Tech Tip, Bubbling issues

There a couple different things that will cause bubbles to occur. Surface contamination or an off-ratio problem due to equipment malfunction. The material you are using is an exothermic reactive material, (meaning; a chemical reaction that produces heat) the flash temp of the material will reach over 300 degrees F for an instant as it cures, this flash temp will cause surface contaminants or off-ratio material to off-gas and create a bubble.

Determine what the problem is; cut open a bubble in the material is the separation at the surface? (Surface or substrate contamination) Or is the material separation between layers. (Off-ratio)

Surface/substrate contamination: If you spray over oil, uncured paint, un-evaporated thinners or solvents, silicone products, water, etc. The material will not adhere to the surface or substrate and the off-gassing of contaminates will cause a bubble. Also, a contaminated rag used to wipe the surface has been known to be the cause of a problem.

Off-ratio: There are two different types of off-ration problems, A-side rich and B-side rich. Cut the bubble open. Is it sticky and clear? (A-side or ISO rich) or is it black and oily (B-side or poly rich).

B-side rich: There are a couple things to look for. Starvation on the A-side from the drum pump to the machine (ran out of material, air in the lines, lack of air supply to the drum pump, drum pump malfunction, plugged supply screen). Restriction of B-side material at the gun, (plugged gun screen, broken drill bit or plugged mixing chamber side hole in the gun or other gun malfunction)

A-side rich: There are a couple things to look for. Starvation on the B-side from the drum pump to the machine (ran out of material, air in the lines, lack of air supply to the drum pump, drum pump malfunction, plugged supply screen). Restriction of A-side material at the gun, (plugged gun screen, plugged mixing chamber side hole in the gun or other gun malfunction)

Most of the problems that we see go back to lack of maintenance or something very simple that has caused you to go off-ratio. Troubleshoot your problem systematically starting at the head of the stream (the drums) and work your way down-stream to the gun. Test the drum pumps, clean the supply screens, test for material flow through the system using just the drum pumps and bleed the material back into the drums from the gun side blocks. Clean the gun screen and side block assemblies, check the side hole and nozzle of the mixing chamber using the proper small drill bits.

Well this should give you a good place to start. Review the provided information and maybe you will come across something that you have missed. Keep in mind that 99% of the time the problem is something very simple that may have been overlooked. These are simple, reliable systems that are used world-wide in the coatings industry and the product is top shelf.

BUT, If you do not: have a basic understanding of pressure, temperature and electrical. Fully understand the system and gun function and operation. Have not read the equipment manuals, the training manual, are aware of the maintenance that is required, and reviewed the info on the dealers section of the web site. Are not able to comfortably disassemble the gun, clean and reassemble it or have the tools to do so.....DO NOT PROCEED! You will have problems, it's not if but when. Educate yourself and your employees to avoid problem. Contact your supervisor or Turbo Liner for assistance.

Good luck,
John & Mark
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