UNDERWATER ELECTRICAL DRY-MATE CONNECTORS

INTRODUCTION

SEA CON®'s well established MINI-CON range was originally developed for the purpose of supplying small diameter, high density and high pressure connectors. Dry mateable, this connector series is manufactured from 316 Stainless Steel as standard, although other materials are available upon request including Titanium and Monel™. The inserts are manufactured from Glass Reinforced Epoxy (GRE) with copper alloy, gold plated contacts although glass sealed inserts are also available for high pressure applications. The MINI-CON series also offers optical and hybrid versions along with PBOF, PBOF-HP (High Pressure), reversed miniature inserts and self wiping miniatures. For more information please refer to pages 4-5 of this brochure.

AVAILABILITY

With the introduction of the MIN-D and MIN-E connectors, the MINI-CON connector series is now available in 13 shell sizes with 1 to 203 contacts including coax and has a pressure rating of upto 20,000 psi (approximately 45,000 ft/13,700m).

APPLICATIONS

The MINI-CON range has been supplied to numerous Naval programs and has become the connector choice for a number of navies around the world. Other applications include drilling systems, umbilical links and ROV's.

TESTING

Before the MINI-CON series was first introduced, it underwent type approval testing and since then the range has been subjected to additional testing for specific projects or programs, some of which are listed below.

ENVIRONMENTAL

Salt Spray (Corrosion)
- Tested in accordance with MIL-STD-202, Method 101.

Humidity (Steady State)
- Tested in accordance with MIL-STD-202, Method 103.

Thermal Shock
- Tested in in accordance with MIL-STD-202, Method 107.

Hydrostatic Pressure
- Tested in accordance with MIL-STD-1344, Method 1006.

PHYSICAL

Underwater Explosion Shock
- Tested in accordance with MIL-S-901, High Impact, Heavy Weight.

Vibration (Mechanical)
- Tested in accordance with MIL-STD-167, Type 1.

ELECTRICAL

Dielectric Withstanding Voltage
- Tested in accordance with MIL-STD-202, Method 301.

Insulation Resistance
- Tested in accordance with MIL-STD-202, Method 302.

IN-HOUSE TESTING

Hipot upto 20,000 VAC at 5mA.
Insulation Resistance of upto 100G at 2,500 VDC.
DC resistances in µ ohm.

In addition, SEA CON® has four hydrostatic pressure vessels capable of testing underwater components to 1,000 psi, 10,000 psi, 18,000 psi and 20,000 psi. Connectors can be tested mated or in an open face condition and tests can be performed in water or oil. Electrical properties can often be monitored during the pressure cycling process.

If a more comprehensive break-down is required then please contact SEA CON®.