Primeaux Associates LLC
161 Forest Drive
Elgin, Texas 78621
1-512-285-4870 FAX 1-512-281-4933
Polyurea@flash.net

Equipment Operation:
Importance of Material Agitation in Drums

When you receive a drum shipment of the polyurea spray elastomer systems, the resin component is packaged in a drum such that there is a center 2" bung in the lid. While many polyurea system suppliers strive to be the best in the business, this center bung is not just for looks or a second vent source. This bung serves a major importance as it is designed to accept a drum mixer for the material.

The resin blend component of the polyurea spray elastomer systems is normally the pigmented side. Solid pigments are used so as to increase the performance characteristics of the elastomeric coating produced. As is the case with all pigmented systems, the pigment will have a tendency to settle to the bottom over time. Even though a high shear dispersion technique is used for most system preparations, this can still occur.

Another alternative method suggested by some polyurea system manufacturers is the use of a re-circulation loop on the resin supply side. This works provided there is proper dispersion of the pigments in the system. This process allows the drum pump on the resin side to circulate material in the drum. A 3-position valve is used to divert the material flow to the smaller drum bunghole. The valve **must** always be placed in the machine delivery position for spray work. Use of this technique should only be at the recommendation of the system supplier.

NOTE: This technique (drum re-circulation) should **NOT** be used for drums that have sat for extended periods!

If you do not mix the material and the pigment has settled, you will still achieve the proper 1:1 volume flow to the spray equipment but the mix is not right.

Think about it! If the pigment has settled and your are delivering a 1:1 volume ratio, the high pigment level will displace the reactive resin level and yes, you guessed it,

You Will Be Shooting Off Ratio (by Equivalents)!

Remember, the drum pumps suck material from the bottom of the supply drums.

Primeaux Associates LLC
161 Forest Drive
Elgin, Texas 78621
1-512-285-4870 FAX 1-512-281-4933
Polyurea@flash.net

This could cause a variety of problems: foaming, blister formation in the coating system, poor spray pattern, color variances and poor coating performance.

It is recommended that the following procedure be used:

- Drums **must** be mixed for a period of at least 1/2 hour before use DO NOT MIX for just 5 minutes like you do with epoxies!
- It is good practice to leave the mixer on at low speed during spraying
- The mixing shaft should have a minimum of two 8" collapsible blades and one 5-6" blade at top of shaft. This will provide the proper agitation and mix within a standard material supply drum as 8" is 1/3 the diameter of the drum.
- It should be noted that auger type mixers Must be ran daily to pull up and mix the material in the drums completely.

It should be noted that the resins themselves will not separate in the resin blend component. This mainly applies to the pigment.

Reference:

"Mixing Technology for Two-Component Coatings", **Finishing Technology**, The Sherwin-Williams Company, Spring 2000, pages 8 – 9.