/1s and a continuous current rating of 300A.

Improved cable fixing location offers improved strength, suitable for PB50 and PB120 palm terminations.



## PVC Carrying Bags

Item Code
DSSB-TLE-PEE--Bag

The robust fabric reinforced PVC carrying bags can be supplied for the storage and handling of earthing equipment. These will provide protection of the equipment during transit as well as easing transportation in the field while keeping the earthing equipment clean.

Quick release buckles or flaps with Velcro fixings are supplied and bags come with a black webbing shoulder strap. A customer logo or reference numbers can be



PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION

## DISTRIBUTION LINE EARTHING KITS

### DLE/1

Item Code
DSSB-DLE-PEE-DLE/1

**Description:**

The 33kV standard distribution line earthing kit is supplied with parking bar, S9B clamps with a short taper operating screw, orange aluflex earth lead and an earth end clamp.



## Operating Pole Kit

Item Code
DSSB-DLE-PEE-0091/002356
DSSB-DLE-PEE-0091/002061
DSSB-DLE-PEE-0091/002470
DSSB-DLE-PEE-0091/002480
DSSB-DLE-PEE-0091/001987
DSSB-DLE-PEE-0091/002559

**Description:**

The Operating pole kit is suitable for applying a range of isolation earth leads to designated earth points and overhead cables.

Operating poles are manufactured from a lightweight resin-impregnated, electrical insulation grade fibre glass.

A number of intermediate poles can be selected to make up a longer length pole. The precision snap action joints and tight tolerances minimise flexure of the pole assembly. The lower pole is supplied with a on-grip to provide a guaranteed grip., and a rain shield is also fitted to keep this section dry.

A bag is provided for careful storage and handling.

The Operating Pole Kit comprises:

- 1 primary insulator pole
- 3 intermediate poles
- 1 top pole
- 1 bottom pole
- 1 dispenser head assembly
- 1 carry bag



PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION

## DISTRIBUTION LINE EARTHING KITS

### Line End Clamps CE62

Item Code
DSSB-DLE-PEE-CE62

The Line End Clamp (sometimes referred to as a phase or conductor clamp) is precision manufactured from a robust aluminium casting with stainless steel fittings.

The CE62 incorporates a stainless steel jaw, which is spring loaded to reduce application and removal time associated with clamps of the screw type. CE62 is suitable for a conductor range between 4mm and 20mm

These products have been mechanically and electrically tested to ensure compliance with the relevant standards.

Three interconnected CE62 clamps can be loaded onto the DH1A application head for rapid, snap on application to the conductors.



## Line End Clamp S9B

Item Code
DSSB-DLE-PEE-S9B

The S9B is designed to hook onto the conductor to become self-supporting whilst the operating screw is tightened or loosened. S9B is available with a short, tapered ring type or ISO style operating screw and is suitable for a conductor range between 6.3mm and 38mm diameter.

#### Product Benefits

- Tested to 17.5kA for 2 seconds (25kA/1s)
- Solid construction for extended service
- Proven service record used by ESI for over 40 years
- Light weight and good corrosion resistance



PORTABLE EARTHING EQUIPMENT-FOR DISTRIBUTION

## DISTRIBUTION LINE EARTHING KITS

### Earth Discharge Rod

Item Code
DSSB-DLE-PEE-EDR

Standard earth rods are manufactured from either 16mm (5/8") or 19mm(3/4") diameter steel cored copper bonded rods and are usually supplied in 850mm sections. Other

The rod can be supplied with a split connector clamp to accept the termination of the down lead. Alternatively, a lightweight aluminium earth end clamp type S9A fitted with an insulated handle can be supplied.

Earth rod has high tensile strength, low carbon steel core. 99.95% pure copper is applied electrolytically and forms a metallurgical bond between the steel core and the copper. This combination makes the rod ideal for deep driving whilst also providing lasting resistance to corrosion.

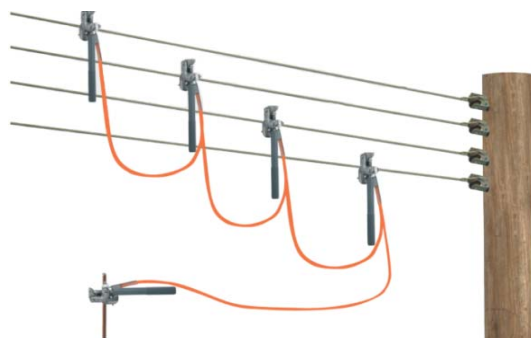
Earth rods can be clustered using an earth nest. They can also be extended by using thread couplings. This facilitates deep driving and ensures continual contact between the rods both during and after installation. The coupling also protects the earth rod threads during installation with the



## LV Earthing Kits

Item Code
DSSB-DLE-PEE-LVEK

The LV Earthing Kits employ S9B Conductor clamps fitted with pvc operating handles for overhead conductor sizes from 3.0 to 27.0mm diameter. Single phase, 3-phase, 3 4 or 5 wire assemblies can be assembled using the appropriate number of clamps and interconnecting leads, to provide portable shorting kits.



PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION

## DISTRIBUTION LINE EARTHING KITS

### Operating Sockets

Item Code
DSSB-DLE-PEE-S9D ESI

#### Description:

OL1 Operating Socket is suitable for the attachment of a line end clamp with a long taper op screw to a P&B style operating pole. Sprung loaded.

#### Product Benefits

- Lightweight Alloy
- Rugged construction
- Excellent anti-corrosive properties
- Adaptors available to convert operating poles types/fitting
- Precision machined



## Earth Leads

Item Code
DSSB-DLE-PEE-EL

#### Description:

Earth leads are produced from multi-stranded, commercially pure aluminium with an extruded PVC sheath, either in clear or opaque 'arctic' orange grade to protect the cable from damage.

Flexible aluminium earth leads with approved compression terminations and support sleeves are used for interconnecting conductor clamps and to various earth points. The standard nominal cross section is of 50,70, 95, 120 or 150 sq.mm and is recommended according to the fault level of the system. Leads are also available in blue or and green colored PVC sheaths. Other colours available on request.



#### Product Benefits

- High visibility
- Less expensive than copper
- Light and flexible
- Less vulnerable to copper theft
- Available in any lengths on request



**PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION**



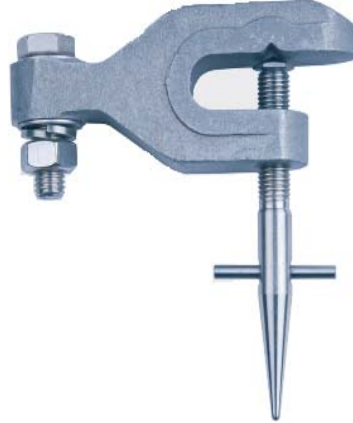
## DISTRIBUTION LINE EARTHING KITS

### Cross Arm Clamp

Item Code
DSSB-DLE-PEE-CE10/A

#### Description:

The type CE10/A clamp is suitable for cross arms up to 13mm thick. Manufactured from a lightweight aluminium alloy, they have a stainless steel operating screw fitted with a hardened steel tip to penetrate painted and non-conductive surfaces, to ensure a low resistance earth connection. All clamps are designed with an ultimate strength well in excess of normal working loads and are type tested at normal loading before being approved for production.



