



Advisory Number: AS-45499-001

Revision: A

Subject

Moisturizing nylon connector parts

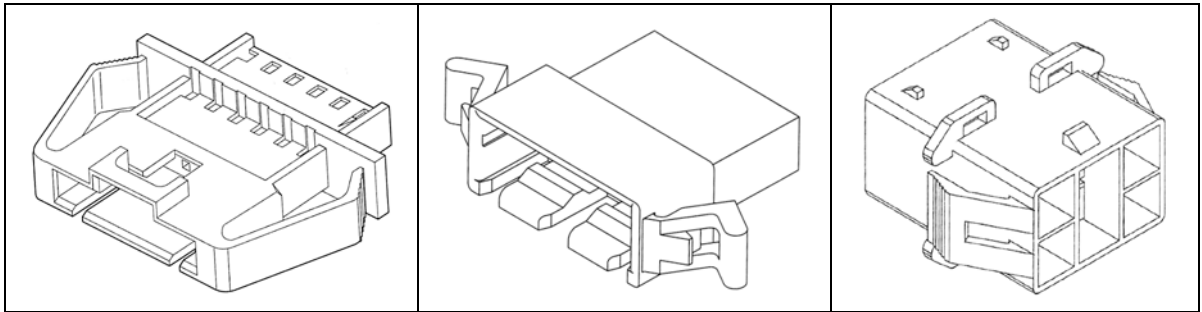
Background

Few connector housing materials offer the performance and cost advantages of nylon. Its high impact strength, superior mold processing capability, and cost effectiveness make nylon the material of choice for many of today's interconnects.

Nylon is a hygroscopic material, which means it readily absorbs and releases moisture. If moisture content is allowed to decrease below recommended levels, nylon parts become brittle. Flexible members may become susceptible to breakage. This condition is of greater concern in locations with low humidity and during dry seasons, such as winter.

What connector features are susceptible?

Any high-stress flexing members, such as the mounting ears shown below, as one example, are candidates for failure due to improper moisturization.



Mounting ears are designed for high panel retention strength within a minimal panel space. Inserting the part into a panel results in stress in the flexing members. This condition is further heightened in dry climates and during dry seasons. To reduce the risk of failure on insertion, housings with flexing members must remain hydrated to this Molex specification.

NOTE: Once flexing members are installed, such as mounting ears into a panel, the hygroscopic properties of nylon are no longer a concern, as no additional flexing is required.

How Molex moisturizes parts

To maintain sufficient moisture content in nylon parts with flexing members, Molex's packaging procedure includes the following steps:

1. Package susceptible parts in plastic bags.
2. Add 25 ml of water per kilogram of parts in a bag.
3. Seal the bag to prevent loss of moisture during transit and storage.

What our customers should do

Once a connector housing is removed from its packaging, Molex no longer has control of the part's moisture content. Customers can assure the quality of their susceptible parts with the following procedures:

1. Adhere to the advisory information on Molex packaging.
2. Re-moisturize susceptible parts. This can be done multiple times by storing the parts in a moist environment, such as a sealed plastic bag with water added.
3. Store susceptible finished connector assemblies in plastic bags with water added.

Typically, a nylon connector housing will be sufficiently moisturized after storage in a moisture-rich environment for twenty-four hours.

Hydration guidelines

Moisturize Molex nylon parts using the following guidelines and per the water/pound ratios in the table below:

- When moisturizing, do so at 2.5% using deionized water only.
- Close and seal moisturized bags immediately after the addition of deionized water.

Moisturizing ratios

For 2.5% moisturization, add approximately 25 ml deionized water per kilogram of parts, rounded to the nearest 25 ml.

Kilograms of parts	ml deionized water	Kilograms of parts	ml deionized water	Kilograms of parts	ml deionized water
0.5	25	5.0	125	9.5	250
1.0	25	5.5	150	10.0	250
1.5	50	6.0	150	10.5	275
2.0	50	6.5	175	11.0	275
2.5	75	7.0	175	11.5	300
3.0	75	7.5	200	12.0	300
3.5	100	8.0	200	12.5	325
4.0	100	8.5	225		1.0 kg = 2.2 lb.
4.5	125	9.0	225		29.6 ml = 1.0 oz

Other Considerations

Some parts may be susceptible to spotting or discoloration when water droplets dry on their surfaces. These spots are often unacceptable to customers. In these instances, it is recommended that the guidelines prescribed in document E-46996-102 be followed. The moisture packet described in this document will alleviate the spotting and provide a more controlled release of moisture to the packaging contents. Use of these moisture packets is particularly recommended when using dark-colored product.

For additional information

For more specific information on proper moisturizing of Molex's nylon products, contact your local Molex representative.



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