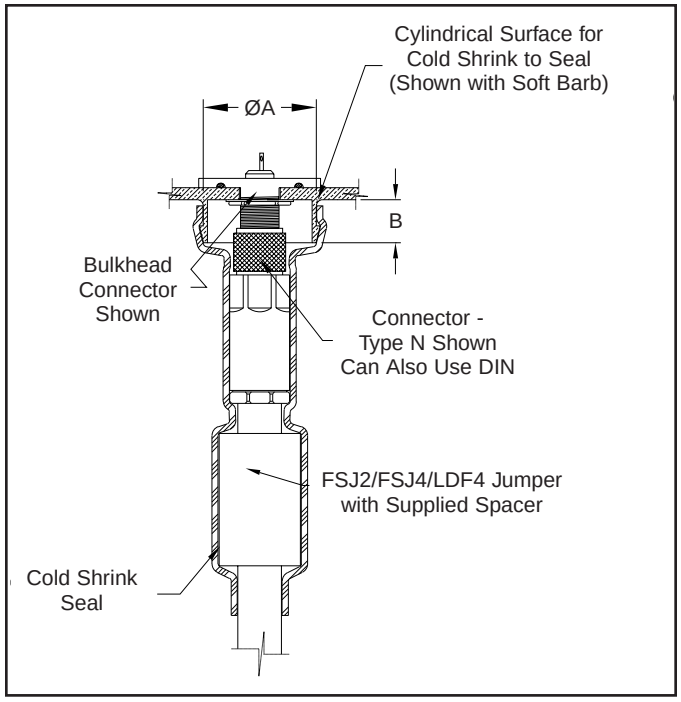
Application Details for Cold Shrink Antenna/Jumper Cable Interface Assembly

Introduction

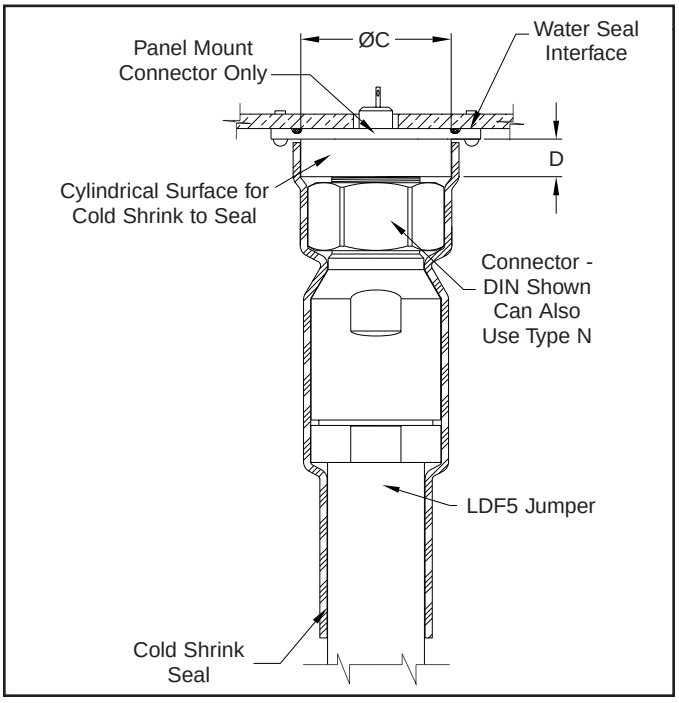
Due to the variability in design of base station antennas at the point of connector interface, special attention must be paid to the application of weatherproofing. The following illustrations demonstrate Andrew Corporation's recommended installation configurations for the use of Cold Shrink tubing at the cable assembly and antenna interface. Also demonstrated are configurations that are not recommended.

Weatherproof Installation



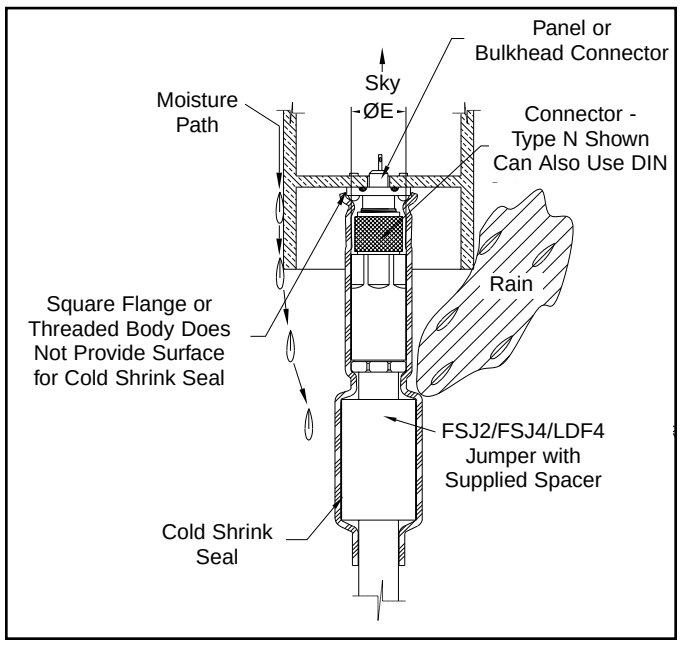
This illustration demonstrates an antenna with a sealing flange that provides a smooth, clean surface for the Cold Shrink to seal. In this application, Cold Shrink will provide a weatherproof seal for Type N or 7-16 DIN connections that are made within a flange of ØA and B dimensions as specified in the Table on page 2.

