



INTERNATIONAL MARKETING, INC. TECHNICAL BULLETIN

SUBJECT: IMI 2020 Vision of Best Practices

Why do coatings fail on refinished wheels and rims?

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The **first consideration** should always be **the customer's expectations** on how long a wheel should last. Ideally we try to get a wheel from change of rubber to change of rubber BUT the elements that the wheel is exposed to could severely impinge on this basic ideal situation.

“Harsh environments will shorten the life span of a coating regardless of whether it is a new wheel or a reconditioned wheel”. The environment has to be taken into consideration by both the Dealer and the end user or disappointment is inevitable. Reconditioning should protect the wheel from rust and corrosion, thus extending the life of the wheel but the frequency of the reconditioning of a wheel should be established with each account to minimize the expectation problems – reality must be considered. Wheels that travel on wet, salty, dusty, gravel covered roads will probably need reconditioned more often than those traveling the interstates in the southern plains. **The Fleet expectations must be controlled by a reality of the above conditions and not a hyped-up, unrealistic sales pitch.**

The **second consideration** is the limitations of the product provided. Every paint system has its peak performance level if certain quality parameters (procedures) are established and maintained. These standards must be maintained in order to have a consistent end product. The coating will fail whether it is a liquid or a powder because of the failure to correctly perform three crucial steps that directly affect the peak performance of a coating.

STEP ONE: Proper Surface Preparation – Provide a clean, contaminant free, rust free surface with a proper etch for the application of a compliant thickness of the chosen coating. The cleaner and smoother the profile, the lower the necessary mil thickness and the better the adhesion. A roughly etched surface will not produce peak performance from a coating. **[VERIFY A CLEAN, SMOOTH SURFACE PROFILE]**

STEP TWO: Proper Coverage of the Coating – A thin coating (as well as too thick of a coating) will fail prematurely. Most coatings applied to a properly prepared surface perform best between 2-4 mils. NOTE: Maximum coating allowable on the wheel mounting surfaces is .003” or 3 mils. **[VERIFY MIL THICKNESS]**

STEP THREE: Proper Cure – All cure processes are relative to time and temperature. Short circuit either of these and the coating will fail. Air dry water base liquid paints will vary in how they dry to touch but “full cure” will be anywhere from 7 – 10 days. Putting this coating into service too soon will cause it to wash off.

All powders will require a specific cure curve that will be specified by the manufacturer and must be quality controlled by the powder coater (example: 10 minutes @ 400 degrees). Improperly cured powder will chip easily and prematurely fail.

Verification of a full cure can be done by a simple MEK rub test after a wheel has been cured through the oven process allow the coating to cool and “relax” for 24 hours before exposing it to the elements. **[VERIFY THE CURE]**

The **third consideration** is the proper maintenance of the wheels and rims to protect the coatings. When mounting tires to the wheels, protect the surface of the wheel that will touch the ground so the surface is not prematurely marred. When transporting wheels or tire/wheel assemblies, protect the coated wheel surfaces also.

Once the Wheels are in the hands of the end-user, make sure they do not wash the coated wheels with full strength alkaline cleaners. A full strength alkaline cleaner will strip liquid coatings as well as powder coatings. **[VERIFY PROPER MAINTENANCE OF THE WHEEL]**

QUICK RESPONSE OUTLINE – What to do if there is a complaint of wheels rusting.

Personal Inspection is very important.

1. Are you responsible for coating the wheels/rims in question (should have your identification on the units – How long have they been in service?)?
2. Is there enough paint on the wheels (check with a coating thickness gauge)?
3. Is the paint under-cured (liquid – how long since painted, were they put into service too soon. Powder – check with the MEK rub test)?
4. Have the wheels been mishandled (check for marring or abuse)?
5. How are the wheels being cleaned by the end-user (check the MSDS of the type of cleaner used and the mix percentage)?
6. Make sure someone hasn't oversold the service by raising the customer's expectations beyond the performance level of the coating provided.

Things to remember:

- A reconditioned wheel is not a "like new" wheel.
- Salt spray test results are a baseline analysis of a particular product, not a warranty guideline.

Do the right things to create a happy customer, but lack of education is not one of those things and hype is not the other.

Questions regarding the above technical bulletin may be directed to:

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