

newmacey
The way we connect



**introducing the new macey range of
waterproof and flameproof connectors
for the oil & gas industry**



new macey manufactures high voltage electrical connectors used in exposed environments such as mines, railways and oil & gas facilities. They are one of the few guaranteed waterproof connectors available in Australia.

new macey plugs are used wherever reliable and safe electrical connectors are needed. Typical industry sectors are oil & gas installations, ports, metalliferous mines, ore treatment and transport, railways, collieries, grain handling facilities and defence infrastructure.



Introduction

New Macey was originally established to make connectors for underground coal mines. However, it was realised that mining technology could effectively translate to the demanding conditions of other industries which need connectors that tolerate high humidity, water, drilling fluids, corrosive washing solutions, dirt, vibration and heat.

A key feature of our connectors is they are completely waterproof. Conventional connectors fail when dirt and moisture penetrate the electrical contacts, causing arcing, signal interference and phase asymmetry.

By eliminating water, the plugs and receptacles give reliable long term performance.

A second benefit is our ability to tailor plugs to exact customer requirements. We can combine AC, DC and control circuits in the one unit, giving more protection to smaller cables and reducing the risk of breakage or accidents.

Products

We locally manufacture a range of waterproof electrical connectors, from multi-pin low voltage communications and lighting plugs to 22 kV 800 amp high voltage connectors. These are all corrosion free, robust and fully waterproof. Our objective is to supply a complete solution to a customer's problem, not just a box of components. We will therefore not only design and supply electrical connections, but will install them at any location and offer training and maintenance programs for ongoing operations.



Advanced Features

Developed over the last ten years, the current generation of New Macey plugs have advanced features found on no other high voltage electrical plug. Some of these benefits are listed below.

Waterproof

Moisture penetration into plugs accounts for a high percentage of electrical failures. By eliminating moisture, New Macey plugs are more reliable than any comparable product available to the Australian market. Our Camlock connectors are designed to operate in up to 100 metres of water (IP68) and bolted and restrained connectors have been tested under full electrical load and simultaneous total water immersion.

Statutory Approvals

Many of our high voltage plugs have been intensively tested to relevant Australian Standards and have been approved by SIMTARS and Testsafe in flameproof, encapsulated and increased safety categories. To the best of our knowledge, no other plug has ever achieved all three of these categories.

Compact Construction

The plugs have fewer components, so they are more compact than conventional designs. This makes them easier to handle, causing fewer occupational injuries.

Positive Anchorage

A continuous resin seal on the cable sheath and conductors means there are no cones or grommets to slip or leak.

Permanently Colour Coded

Plugs are pigment coloured to denote different voltages. There is no need to paint plugs to correctly identify them.

Easy to Assemble

Each plug can be fitted with a knife and two Allen keys. It takes about one third the time to fit a New Macey plug.

Readily Maintained

Plug maintenance is more efficient, saving time in workshops and repair facilities. Connecting bolts are marine grade stainless steel. The Camlock design is robust and is well accepted whenever simple and safe non-permanent connections are required.

Quality Materials

Plugs are made from marine grade stainless steel, bronze, aluminium and reinforced resin, so there are no corrosion problems.

Heavy Duty Sockets

Sockets are silver or gold plated and built for maximum heat dissipation. They give positive electrical contact along the full length of terminal pins.



Types of Connector

Camlock Couplers

Plugs are securely connected to receptacles using the well tested Camlock coupling system. The two parts are separated by a rubber gasket which is compressed with coupling levers. This gives a secure and waterproof connection. Multiple terminal plugs are produced to suit your requirements. Apart from earth and power conductors, these can include data and communications circuits. These types of plugs are often used where rapid connection and disconnection is required, and they can be coupled by non-electricians. They are mainly located in areas not requiring high levels of flameproof protection, but fully exposed to the elements. Depending on the size of the connector, they can be designed to full IP 68 rating with depths of immersion up to 100 metres.