### Earth End Clamps

Item Code
DSSB-DLE-PEE-S9A

#### Description:

It is suitable for application to flat, clean, aluminium or copper bar. 12.7mm thick or 6.4 to 20mm round conductor or earth rod. The S9A is also available with short or long insulated handle, a hand applied cross pin, ring or tapered style operating screw.

#### Product Benefits

- Tested to 17.5kA for 3 seconds (25kA/1s)
- Solid construction to give extended service
- Proven service record used by ESI for over 40 years
- Light weight and good corrosion resistance
- No plated components



### Cluster Bars

Item Code
DSSB-DLE-PEE-EFD-16748
DSSB-DLE-PEE-A3214-A

#### Description:

The cluster bar is an attachment bolted to the centre of 3 conductor clamps and facilitates the parking of the other two conductor clamps with interconnecting leads, whilst the assembly is fitted or removed from the distribution line. Type EFD-16748 is also suitable for cross arm clamp.

#### Product Benefits

- Solid construction for extended years service
- Proven service record used by the ESI for over 40 years
- Used world wide
- No plated components



PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION

## DISTRIBUTION LINE EARTHING KITS

### Terminal Plates

Item Code
DSSB-DLE-PEE-TP

#### **Description:**

As an alternative to the cluster bar a terminal plate can be specified. There are several types of terminal plates available for mounting on to the operating pole.

Multi point aluminium plate, for interconnecting phase to clamp leads and down leads. Type A is also available with



### PVC Carrying Bags

Item Code
DSSB-DLE-PEE-BAG

#### **Description:**

Robust fabric reinforced PVC carrying bags can be supplied for the storage and handling of distribution line

These will provide protection of the equipment during transit as well as easing transportation in the field and keeps the earth equipment clean and dry.

Quick release buckles or straps with Velcro fixings are supplied on the bags which also come with a black webbing shoulder strap.



#### **Product Benefits**

- Reinforced material
- Easy storage
- Quick release opening
- Carrying strap
- Different colours and sizes available



### Voltage Detectors ( WD6B/D3A Voltage Detector)

Item Code
DSSB-DLE-PEE-WD6B/D3A

#### **Description:**

The Westminster WD6B/D3A Voltage Detector unit is capacitive type audible and visual detector designed for outdoor use in conjunction with the live line operating poles. The detector should be tested before an operation. It is also possible to verify the detector using a separate proving unit, type MD, which can be ordered separately.

#### **Product Benefits**

- Visible and audible detection
- Suitable for fitting to standard Operating pole Sections
- Test facility
- Battery operated
- Rugged construction
- Available for 5-12kV, 10-36kV and 50-140kV



**PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION**

## DISTRIBUTION LINK BOX EARTHING KITS

The Link Box (switching point) Earthing Kits are available for range of designs and are used whilst maintenance, electrical diversion or cable testing is undertaken

### Product Benefit:

- Simple to apply
- High insulation rating
- Supplied in a protective carrying bag
- Robust construction
- Fully tested & type registered
- Special clamp design

### CE80 Link Box Short Term Temporary Earth Kit (Bronze/Copper Temporary Kit)

Item Code
DSSB-EFU-19311

#### Description:

Comprising 4-off CE80 sprung loaded insulated bronze clamps, connected by flexible copper stranded cables. To be used upon a Link Box for temporary earthing whilst main earthing kit is applied.  
 Current rating: 150A/5mins  
 Short circuit rating: 4.9kA/1s  
 Insulation rating: Typically 2kV/1min  
 Conductor size: 1-1/2" x 1/2" nominal



### CE78/A Link Box Temporary Earth Kit (Aluminium Kit/M12 Fitting)

Item Code
DSSB-EFU-19309

#### Description:

The Link Box Earthing Kit is used upon underground Earth Lin boxes (modern metric type). The kit is denoted by black hand and M12 threaded aluminium clamps. Supplied in a fluorescent yellow fabric reinforced PVC carrying bag for easy and safe handling. The kit also includes a temporary earth junction plate.  
 Continuous current rating: 150A  
 Short circuit rating: 7.8kA/1sec  
 Insulation rating: Typically 2kV/1min



### CE78/C Link Box Temporary Earth Kit (Copper Kit / 1/2" BSW Fitting)

Item Code
DSSB-EFU-19310

#### Description:

For use on traditional underground 'Diving Bell Style' imperial link boxes. The kit is denoted by red handles and 1/2" BSW threaded copper clamps. Supplied in a fluorescent orange fabric reinforced PVC carry bag for easy and safe handling.  
 Continuous current rating: 150A  
 Short circuit rating: 8.0kA/1sec  
 Insulation rating: Typically 2kV/1min



PORTABLE EARTHING EQUIPMENT-FOR RAILWAY

**FOR RAILWAY**

**Interlocked H.V. Overhead Traction Line  
Portable Earthing Equipment**

<b>Item Code</b>
DSSB-RAIL-PEE-IOTL(M)



Line End Clamp

**Design Features:**

- Rugged Construction
- Suitable for Fitting to All Common Types of Running and Conductor Rails
- Excellent Corrosion Resistance
- 20 'key' Combination
- Suitable for Corroded Rails, Steel Framework or Earthing Points
- Tamper Proof
- Approval Ref. PA05/00944



Earth End Clamp

**Description:**

This equipment is for providing temporary earth bonds between overhead catenary or contact conductors and earthed rail sections or recognized earthing points. The equipment has been specially enhanced in order to address the potentially fatal procedure of removing the equipment in the correct order from service. To ensure that the line is removed prior to the earth potential clamp it incorporates a special key which must be used to remove the Earth End Clamp.

The tamperproof lock arrangement is an integral part of both clamps and up to 20 combinations are provided, to deter 'master keys' being used to fool the system.



