



## INTERNATIONAL MARKETING, INC. TECHNICAL BULLETIN

**SUBJECT:** Keys to a Quality Refinished Wheel

**DATE:** October 28, 2003

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**Key 1 – Proper Wheel/Rim “Out-of-Service” Inspection** – For proper wheel/rim out-of-service inspection, refer to the TMC *Guide to Wheels & Rims*. This should be a tool available to operators and managers alike.

**Key 2 – Adequate Surface Preparation** – **Developing the balance in the shot blast media:** to remove old coatings and corrosion, to prepare the wheel surface for compliant paint application (.003” or 3 mils in the mounting areas), but not to prematurely destroy the wheel or the refinishing machinery **is a prerequisite to a quality operation**. The OE recommendation is to not use S460 shot (and upward in size) due to the over-all impingement of that size of a shot blast media. In the blast industry, S460 Shot is used for peening and stress relief but rarely for paint preparation due to the amounts of paint that need to be used to cover the roughened surface. **IMPROPER CHOICE OF SIZE AND HARDNESS OF A BLAST MEDIA WILL SHORTEN THE SERVICE LIFE OF BLAST MACHINERY AND THE PARTS BEING BLASTED.**

**Key 3 – Compliant Paint Application** – Refer to the TMC *User’s Guide to Wheels and Rims* Section 1, page 19, No. 5 in parentheses (Maximum paint thickness on **mounting surfaces should be no more than .003”{3 mils}**). Between a “Dry Mil” Checker and a Cured Mil Thickness Gauge this should be checked frequently throughout the day to establish a consistent product.

Observe the operators method of application

“**Soft full cloud**” – Don’t force the application with the air, use the electrostatics and relax your movements without a lot of triggering of the gun.

“**Innermost to the Outermost**” - This utilizes the electrostatics more efficiently.

- a. Start applying around the deep crevice area of the face of the wheel, and
- b. then move in gradually to the center of the bolt face.
- c. Turn the wheel to the deep well side of the wheel – start at the innermost part of the bolthole dish.
- d. Move in a circular fashion, ever outward across the well to the lip.
- e. Turn the wheel to complete the coating of the tire mounting area.

**Key 4 – Verifiable Coating Cure** – Refer to the spec sheet provided with the powder you are using to establish the “cure curve” (time and temperature) required for the full cure of the product you are using. (EXAMPLE: 365 degrees for 10 minutes.) The wheel temperature should be monitored with a non-contact thermometer that can pull the temperature reading directly from the part itself. **Temperature gauges on ovens are reference points for the process, not the actual temperature of the wheel being heated.** Verify the line time, entrance temperature, exit temperature, and after cool down check the cure with a solvent (MEK) rub test.

**Key 5 – Accountable Quality Control** – All quality control checks should be **logged** to verify methods and the frequency used throughout the day. If your QC is important enough to perform then it is important enough to record. Some QC tests used on Wheels and rims are as follows:

- a. Profile Check (to check the relief on a bare blasted surface using a Profile-o-meter).
- b. Inspection for out of service conditions (looking for cracks, excessive wear and corrosion pitting, or other conditions related to questionable safety of the wheel).
- c. Dry Film Thickness Check (to determine correlation between the dry and cured coating).
- d. Exit and Entrance Temperature Check - (Checking actual wheel temperature using a non-contact thermometer to determine proper cure temperature).
- e. Line Speed Check – (Checking the amount of time the wheel is in the oven).
- f. Coating Mil Thickness Check – (Checking the cured coating thickness).
- g. Cross Hatch Check – (Checking for proper adhesion).
- h. Pin Hole Check – (Using a Holiday tester to determine the overall coating coverage protection).

NOTE: Whatever QC you implement – record it.

**Key 6 – Verifiable Preventive Maintenance** – Keeping the machinery inspected, cleaned and repaired as needed will insure better overall performance of the Wheel/Rim refinishing program. Please refer to IMI Daily, Weekly and Monthly Best Practices for Maintenance. The maintenance performed on the equipment should also be **logged** for frequency and accountability. Following is a list of the most commonly neglected common sense maintenance issues:

- a. General House keeping – Clean work areas will aid in clean end products. This will probably eliminate work place accidents related to clutter.
- b. Inspect for Wear on Blasters – Replace or Repair w/o delay – small wear becomes big holes quickly.
- c. Clean up powder booth and gun system daily.
- d. Clean hooks daily for better electrostatic operation.

**Questions regarding the above technical bulletin may be directed to:**

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