HOW TO TEST THE QUALITY OF YOUR DESICCANT

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Desiccant is the most important and most volitile part of your old desiccant drying system for your resins. Old, damaged, or poor quality desiccant will make your dryer system investment worthless and give you poor quality product. Fortunately, there is a simple way to test whether the desiccant in your dryer needs to be changed. It is an exothermic reaction, based on the principal that desiccant gives off heat when it absorbs water.

Equipment required: One (1) pair of cotton gloves (high temperature resistant); Two (2) glasses or beakers, approximately 6-ounce capacity each; One (1) glass thermometer, 50º to 150ºF.

Immediately after dryer bed changeover (switching from one bed to the other) in your desiccant dryer, remove the tower lid and bed lid from the tower that has just completed reactivation (regeneration). Protecting the hands with gloves, obtain a sample (3 to 4 ounces) of the desiccant from the active area of the bed, at least 4" down from the top of the bed on (small/medium sized dryer) , and 6" down on larger dryers.

Pour about 1.5 ounces of water into (1) one of your sample glass and measure the temperature. In the other sample glass, pour a quantitiy of desiccant that is about 10% more by volume than the water. Place the thermometer into the glass containing the desiccant and pour the water into the glass.

Stir the mixture and observe the increase in temperature of the mixture; continually stirring with the thermometer and recording its peak temperature. This should occur in about 10 to 20 seconds. Subtract the water temperature from the peak temperature and record.

If the temperature difference is 40 degrees or greater, the desiccant is still adequate to provide good dryer performance. If the difference is less than 40 degrees, either the reactivation (regeneration) cycle is not functioning properly or the desiccant must be replaced. before making any determinations, however, be sure to run at least three tests and take an average of the three.

If the temperature difference is great enough, but the machine still does not seem to give a low enough dewpoint, the problem could be that the desiccant beads are physically breaking apart. The desiccant may be well reactivated, but the presence of powdered or chipped desiccant sifting to the bottom of the bed. This results in poor dryer performance because the air does not contact enough of the desiccant beads. If this occurs, the level of the desiccant in the beds will drop several inches ; and the dewpoints will be increased. Depending on your dryer, you may be able look down into the bed and see some of the powder at the bottom. If this is the case, dump out all the desiccant, sift out the particles, and replace the lost amount of desiccant.

If you would like to avoid these problems in the future, check-out Comet's full line of desiccant free dryers on our Web site.