Interlocked clamps being applied to Flat bottom Rail Section

**Ordering Particulars:**

**Earth End Clamp**

Short Circuit Rating 34kA / 1 sec

**Line End Clamp**

Conductor Range ; 3mm to 27 mm diameter

Short Circuit Rating 17.5 kA / 2 secs

**Interconnecting Leads**

Length to suit application

Short Circuit Rating; 8 kA / 1 sec

**Insulated Poles**

4' Lower Section

4' Intermediate Section

4' Top Section

**Operating Socket**

British Rail Code; 91/00852

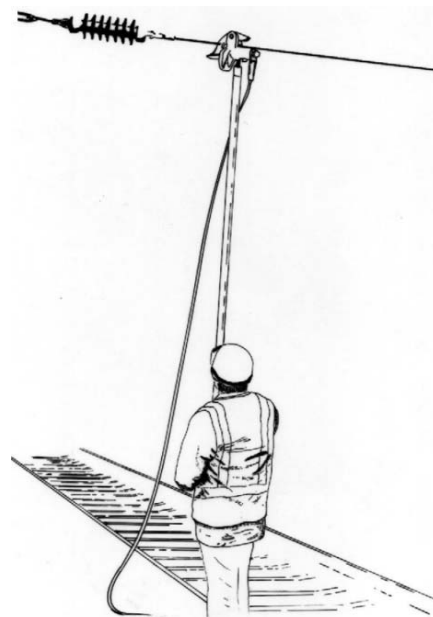
**Interlocked Clamp Kit**

Compromising Line End Clamp, Earth End Clamp and Interconnecting Lead

Railtrack Approval Certificate No. PA05/00944

**PVC Carrying Bag**

Suitable for carrying above equipment



**PORTABLE EARTHING EQUIPMENT-FOR RAILWAY**

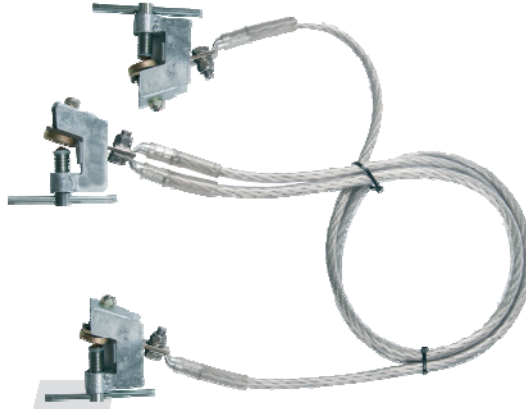
## FOR RAILWAY

### Railway Equipment Shorting Strap

Item Code
DSSB-RAIL-PEE-RESS(M)

#### Design Features:

- Rugged Construction
- Suitable for Fitting to All Common Types of Running and Conductor Rails
- Excellent Corrosion Resistance
- Weight 5.5kg (12 lb.202)
- Suitable for Corroded Rails
- Supplied with Protective Carrying Bag

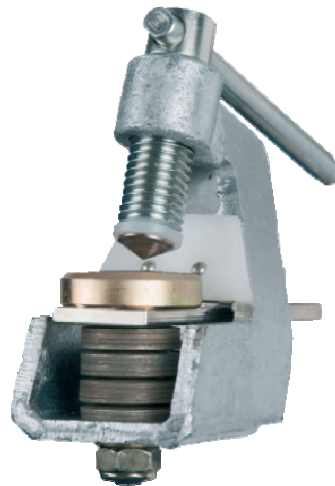


## J117-NSE Clamp

Item Code
DSSB-RAIL-PEE-J117-NSE(M)

#### Design Features:

- Rugged Construction
- Suitable for 'Flat-Bottomed' and 'Bull-Head' Rail Applications
- Excellent Corrosion Resistance, suitable for corroded rails
- Weight 1kg
- Short Circuit Rating 34 kA/1sec
- Fitted with springs to ensure secure location.



**PORTABLE EARTHING EQUIPMENT-FOR RAILWAY**

**FOR RAILWAY**

**Signal Sighting Target**

Item Code
DSSB-RAIL-PEE-SST(M)

**Description:**

Design to aid signal sighting in darkness through the addition of a bright white source flashing LED unit. A short bottom pole assembly has also been added to provide for sighting signals at the AWS magnet. All elements are available separately and type approved to allow simple upgrading of existing kits. Contact us for your requirements



**C31 Live Line Indicator**

Item Code
DSSB-RAIL-PEE-C31/LLI(M)

**Description:**

This Equipment is designed for use upon overhead a.c rail electrification systems operating at 25kV nominal voltage to indicate the presence of extra high voltages to aid safe working practices.



**PORTABLE EARTHING EQUIPMENT-FOR RAILWAY**

**FOR RAILWAY**

**Short Rail Earth**

<b>Item Code</b>
DSSB-RAIL-PEE-SRE

The short rail earth (DEP) attaches a 1.5m orange aluflex earth lead from the earth cantilever to a steel mast spigot at a designated earth point. The kit can consist of various combinations of CE62, S9B, short taper clamps, J117 rail clamps and isolation earth leads,

Flexible aluminium earth leads with fully tested and fault-rated compression terminations and support sleeves are used for interconnecting conductor clamps to various earth points. The standard nominal cross section is of 50sq.mm.

Operating poles sets are also available for application of the earthing leads or cramps.

S9B Line End Clamps  
(PAD no 0091/012306)



CE62 Line End Clamps  
(PAD no 0091/012306)



Short Rail Earth  
with CE62 Clamps



**PORTABLE EARTHING EQUIPMENT-FOR RAILWAY**



## FOR RAILWAY

### Earth Discharge Rod

Item Code
DSSB-RAIL-PEE-REEDR(M)

#### Description:

The Earth Discharge Rods are used for the removal of electrostatic charge from disconnected circuits, prior to undertaking maintenance work.



## Tree Pruning Equipment

Item Code
DSSB-RAIL-PEE-RETPE(M)

#### Product Benefits:

- Rugged construction
- Suitable for fitting to standard Operating Pole Sections
- Pruning head weight 1.375kg
- Pruning saw weight 480g
- Saw blade cuts in both directions



PORTABLE EARTHING EQUIPMENT-FOR SUBSTATION



## FOR RAILWAY

### LIVE LINE INDICATOR (D3/LLI)

Item Code
DSSB-RAIL-PEE-D3/LLI

#### Product Selection

The D3/LLI Live Line Indicator is a resistive type voltage detector designed for use on overhead a.c. rail electrification systems operating at 25kV nominal voltage. The 'LLI' threshold is specified as  $12kV \pm 5\%$ , however it should be

The unit is designed to be mounted on approved fibreglass earth poles with the pole immediately below the indicator being the primary insulator (ref 91-2410). The signal emitted by the D3/LLI is both audible and visible. Power is provided by a rechargeable battery, housed within the main unit. The battery can be charged in situ using the charger

The unit comprises a main unit and a contact probe. The contact probe is manufactured from lightweight fibreglass tubing and houses the calibrated resistor stack. The pole section is foam-filled to increase its voltage withstand. The probe is connected to the overhead line by a replaceable aluminum hook. The top of the pole is coated in a special high reflectivity paint to ease visibility when applying the indicator in poor lighting conditions.

