

TECHNICAL BULLETIN

Structural Bonding of Nylon and Polyamides

Nylon (also known as Polyamide) can be a tricky material to bond with a structural adhesive. Some manufacturers resort to expensive plasma, flame or primer steps in order to get a good bond to nylon. Select Plexus structural adhesives can help eliminate or minimize these timely or costly extra preparation steps.

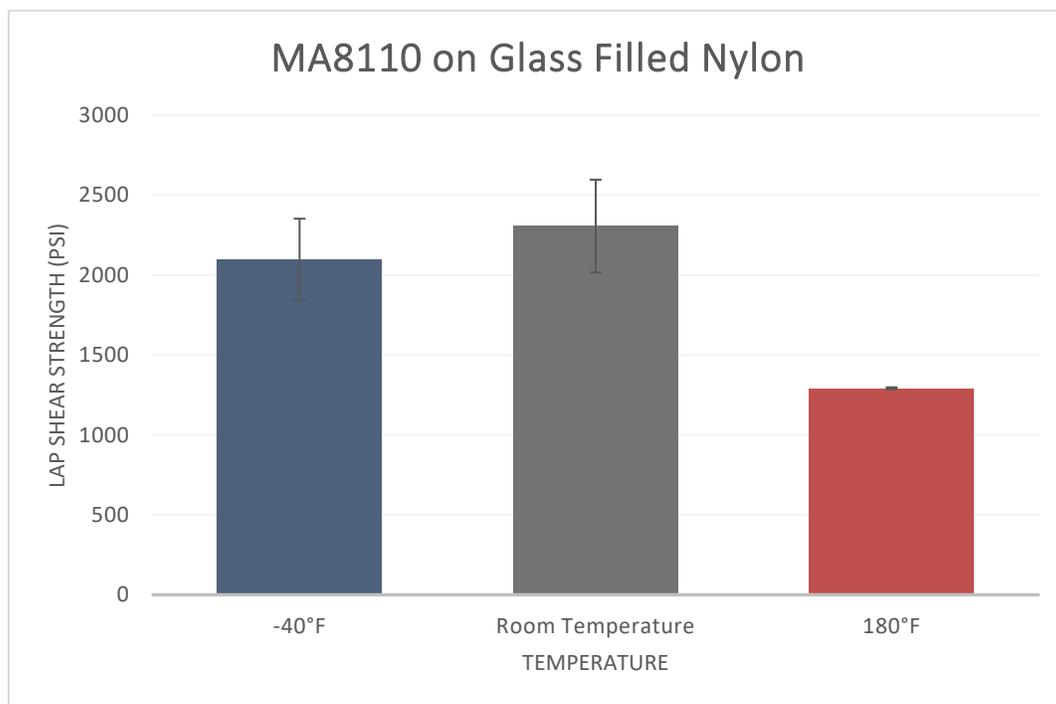
PROBLEM:

An Original Equipment Manufacturer (OEM) was looking for an optimal solution to bond nylon to various materials including ABS and E-Coated Steel. The customer's project requirements were:

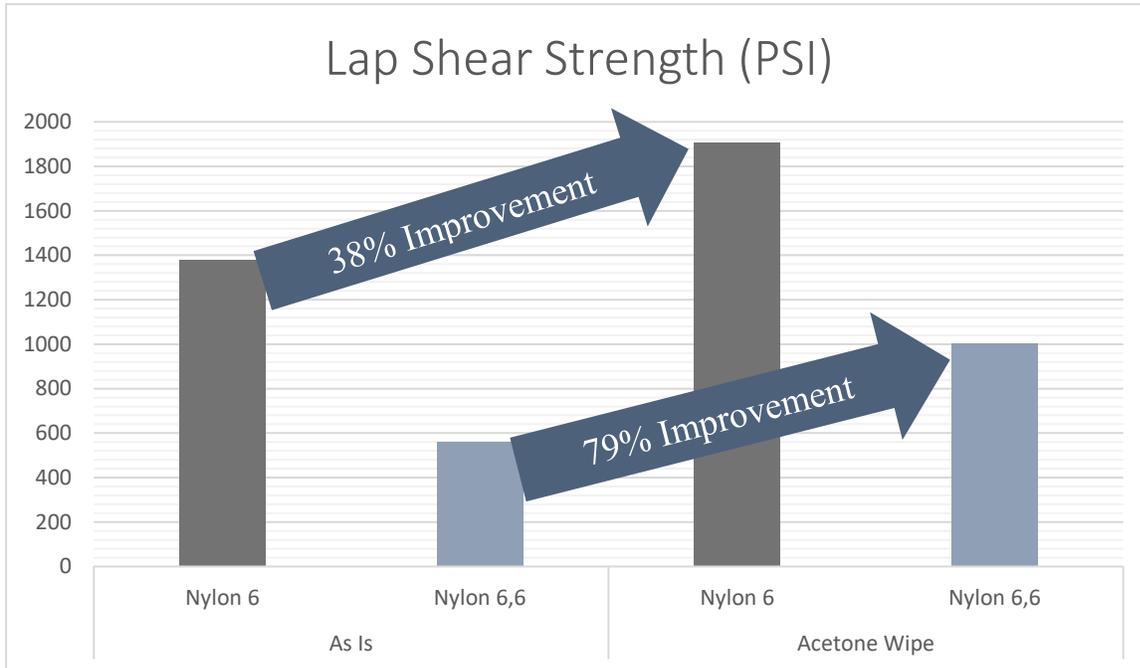
- To cross bond nylon to other substrates
- To bond nylon without extensive surface preparation
- To maintain a structural bond at intermittent temperatures up to 180°F (82°C)

SOLUTION:

The customer tested Plexus MA8110 adhesive. Below results show Plexus MA8110 provided the high strength required to bond the glass filled nylon. The adhesive had excellent strength at high temperature of 180°F (82°C). No surface preparation was necessary.



It is important to note that on some grades of nylons and/or if mold release is used, a solvent wipe helps improve adhesion. Additional testing on other grades of nylon shows an increase in lap shear strength when wiped with acetone.



There are many different grades of nylon and as shown here, optimal results were created with Plexus MA8110 and Plexus MA8120. Also observed in this study is that Nylon 6 is easier to bond than Nylon 6,6. As a result, it is recommended that to ensure the ultimate bonding success, one should always thoroughly test and screen the particular grade of nylon being considered to bond, prior to final application.

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