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## **CURING/GELLATION PROBLEMS**

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It is worthwhile to conduct some general tests before getting involved with detailed trouble shooting. The majority of the difficulties encountered are related to mix ratio, defective or unclean equipment or not following supplier instructions.

**The following cursory tests will confirm the integrity of a compound:**

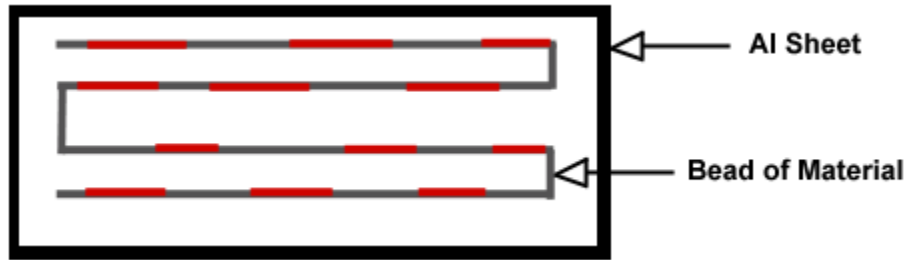
1. Make certain that the correct mix ratio is being utilized ( by weight or by volume)
2. Manually weigh 100grams of material, using the correct ratio by weight and thoroughly mix in a small clean cup. Scrape the sides of the container to insure that everything is mixed thoroughly.
3. If possible de-air the mix under 29" of vacuum.
4. Leave the mixed material or place into an oven, according to the suppliers recommended cure schedule until it solidifies.
5. Check the sample for correct gel time and if possible the hardness expected for the material.
6. Check the sample for uniform gellation, after the recommended time interval.

If this sample is uniformly gelled and firm, then the material is fine and the problem is elsewhere. Soft spots within the sample indicate that the material was not mixed thoroughly enough and the test should be repeated with more care. If the sample is totally soft or does not gel, re-check the mix ratio used and repeat the test. If the ratio is correct and the sample still does not gel, there is a good chance that something is wrong with the product or the wrong resin/hardener combination is being used.

**Additional tests when utilizing a dispense machine:**

The above tests will confirm basic material integrity. To confirm that the material is correctly and thoroughly mixed by the dispense machine, it is highly advisable to conduct a "Bead Test" as follows;

Take a good size sheet of Aluminium foil and form into a tray, by forming small edges on each side, to prevent the material from flowing off the sheet. Dispense a long bead of material through the machine, onto the sheet. This should be done to include at least one re-cycle by the machine.



Carefully note the beginning and the end of the bead. If this is a heat cured product, place into an oven at the recommended gellation temperature, otherwise leave at room temperature to gel. After the recommended gel time, carefully check along the length of the bead for soft spots. Any soft spots indicate improper mix from the dispense equipment and provides a rough reference as to when the problem occurs within the machine cycle. Uniform hardness along the bead indicates that the machine worked well within that cycle. For a more thorough test, repeat the "bead test" through several cycles.

**It is extremely important to maintain the exact mix ratio recommended by the material supplier.**

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