The limit of contact with the overhead line is clearly defined by a red limit collar fixed to the pole. The contact probe screws into the main unit with a special screw connector to minimise flash-over.

#### Product Benefits

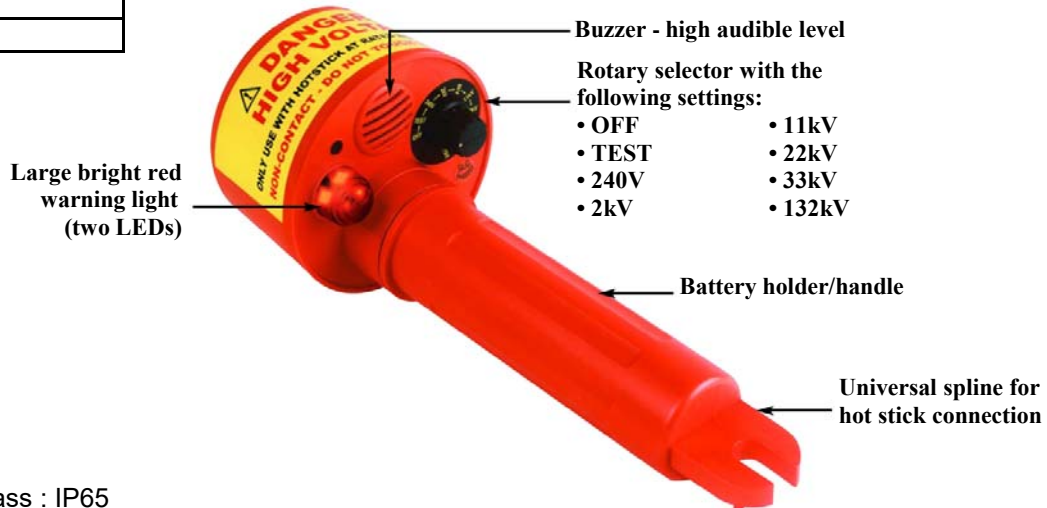
- Approval Reference PA05/79:
- Audible and visual warning
- Self-test function
- Fully interchangeable
- Insulation tested
- Compatible with primary insulator poles



## VOLTAGE DETECTORS

### Non - Contact High Voltage Detectors

Item Code
DSSB-SSE-PEE-278HP



#### Features:

- Protection class : IP65
- 3 LED indicators in a circle for easier viewing in any directions (360° LED indication)
- Voltage bright LED visual indication
- Sound indication
- Power source: 1.5V"C" type battery x 3
- Compatible with most hot sticks.
- Lightweight, robust & compact

#### Specifications:

Operating temperature : -10° ~ 50°C  
 Storage temperature: -20°C ~ 60°C  
 Humidity : 85%R.H @40°C  
 Case height : 265mm  
 Case width : 117mm  
 Weight (batt incl.) : Approx. 600g  
 Power source : 1.5 "C" x 3 alkaline batteries

### Personal Safety H.V Voltage Detectors

Item Code
DSSB-SSE-PEE-286SVD (M)

The 286 SVD is a sensor for sensing AC High Voltage. It provides electric engineering personnel, power engineering personnel, firefighting personnel and instrument equipment workers with prominent warning when approaching high voltage projects.



### Personal Safety Voltage Detectors

Item Code
DSSB-SSE-PEE-288SVD (M)

The 288 SVD consist of an internal pick up AC sensor plate, a test (oscillator) and diagnostic circuit, an adjustable threshold comparator, a sound annunciator (buzzer), a visual indicator (super bright led) and 9V battery, all enclosed into the robust beeper' style case.



**RUBBER  
INSULATING  
GLOVES  
AND  
SAFETY BOOTS**

August 2017

## RUBBER INSULATING GLOVES

Description	Item Code	Size
CLASS 00 2,500 Volt Tested 500 Volt Working	DSSB-SA-GLOVE-C00	7,8,9,10,11,12
CLASS 0 5,000 Volt Tested 1,000 Volt Working	DSSB-SA-GLOVE-C0	7,8,9,10,11,12
CLASS 1 10,000 Volt Tested 7,500 Volt Working	DSSB-SA-GLOVE-C01	7,8,9,10,11,12
CLASS 2 20,000 Volt Tested 17,000 Volt Working	DSSB-SA-GLOVE-C02	7,8,9,10,11,12
CLASS 3 30,000 Volt Tested 26,500 Volt Working	DSSB-SA-GLOVE-C03	9,10,11,12
CLASS 4 40,000 Volt Tested 36,000 Volt Working	DSSB-SA-GLOVE-C04	9,10,11,12

Complies to : EN 60903  
ASTM D120



## LEATHER WORK GLOVES/ OVERGLOVES

Description	Item Code	Length (mm)	Sizes
CLASS 00 2,500 Volt Tested 500 Volt Working	DSSB-SSE-LWG-C00	360	8, 9, 10, 11
CLASS 0 5,000 Volt Tested 1,000 Volt Working	DSSB-SSE-LWG-C0	360	8, 9, 10, 11
CLASS 1 10,000 Volt Tested 7,500 Volt Working	DSSB-SSE-LWGC1	360	8, 9, 10, 11
CLASS 2 20,000 Volt Tested 17,000 Volt Working	DSSB-SSE-LWGC2	360	8, 9, 10, 11



## LEATHER WORK GLOVES/ OVERGLOVES

Item Code
DSSB-SSE-LWG-MAX-02
DSSB-SSE-LWG-MAX-03
DSSB-SSE-LWG-MAX-04



MAX-03 & MAX 04

Leather Work Glove (MAX-02)  
 made of cow hide suitable to be used as protective equipment while working in heavy duty work environment.

### BASIC PROTECTION

- Design to protect over rough condition and harsh environment that requires protection to palm.
- Gripping made easy by having smaller finger size suitable for holding working tools.

SHORT ARM, 12" LENGTH (UP TO WRIST)  
 LONG ARM, 15" LENGTH (UP TO ARM)

### KERMEL FABRICS, FLAME & SPARK PROTECTION

- MAX-03, COMFORGUARD (C170g), protection against amount of energy in calories
- MAX-04, COMFORGUARD (C205g), protection against amount of energy in calories

### Leather Glove meets

BS EN 388: 2003 (Abrasion/ Tear/ Punctures Resistance) ; ISO 4045-1977 (Determination of pH Value) ;

BS EN 420 (Water Vapor Absorption) ; BS 5852 (Ignitability)

LEATHER WORK GLOVES

## KEVLAR PVC DOT GLOVES (CUT-RESISTANCE)

Item Code
DSSB-SSE-KPDG

DSSB-SSE-KPDG



- With a PVC dot palm, our Kevlar PVC dot gloves boost both excellent grip and fantastic cut resistance-perfect if you're constantly handling sharp glass, knives or metal whilst at work.
- Kevlar fibre 2 ply with PVC dot for grip.
- Cut and heat resistant.
- Ribbed knit wrist.
- Size: M, L, XL,
- Description: 7 gauge and 10 gauge PVC dot.
- Applications: Slicing / cutting operations, cable glanding cable jointing, plastic cutting, engineering, manufacturing and glass handling.

