LIQUID PAINT ANALYSIS

Attachments: Liquid Paint Check sheet

It is vital that these sheets be filled out every shift neatly and consistently and put in the appropriate mail slot in after each shift to be picked up by Maintenance, who will compile all information and enter into a computer. This will enable us to accurately graph and record all processes on the paint line.

Explanation of Sheet -

- All ratings are as follows: 5-Excellent 3-Average 1-Unacceptable

1. Line Speed

2. Ensure all tote tank ball valves are fully opened prior to operating the wash.

3. Wash titrations
   a. To be done four times per shift.
   b. The feed pump recordings are the on/off time of the feed pumps. Record the "changed" timer setting if it is being adjusted. Also record the pump setting of the LMI pump at every test.
   c. Temperature is to be recorded in Celsius.
   d. Be sure to record all manual additions of chemical, etc. to the wash solution.
   e. pH recording
      1. Take a manual pH reading and document.
      2. Document the reading on the 894 pH controller.
      3. Record the difference between the two meters. If the difference is greater than 0.2 initiate a grab sample calibration.

4. Wash Pressures
   Record the wash pressure from each stage every time titrations are done.

5. In order to prevent accidental tote tank drainage or spillage, close all tote tank ball valves at the end of the production work day.

6. Condition of Substrate
   a. Moisture on substrate - this means the moisture left on steel by either chemical runs or missing welds.
   b. Moisture on Substrate - water not blown off manually prior to paint booth.
   c. Cleanliness of substrate - this can be recorded as phosphate powder on parts, rust, dirt, shot and by taking a white cloth and wiping the surface of the steel prior to painting. See Pre-treatment Quality Assurance Specification for full procedure.
   d. Phosphate check - is done by using Q-tip and phosphate checking

solution. (Testing Solution #47). After applying a small amount of solution to the steel the colour will change indicating the amount of phosphate coating present. Blue is good - yellow (or clear) is poor. If it is yellow contact your supervisor immediately. (See Pre-treatment Quality Assurance Specification for full procedure.)

Warning: Try to do this test on a small, hidden area of the part - do not allow testing solution #47 to run down the side of the part.

7. Do a white rag test on the first part(s) of the day that were washed. (Not sitting all night!) Hand rags in with this sheet.

8. Paint/Pump Ratio
   To be done once per day on either pumps on 7:45 - 4:00 shift by Supervisor designate or Maintenance. (If possible do at the lunch break.)
   a. Stop painting.
   b. Do ratio check
      1. Turn Hydro-Cat down to 40-60 pounds.
      2. Get a 5 gal pail and put under the needle valves
      3. Slowly open needle valves all the way.
      4. Open manifold.
      5. Replace the 5 gal pail with two 1000 ml graduated cylinders. (1 cylinder under each needle valve.)
      6. Allow catalyst to fill to 100 mls.
      7. Shut manifold off.
      8. Turn off ratio check valve
      9. Compare catalyst - to - paint volume. Acceptable tolerance is 8.7:1 - 9.3:1. Target is 9:1
      10. If the ratio is not between 8.7:1 and 9.3:1 then double check the pressures on the gauges. Pressures should both read zero. If they do not both read zero (or the same number) repeat step b. If they still do not read the same contact Maintenance. **DO NOT RESUME PRODUCTION UNTIL (Company) MAINTENANCE CORRECTS THE RATIO.** (Flush system out including needle valves while waiting for maintenance).
   c. Flush out system
      1. Ensure the manifold is in the off position.
      2. Open the solvent flush valve on the left side. Flush and close the valve.
      3. Open the solvent flush valve on the right side. Flush and close the valve.
      4. Open both flush valves and flush both sides. Close valves.
      5. Release all pressure on the system.
9. Paint at Booth
   a. Time: time barrel is put on line
   b. Record Batch # and Barrel # of paint you put on line only. UNLESS PRIOR ARRANGEMENTS ARE MADE PAINT THAT IS PUT ON LINE HAS BEEN RECORDED. (The shift that test it marks it on their Paint Analysis Sheet).
   c. Viscosity: measure viscosity of paint from guns (see Liquid Paint Quality Assurance Specification)

d. Temperature: measure paint temperature out of guns; also barrel temperature when it is first put up to pre-mix.
e. Spray ability: use rating guide
f. Wet Film Build: Use the 1 - 5 rating guide.

Charcoal		**Red**	
Rating	**Mils**	**Rating**	**Mils**
1	0 - 6	1	0 - 4
2	6 - 8	2	4 - 5
3	10 - 12	3	6 - 8
4	14 - 16	4	8 - 10
5	16 - 18	5	12+

g. Wrap: rate the degree or amount of wrap
h. Air Pressure: to guns (record as a standing pressure - a single number not a range).
RECORD PRESSURES ONLY!!! DO NOT ADJUST WITHOUT AUTHORIZATION FROM MAINTENANCE OR SUPERVISOR.

1. Fluid Pressure: to guns (record as a standing pressure - a single number not a range).

Note: If no paint has been added during the shift, air pressures and fluid pressures must still be recorded.

RECORD PRESSURES ONLY!!! DO NOT ADJUST WITHOUT AUTHORIZATION FROM PAINT LINE MAINTENANCE.

10. Bake Oven
    a. Record all temperatures in Celsius.
    b. Oven Temp: (93□C)
    c. Dry off Temp: (50□C - 60□C)
    d. Shop Temp: off of the wall thermometer in Celsius
    e. Shop Humidity: off of the wall thermometer
    f. Outside Weather: Call 975-4266 every shift and record time, temp, RH, barometric pressure.

11. Appearance of Finished Product
    a. Record average mil thicknesses (record minimum and maximum for the shift and then record one number that would be "average" for the shift. i.e.: 1.0 - 5.0, 4.3)
    b. Record **and rate all items of finished product appearance.**