



Chemical Resistance of Dymax Materials

This is a most challenging question to answer, since it is up to the end customer to determine the effects of any chemical exposure on their end device. It also depends on a number of variables we listed below.

1. **The chemical resistance must be tested in the actual bond configuration where the adhesive will be used.** Example: Bonding borosilicate glass to polycarbonate, adhesive used between each substrate will be more resistant than adhesive directly exposed to the chemicals.
2. **The temperature of the chemicals.**
Example: A bath of sulfuric acid at 80°C is more aggressive than one at 25°C.
3. **The concentration of the chemical solution.**
Example: A sulfuric acid concentration of 5% is less aggressive than one at 50%.
4. **The type and length of exposure.**
Example: A splash or wipe is less aggressive than a soak.
5. **The adhesion of the specific adhesive to the substrates.**
Example: If you were to test the resistance of Dymax 3069 to a specific chemical when bonded to polycarbonate it may pass, while if you take the same adhesive, same chemical, and a different substrate, such as polyethylene, in this example it may fail miserably.
6. **The chemicals the adhesive will be exposed to.**
Example: A product may do better withstanding ammonia and water than potassium hydroxide and water.
7. **The polarity of the chemicals.**
Example: Acrylated urethanes withstand non-polar materials better than polar materials.

As you can see, it is difficult to predict the outcome of any adhesive's ability to withstand chemical exposure without specifically testing the adhesive with the customer's parts, through their process, using their curing equipment. This responsibility lies with the customer.