## KEVLAR KNIT SLEEVE ( CUT-RESISTANCE)

Item Code
DSSB-SSE-KKS

DSSB-SSE-KKS



- For a tough, cut resistant sleeve, choose our tough Kevlar Sleeve.
- Available in a variety of lengths, you can be sure to find a sleeve with the right level of protection for the task at hand.
- Kevlar fibre and washable.
- 3 different length options: 10", 14", 18", and 22 Bar Tac.
- Applications: Hygiene rules, slicing / cutting operations, cable glanding, cable jointing, plastic cutting, glass handling, engineering, manufacturing and maintenance.

## CLASS 0 DIELECTRIC SAFETY BOOT

<b>Item Code</b>
DSSB-SSE-DSB0

### Class 0 Dielectric Safety Boot

<b>Colour</b>	Orange / Green
<b>Size Ranges</b>	Euro : 39-48 / UK 5½-14
<b>Type of Construction</b>	Vulcanized Rubber Upper and Sole
<b>Last / Sole Patter</b>	VSV / SNV
<b>Test / Application</b>	5000 Volts Tested, 1000 Volts working
<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• For working environment with low voltage hazards</li> <li>• Power station operations</li> <li>• Substation (step - up / step down / distribution) operations</li> <li>• Electrical hazards with wet condition / water exposure</li> <li>• Current leakage hazards</li> <li>• Electrical installations</li> </ul>
<b>Upper Construction</b>	<ul style="list-style-type: none"> <li>• Reinforced rubber upper</li> <li>• High visibility with orange and green contrast</li> <li>• Waterproof</li> </ul>
<b>Sole / Heel</b>	<ul style="list-style-type: none"> <li>• Electrical shock resistance sole</li> <li>• Oil resistance sole</li> <li>• Slip resistance vulcanized rubber sole</li> <li>• Excellent abrasion resistant for extra durability</li> <li>• Heel energy absorption design to minimize heel impact</li> </ul>
<b>Steel Toe Cap</b>	<ul style="list-style-type: none"> <li>• Non-corrosive coating material</li> <li>• Meets EN ISO 20345 impact and compression tests</li> </ul>
<b>Steel Tank</b>	Doubled ribbed ladder shank to strengthen heel part
<b>Chemical Resistance</b>	Sole & Upper - Resistant towards mild acids and alkaline
<b>Lining Material</b>	Selected polyester grade for electrical insulation
<b>Finishing</b>	Hypalon lacquer coating for weather protection

Specially handbuilt and tested individually to EN 20345 and EN 50321 Standards for working on low voltage installations. Offering a high level of protection, the boots easily lock foot placement when climbing ladder or poles.

### PRODUCT FEATURES :

- EN ISO 20345 : 2004
- Steel Toe Cap Protection
- 5000 Volts tested, 1000 Volts working
- Electric Shock Resistant Outsole up to 18kV
- Ozone & UV Resistant Upper
- Heel Energy Absorbing Sole Construction
- PE Lining for Extra Durability



## ELECTRIC ARC-FLASH PROTECTION

### Material Specification:

- NFPA 70E - Standard for electrical safety requirements for employee workplaces.

Item Code
DSSB-SSE-ARC-S (M)

### Washing Guide

- Do not overload washer
- Use high water level
- Wash at temperature necessary to clean the garment.  
Maximum 165 deg.F, or 74 deg.C
- Use recommended amount of quality detergent (phosphate can be used).
- Do not use chlorine bleach or hydrogen peroxide either separately or in detergents.
- Do not use softeners or starch
- Do not use tallow soap, i.e., one containing animal fats.
- For optimum results when industrial laundering, use an acid sour.
- Softened water provides best results.



ARC SUIT

Item Code
DSSB-SSE-ARC-H (M)



ARC HOOD

ELECTRIC ARC - FLASH PROTECTION



## ELECTRICAL ARC PROTECTION

Item Code
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DSSB-SSE-EAPS
---------------

Type : Style 301  
 Weight : 7oz/sq yd ( 237 g/m2 )  
 Fabric blend : 88% Cotton / 12% High Tenacity Nylon  
 Color : Navy Blue , Royal Blue , Yellow , Green ,  
 Red , Orange  
 ATPV Rating : 8.7cal/cm<sup>2</sup>  
 PPE Level ( HRC ) : 2 ( Single Layer )



Shirt



Pants



a) AR + FR Shirt - 8.7cal/cm<sup>2</sup>

b) AR + FR Class - 8.7cal/cm<sup>2</sup>

8.7cal/cm<sup>2</sup>

*AR = Arc Resistance*  
*FR = Flame Resistance*

SUBSTATION SAFETY EQUIPMENT

## ELECTRICAL ARC PROTECTION



c) AR + FR Labcoat - 8.7cal/cm2



d) AR + FR T-Shirt - 10.9cal/cm2

AR = Arc Resistance

FR = Flame Resistance

## ELECTRICAL INSULATED HELMET

Item Code
-----------

DSSB-SSE-ETH
--------------

Standard Compliance : ANSI Z89.1-2003 Type 1 certified

Helmet Colour : White ( Top )

Electrical : Class E

Voltage : 20,000 volts



## ARC SHIELD VISOR

Item Code
-----------

DSSB-SSE-ASV
--------------

Arc Rating (ATPV) : 12 cal/cm<sup>2</sup>

Color : Light Green

Material : Anti-Fog Molded Polycarbonate

UV Protection : 99.9%

Standard : ANSI Z87.1-2003. ANSI standard requires users to wear safety glasses under face shields



SUBSTATION SAFETY EQUIPMENT

## ELECTRICAL ARC PROTECTION SUIT

Item Code
DSSB-SSE-EAPS

Type : Style 301 over  
 Weight : 14oz/sq yd ( 474 g/m<sup>2</sup> )  
 Fabric blend : 88% Cotton / 12% High Tenacity Nylon  
 Color : Navy Blue , Royal Blue , Yellow , Green ,  
 Red , Orange  
 Fabric : Westex Ultrasoft®  
 ATPV Rating : 26.8cal/cm<sup>2</sup>  
 PPE Level ( HRC ) : 3 ( Double Layer )



## ARCH SHIELD VISOR + ELECTRICAL INSULATED HELMET WITH HOOD

Item Code
DSSB-SSE-VHH

i ) Helmet  
 Helmet Colour : White ( Top ) and Black ( Bottom )  
 Visor Colour : UV Coated  
 ATPV Rating : 43cal/cm<sup>2</sup>  
 ii ) Hood  
 Fabric : Westex Ultrasoft by Milliken  
 ATPV Rating : 26.8cal/cm<sup>2</sup>  
 PPE Level ( HRC ) : 3 ( Double Layer )



