

## Cable Connection Guidelines

### Overview

There are multiple ways to connect an individual luminaire to a trunk or main cable. In general, the main aim is to create an electrically sound connection that also protects against water ingress. This will prevent both the joint from oxidising and potentially becoming a high-resistance connection (generating heat and eventual break-down) as well as water and moisture from entering the cable and travelling through the insulation towards and into the fitting.

Many of Aqualux fittings come with a QuickConnect lead & tail, which provides several benefits: It allows leads to be pre-installed, with the fittings attached later, protecting them during site construction activities. It also facilitates rapid disconnection of the fitting in case of servicing. Finally it provides a moisture barrier or air gap and stops water from wicking through the cable past the connector point.

There are 3 best methods to obtain an IP-rated cable connection: **1. Gel Boxes / 2. Gel Filled Tube / 3. Heat Shrink + Gel-cap Boots**

**To connect a fitting lead to a main or trunk cable, we recommend one of the following methods:**

1. Gel filled box in conjunction with a terminal block
2. A gel filled tube for twist & push style connections
3. Gel filled heat shrink boots or end caps.
4. Solder & heat shrink that is back filled with silicone prior to shrinkage.

In all cases, the gel or silicone is effective in preventing both water and atmospheric moisture from oxidising the connection and entering the cable.

Poor connections are often responsible for early failure of outdoor lighting wiring as well as sometimes odd and unexpected behaviour. Whilst doing it properly can take a bit more time in the beginning it will always save time and money in the long run.

Your warranty depends on these connections. Poor cable joins and terminations are one of the leading causes of water ingress and system failure. Please take the time to ensure the connections are done properly. If you have any questions feel free to contact us on 1300 662 644 or send an email to [sales@aqualux.com.au](mailto:sales@aqualux.com.au)

#### 1. Gel Boxes

- a. WAGO Gelbox
- b. Ray-Tech Gelboxes, Nano or Happy models.

#### 2. Gel Filled Tube

- a. 3M Direct Bury Wire Splice DBR/Y

#### 3. Heat Shrink / Gel-cap Boots

#### 4. Heat shrink, Silicone Filled.

