Standard Peizo Disk Sensor Installation Manual

Note: Although this manual represents the typical installation of the standard flat diameter piezo sensor, it may not follow your application verbatim. If the following information does not meet the specific needs of your application, or you are unsure of how to proceed, please contact a Field Service Engineer at Process Technologies Group for assistance.

Sensor Installation:

After the sensor pocket(s) have been milled or EDMed and are ready for actual installation of the sensor(s), it is time to "prep" or clean the sensor pockets. This is very important, for it removes grease, dirt, and other debris for the epoxy to have a good bonding surface.

First Step: Examine the sensor pocket, to make sure that there is a rough surface and not a mirrored bottom surface. A mirrored bottom surface is not a good bonding surface to use with the epoxy, and will need to be roughened. Use a piece of course sandpaper or a small Dremmel-type tool to roughen the bottom of the sensor area. Also roughen the wire track area if necessary.

Second Step: After the bottom of the sensor pocket and the wire track area have been roughened, it is time to clean all remaining debris to ensure a good bonding surface. To achieve this, use one of the following solvents:

1. Brake Cleaner
2. Acetone
3. Flux-Off

or any other cleaning solvent that evaporates, such as MEK. Use a clean towel or Kim-Wipe with solvent to clean the sensor pocket and wire track area completely.

Third Step: It is now time to add the epoxy. We highly recommend the use of *Hardman Tool-Grade Epoxy* for the installation of the sensors and filling the pocket and wire tracks. This epoxy is provided in every IMPAX installation kit, and additional supplies are available through PTG/IMPAX. We have been using this epoxy for years and have found that its hardness and durability are ideal for this application.

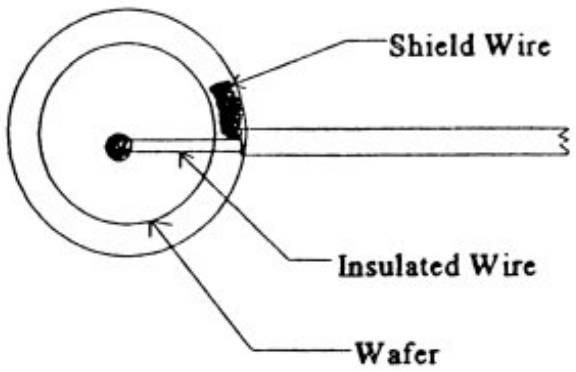
It takes approximately five (5) hours for the epoxy to harden, although we strongly recommend that the sensors be allowed to cure overnight before they are placed in a running machine. The curing process is much faster if the sensor pocket and wire track areas are heated before the sensor is installed (to approximately 150 degrees Fahrenheit).

It is very important that the pockets are filled completely and solidly. If oil is allowed to seep into the pockets, this will cause the sensor to dislodge, causing interference with the signal.

To ensure a good fit in the sensor pocket and wire track, it is a good idea to dry fit the sensor. Place the sensor into the sensor pocket and form the sensor wire to the wire track. Use the cleaning solvent to clean the sensor pocket and wire track, and gently clean the piezo sensor and sensor wire that will be covered with epoxy. Then, after thoroughly mixing the epoxy, add a small amount to the bottom of the sensor pocket and wire track area. Place the piezo sensor into the sensor pocket, wafer side up. Gently press the sensor through the epoxy until the sensor hits bottom. Add remaining epoxy to the top of the sensor pocket. Hold sensor down with the supplied epoxy stick for a few seconds to ensure it is down in the sensor pocket. Make sure all of the air bubbles are released and the sensor is completely covered. Then, cover the wire track area with the epoxy.

During the first stages of the curing process, periodically check the sensor pocket and wire track to ensure the sensor and sensor wire are not rising up. If this happens, the epoxy should still be soft enough to push the sensor/wire back down – do this with the supplied epoxy sticks.

Fourth Step: After a few hours of curing, clean up any dried epoxy that is outside of the sensor pocket and wire track. A razor blade or metal file can be used to accomplish this.



Process Technologies Group, Inc.
30W106 Butterfield Road
Warrenville, IL 60555
630-393-4777 * http://www.impaxptg.com