SUBSTATION SAFETY EQUIPMENT

## COVERALL ELECTRICAL ARC PROTECTION

<b>Item Code</b>
DSSB-SSE-EAPS8

### Feature & Benefit:

- Triple stitches with FR thread
- 2 way FR tape brass zipper
- 6 x 2" FR reflective
- FR properties will never wash
- Comfortable to wear
- Excellent after wash appearance

Material: 48% Modacrylic, 37% Lyocell, 15% P-Aramid  
 Grams: 197gsm, 238gsm  
 Comply: NFPA 2112, NFPA 70E HRC 2,  
 EN ISO 11612:2008, EN ISO 11611:2007  
 Size: S - 6XL



	S	M	L	XL	2XL	3XL	4XL	5XL	6XL
Collar	41	41	42	43	43	45	45	48	48
Shoulder	48	50	52	54	56	58	60	64	66
Chest	112	118	124	130	136	142	148	158	164
Waist	96	100	104	108	112	116	120	126	132
Back Length	43	47	51	55	59	61	63	64	65
Hip	108	114	120	126	132	138	144	150	156
Thigh	58	61	63	66	68	70	73	76	77
Pant Length	98	100	103	106	109	111	113	117	117
Sleeve Length	53	54	55.5	57	58.5	60	62	64	65
Cuff	26	26	27	27	28	28	28	30	32
Leg Opening	41	43	46	49	51	53	55	56	56

### Colour Available:



**SUBSTATION SAFETY EQUIPMENT**

# **SOFT DISCHARGE ROD**

August 2017

## HOT STICK

### Item Code

DSSB-SSE-PEE-HS120 (M)

DSSB-SSE-PEE-HS500 (M)

switch disconnectors.

- Can be attached to the 275 HP proximity Detectors and contact Capacitive Detectors 21 x HVD
- Universal "sunrise" head attachment to fit special tool fittings.
- Head Section rated at 100kV per 300mm (5min)
- Comes complete with sunrise fitting and fuse extractor
- 3 x 1.8 meter sticks; 1 x 1.2 meter head section.



## TELESCOPIC HOT STICK

### Item Code

DSSB-SSE-PEE-HS175 (M)

The HS-175 Telescopic Hot Stick provides maximum flexibility and access for linesman needing to access electrical systems from a working distance. Its unique triangular design allows for easy operation without compromising strength and durability. The HS-175 has been designed to telescopically extend and retract into itself with integrated locking buttons. All sections are made from high grade electrical rated fiberglass.

### APPLICATIONS

- Voltage detection
- Opening and closing switches
- Overhead switch operation
- Fuse replacement
- Lamp replacement
- Cleaning electrical fittings
- Installation of temporary clamps
- Tree trimming

### Integrated Base Cap

Feature provides added insulation and prevents slippage

### Padded Canvas Storage Bag

Rubber Hook Latch securing the sticks in retracted position during storage or transportation

### Universal Sunrise Fitting Head

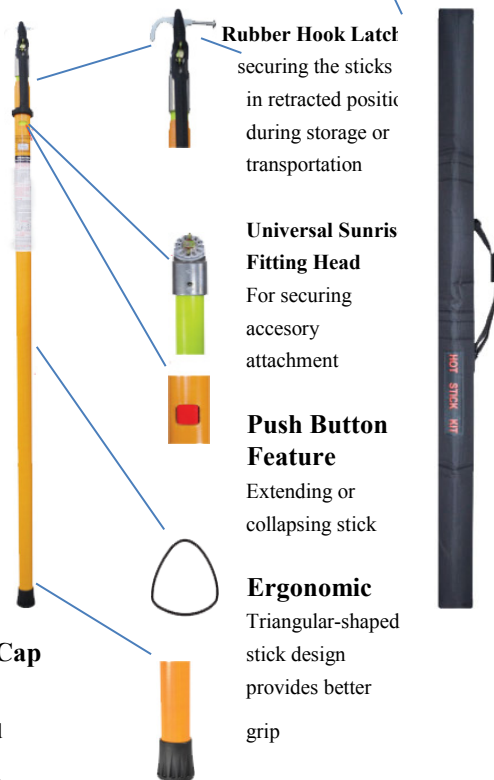
For securing accessory attachment

### Push Button Feature

Extending or collapsing stick

### Ergonomic

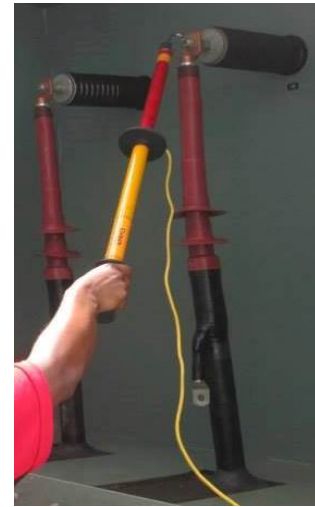
Triangular-shaped stick design provides better grip



SUBSTATION SAFETY EQUIPMENT

## HV DISCHARGE ROD

Item Code	Dimensions (cm) x Weight	Damping Resistor	Discharge Capacity- Max.	kV
DSSB-EA-HVDR-EST11	50 (L) x 0.95kg	10K ohm	6 mfd	11
DSSB-EA-HVDR-EST35	50 (L) x 0.95kg	10K ohm	6 mfd	35
DSSB-EA-HVDR-EST50	136 (L) x 1.9kg	100K ohm	6 mfd	50
DSSB-EA-HVDR-EST75	156 (L) x 2.2kg □	150K ohm	3 mfd	80
DSSB-EA-HVDR-EST100	176 (L) x 2.5kg □	200K ohm	2 mfd	110
DSSB-EA-HVDR-EST150	208 (L) x 2.85kg □	300K ohm	2 mfd	150



## EARTH DISCHARGE ROD

Item Code	Voltage
DSSB-EA-EDD-ER15	for use up to 15kV
DSSB-EA-EDD-ER 35	for use up to 35kV
DSSB-EA-EDD-ERR 15	for use up to 15kV
DSSB-EA-EDD-ERR 35	for use up to 35kV

\*\*\*ER= without Discharge Limiting Resistor

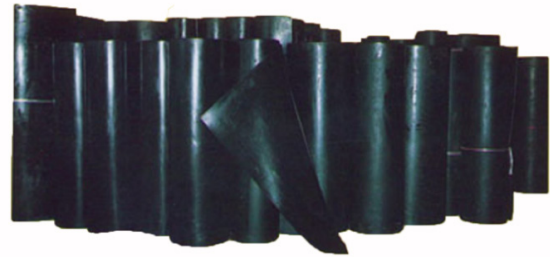
\*\*\*ERR= with Discharge Limiting Resistor