New Macey receptacles use high quality silver plated multiple wire or beryllium copper lamella sockets. These significantly reduce the force required to connect to plugs and give positive contact along the full length of terminal pins. Allowable current densities are higher than normal solid sockets, reducing heat generation.



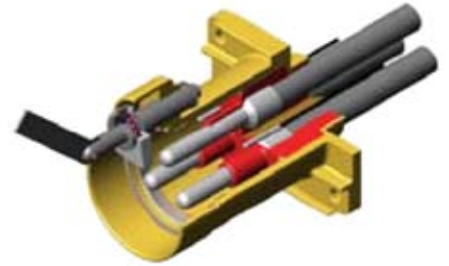
Bolted Couplers

Bolted couplers are frequently used in situations where the connector is alternatively immersed in water and exposed to explosive atmospheres. They can join cables together back to back like extension cords, or can attach to plant such as generators, transformers, pump motors, etc.

Adaptors have the same long life design as all New Macey connectors. They are relatively light and flameproof, while being 100% waterproof to I.P.68 rating. They tend to be permanently attached to plant items and have the same waterproof and flameproof characteristics as bolted couplers.



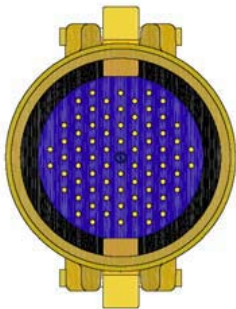
Restrained Couplers



Restrained plugs are used with current ratings from 60 amps to 600 amps, and from 415V to 3.3kV. They should not be fully immersed in water, but operate safely when splashed by waves or drilling fluids. They can be connected by non-electrical personnel and can be designed to different flameproof categories.

New Macey plugs and receptacles fit all conventional equivalent couplers, so they can be readily added to your existing electrical networks.

Communications Couplers



Camlock technology can be used for communications and data circuits. The number of pins and sockets can be varied to between two and seventy, depending on the needs of the customer. Receptacles can be provided with hinged or loose covers and parking receptacles are supplied if required.





Design Flexibility

Our ability to tailor each design means that we can develop a connection that meets your exact needs.

Pins and Sockets

The heart of our connectors are the multi-contact sockets. Each is carefully selected to meet the needs of the particular connection. Power sockets and trip circuits are all silver plated, while communications sockets are silver or gold plated. They allow high surface current densities and whether lamella or multi spring wire, accommodate vibration and misalignment.

A major benefit of pins and sockets is they are self cleaning. End contacts can be held apart by dirt, which promotes arcing and pitting of the terminal ends.

Cables

Individual conductor cables are often damaged by abrasion, mechanical impact or oil. Bare wires are a safety hazard and are unreliable. We offer Kevlar braided sheath, protective conduits for groups of separate conductors, restrained hoses or vulcanised rubber multi-strand cables, either conventional cable or customised to an end user's requirements.



Receptacle Connections

Our objective is to make conversions as simple as possible. Receptacles are normally connected by conventional crimped lugs or by screwed terminals. If the receptacles connect directly to bus bars, we can fabricate special brass lugs that attach directly to the existing bus bars without modification or expensive alterations.



Industry Experience

Moulded New Macey plugs have now been in continuous service for more than seven years. Electrical engineers have been impressed with their robust and reliable performance.

Companies that have used our plugs include:

- Ampcontrol
- BP
- BHP Billiton
- Centennial Coal
- EDI
- Illawarra Cables Services
- ITT Flygt
- Lithgow Cable Repairs
- MainTrain
- Minera Alumbreira
- NSW State Rail Authority
- Pacific National
- RailCorp
- Rio Tinto
- Shell
- Thiess
- United Goninan
- Vale Statutory & Mining
- Vales Point Power Station
- Xstrata

One of the reasons for the developing popularity of New Macey plugs is their streamline and lightweight design. This, coupled with their patented use of reinforced resin to fully seal components, gives superior performance under harsh operating conditions.



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