Weatherproof Installation



This illustration demonstrates an antenna/cable interface with a panel mount connector that provides a good sealing area for the Cold Shrink tubing to seal. Cold Shrink will provide a weatherproof seal for 7-16 DIN or Type N connections provided the ØC and D dimensions of the extended area are within the range as specified in the Table on page 2.

Enhanced Weather Protection



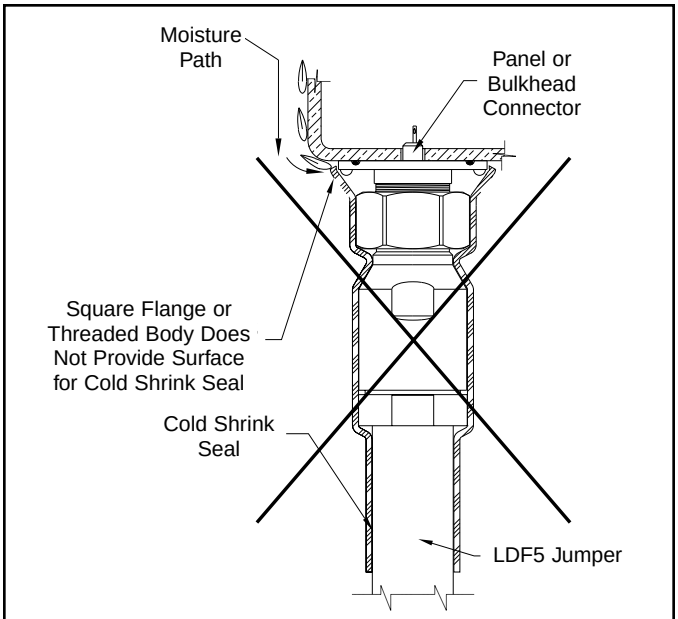
This illustration demonstrates an antenna/cable interface utilizing a panel or bulkhead connector within an antenna shroud. Although there is the lack of a smooth sealing surface for the Cold Shrink material at the inter-face, Cold Shrink can be used here to enhance the weather protection provided by the antenna. The E dimension of the panel or bulkhead connector must fall within the range specified in the table below.

The following table provides the dimensions to which the antenna interface must conform for each type of Cold Shrink to seal properly.

Kit Part #	"ØA" Min.	"ØA" Max.	"B"	"ØC" Min.	"ØC" Max.	"D"	"ØE" Min.
241548-3	0.88"	1.0"	0.625"	0.49"	1.0"	0.750"	0.39"
241548-4	0.88"	1.0"	0.625"	0.49"	1.0"	0.750"	0.49"
241548-5	0.73"	1.5"	0.625"	0.49"	1.0"	0.825"	0.73"
241548-6	1.65"	2.0"	0.750"	1.20"	2.0"	0.825"	0.63"
241548-7	1.65"	2.0"	0.750"	1.20"	2.0"	0.825"	0.52"
241548-8	1.65"	2.0"	0.750"	1.20"	2.0"	0.825"	0.52"

* Include soft barb if used.

Non-Approved Installation



This illustration demonstrates an unacceptable installation configuration. Notice the lack of smooth sealing surface for the Cold Shrink material. This provides an opportunity for moisture ingress.

Protection against moisture ingress at the antenna/connector interface is largely a function of antenna design. A sealing surface for the weatherproofing material must be provided on the antenna. The antenna manufacturer provided connector must not allow condensation or other moisture to migrate into the cable assembly connector interface via any channels internal to the antenna.

The main purpose for the Cold Shrink on an antenna output is to protect the connection from weather conditions and to hold the connection in place due to heavy vibration from the wind and other factors. If the antenna, antenna connectors and cable connectors do not provide the appropriate sealing surfaces, there is no guarantee that you will not get moisture in your system.