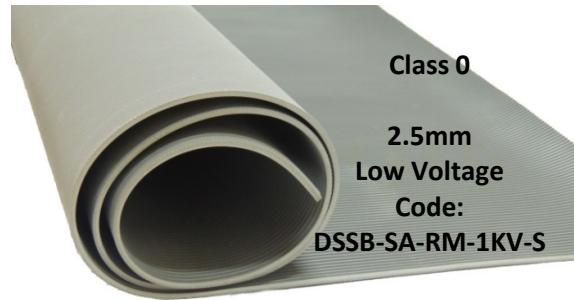
DISCHARGE ROD

## SUBSTATION RUBBER MAT (Low Voltage)

Item Code	Class	Size
DSSB-SA-RM-1kV-S	0	10000mm x 915mm x 2.5mm
DSSB-SA-RM-7.5kV-S	1	10000mm x 915mm x 3.0mm



IEC Standard 61111:2009	Recommended Use Up to
Class 0	1.0kV
Class 1	7.5kV
Class 2	17.0kV
Class 3	26.5kV
Class 4	36.0kV

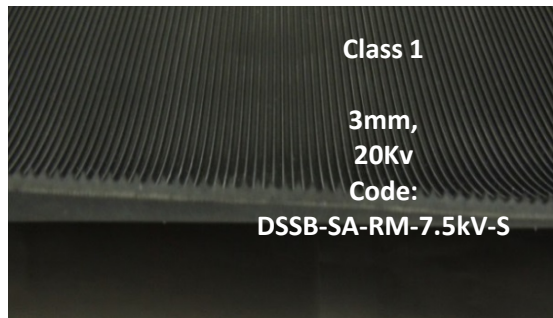


**SPECIFICATIONS:**

- Hardness = 70 ± 5 Duro
- Minimum tensile strength = 350 ± 50 PSI
- Specific gravity = 1.75
- Elongation at break = 150 ± 50%

**FINISHES:**

Black colour, smooth plate or fabric impression finish.



**ADVANTAGE OF CLOTH IMPRESSION ARE:**

- ~ Antislip both sides
- ~ Easier for rolling instruments/ equipments
- ~ Easier to clean than ribbed matting

**Corrugated Matting**

Corrugated with pointed corrugations or ribs running lengthwise. These mattings are used for flooring in many other places. Specially made for long lasting services. Won't curl, shrink or separate. Easy to clean substation. Power Plants, Electrical Installation switchboard.

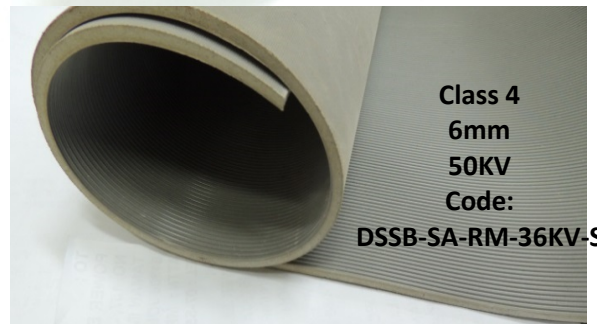
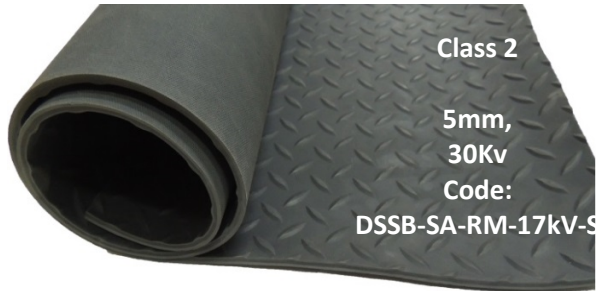


RUBBER MAT



## SUBSTATION RUBBER MAT ( High Voltage)

Item Code	Class	Size
DSSB-SA-RM-17kV-S	2	6000mm x 5mm x 1000mm
DSSB-SA-RM-26.5kV-S	3	6000mm x 5mm x 1000mm
DSSB-SA-RM-36kV-S	4	6000mm x 6mm x 1000mm



RUBBER MAT

Disclaimer: The above data, particularly the recommendations for the application and use of Substation Rubber products are based on the manufacturer's knowledge and experience. Due to different materials and conditions of application, which are beyond our control, we recommend in any case to carry out sufficient tests in order to ensure that the Substation Rubber Mat products are suitable for the intended processes and applications. Therefore, any liability for such recommendations or any oral advice expressly excluded unless we have acted wilfully or by gross negligence. It is always the responsibility of the installer / purchaser to guarantee correct installation of all types of Substation Rubber Mats.

Delta Sama Jaya Sdn Bhd is not liable for installation or faulty installation. It is always the responsibility of the installer / purchaser to guarantee and certify the installation of materials.

# **FIBREGLASS LADDER**

August 2017

## FULL FIBREGLASS SINGLE POLE LADDER

Item Code	Rung Nos	Length (mm)
DSSB-SSE-FFL 08	8	2415
DSSB-SSE-FFL 10	10	2985
DSSB-SSE-FFL 12	12	3555
DSSB-SSE-FFL 14	14	4125
DSSB-SSE-FFL 16	16	4695
DSSB-SSE-FFL 18	18	5625
DSSB-SSE-FFL 20	20	5835

Maximum static load 150kg



Hexagon Rung



Full Fibreglass Stile



New Improved Rubber Shoe

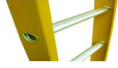


British Certified EN 131

## HYBRID FIBREGLASS SINGLE POLE LADDER

Item Code	Rung Nos	Length (mm)
DSSB-SSE-HFGL 08	8	2467
DSSB-SSE-HFGL 10	10	3037
DSSB-SSE-HFGL 12	12	3607
DSSB-SSE-HFGL 14	14	4177
DSSB-SSE-HFGL 16	16	4747
DSSB-SSE-HFGL 18	18	5317
DSSB-SSE-HFGL 20	20	5887

Maximum static load 150kg



Non-Conductive



Triangle Rung



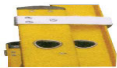
Swivel Shoe

British Certified EN 131

## FIBREGLASS DOUBLE EXTENSION LADDER

Item Code	Rung Nos	A Type Height (mm)	Extended Length (mm)	Overlap Rung in Extension Mode
DSSB-HFGDL 08	13	2575	4000	3
DSSB-HFGDL 10	17	3145	5140	3
DSSB-HFGDL 12	21	3715	6280	3
DSSB-HFGDL 14	24	4285	135	4
DSSB-HFGDL 16	28	4855	8275	4
DSSB-HFGDL 18	31	5425	9130	5
DSSB-HFGDL 20	35	5995	10270	5

Maximum static load 150kg



External Guide



Rope-Operated Roller



Swivel Shoe



Aluminium Hook

FIBREGLASS LADDER

## 2-SECTION NON-CONDUCTIVE FIBREGLASS EXTENSION LADDER

Item Code	Extended Length (M)	Closed Length (M)	Weight (kgs)
DSSB-SSE-FX 2-20	5.00	3.26	
DSSB-SSE-FX 2-24	6.32	3.90	22.4
DSSB-SSE-FX 2-28	7.64	4.57	25.8
DSSB-SSE-FX 2-32	8.96	5.22	29.4
DSSB-SSE-FX 2-36	10.00	5.87	
DSSB-SSE-FX 2-40	11.20	6.50	



## NON-CONDUCTIVE FIBREGLASS SINGLE-POLE LADDER

Item Code	No. of rungs	Ladder Length (cm)
DSSB-SSE-FCS-0622	6	220
DSSB-SSE-FCS-0830	8	300
DSSB-SSE-FCS-1036	10	360
DSSB-SSE-FCS-1346	13	460
DSSB-SSE-FCS-1759	17	590

Maximum static load 150kg



FIBREGLASS LADDER

## FIBREGLASS STEPLADDER INDUSTRIAL DUTY (SINGLE-SIDED)

Item Code	No. of Treads	Overall Height (cm)
DSSB-SSE-FSS-05	5	115
DSSB-SSE-FSS-07	7	163
DSSB-SSE-FSS-09	9	210
DSSB-SSE-FSS-11	11	258

Maximum static load 150kg

### Features:

- ~ British Certifies EN 131 with commercial loading upto 150kg
- ~ Available from 4 to 12 steps
- ~ Non-conductive fibreglass stiles and fully weather resistant
- ~ Structural moulded high density polyethylene top cap as a tool tray for added convenience



## FIBREGLASS STEPLADDER INDUSTRIAL DUTY (DOUBLE-SIDED)

Item Code	No. of Treads	Overall Height (cm)
DSSB-SSE-FDS-05	5	114
DSSB-SSE-FDS-07	7	162
DSSB-SSE-FDS-09	9	210
DSSB-SSE-FDS-11	11	258

### Features:

- ~ British Certifies EN 131 with commercial loading upto 150kg
- ~ Available from 4 to 12 steps
- ~ Non-conductive fibreglass stiles and fully weather resistant
- ~ Extra wide top cap serve as convenient place for power tools



FIBREGLASS LADDER

# INDUSTRIAL FIBREGLASS STEP LADDERS

## STEP LADDERS

Item Code	Type (lbs)	Ladder s2 (m)	Step Size (cm)	Bottom Width (m)	Spread (m)	Weight (kg)
DSSB-SSE-FS1504	300	1.2	7.5	0.5	0.74	6.4
DSSB-SSE-FS1505	300	1.5	7.5	0.53	0.89	7.7
DSSB-SSE-FS1506	300	1.8	7.5	0.57	1.04	9.1
DSSB-SSE-FS1508	300	2.4	7.5	0.65	1.34	11.8
DSSB-SSE-FS1510	300	3	7.5	0.73	1.64	15.5
DSSB-SSE-FS1512	300	3.6	7.5	0.8	1.93	21.4



- Pro Top - versatile and Durable
- Patented Daboot
- Inside Spreader braces
- Double rivet step construction
- Wide back braces

**300 lbs.** TYPE IA  
 load capacity\*  
\*includes weight of user plus materials

TYPE IA : Extra heavy duty  
 Industrial capable of  
 supporting 300 lbs.

**ANSI** AMERICAN NATIONAL  
Meets or exceeds requirements of American National Standards Institute  
 ANSI A14.5 STANDARD INSTITUTE

MEETS **OSHA** OCCUPATIONAL SAFETY AND  
 REQUIREMENTS HEALTH ADMINISTRATION

 **CANADIAN STANDARD ASSOCIATION**

**FIBREGLASS LADDER**

# INDUSTRIAL FIBREGLASS EXTENSION LADDERS

## EXTENSION LADDERS

Item Code	Type (lbs)	Total Length	Length each	Max. Ext Length (m)	Weight (kg)
DSSB-SSE-FE3216	300	4.8	2.4	2.9	12.6
DSSB-SSE-FE3220	300	6.0	3.0	5.1	19.1
DSSB-SSE-FE3224	300	7.2	3.6	6.3	23.6
DSSB-SSE-FE3228	300	8.4	4.2	7.5	26.4
DSSB-SSE-FE3232	300	9.6	4.8	8.7	31.8
DSSB-SSE-FE3236	250	10.8	5.4	9.6	25.9
DSSB-SSE-FE3240	250	12.0	6.0	10.5	42.3



- QuickLatch
- Steel Swivel Safety shoe w/ metal shield
- outside slide guides
- D-shaped rungs
- Mar - resistant rear end caps

**300** lbs. **TYPE IA** load capacity\*  
\*includes weight of user plus material  
 TYPE IA : Extra heavy duty Industrial capable of supporting 300 lbs.

**ANSI** AMERICAN NATIONAL STANDARD INSTITUTE  
Meets or exceeds requirements of American National Standards Institute

**MEETS OSHA REQUIREMENTS** OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

**CSA** CANADIAN STANDARD ASSOCIATION

FIBREGLASS LADDER

# INDUSTRIAL FIBREGLASS TWIN FRONT LADDERS

## TWIN FRONT LADDERS

Item Code	Type lbs	Ladder SZ(m)	Step Size(cm)	Bottom Width(m)	Spread (m)	Weight (kg)
DSSB-SSE-FM1506	300	1.8	7.5	0.57	1.33	12.3
DSSB-SSE-FM1508	300	2.4	7.5	0.65	1.71	15.5



- Patented DaBoot
- Inside Spreader bases
- Double rivet step construction
- Heavy gauge steel hinges

**300 lbs. load capacity\*** **TYPE IA**  
\*includes weight of user plus materials  
 TYPE IA : Extra heavy duty  
 Industrial capable of  
 supporting 300 lbs.

**ANSI** AMERICAN NATIONAL  
Meets or exceeds requirements of American National Standards Institute  
**ANSI A14.5** STANDARD INSTITUTE

MEETS **OSHA** OCCUPATIONAL SAFETY AND  
 REQUIREMENTS HEALTH ADMINISTRATION

 **CANADIAN STANDARD ASSOCIATION**

FIBREGLASS LADDER





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CERTIFIED TO ISO 9001:2008  
CERT NO. : AR 5600

## NOTES:

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# Delta Sama Jaya Sdn.Bhd.



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for the latest information please call us on (+603) 9281 3778  
or visit our website at: [www.substation.com.my](http://www.substation.com.my)