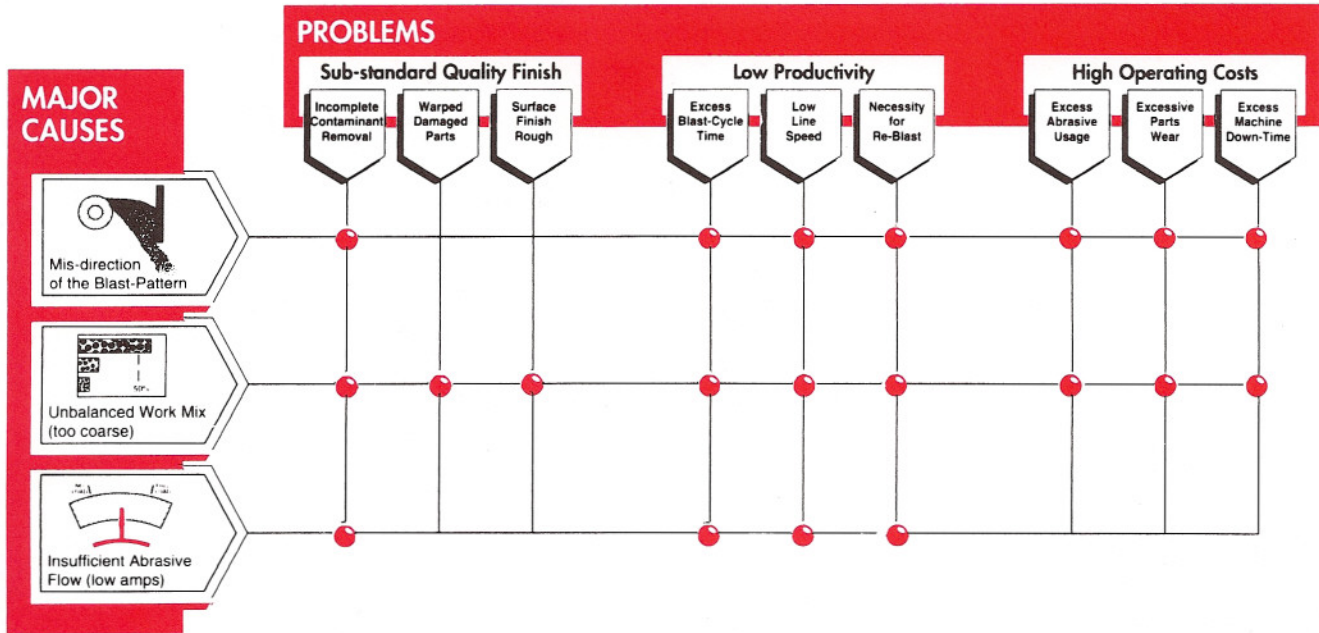


# AMASTEEL

## Trouble Shooting The Blastcleaning Process



## Guidelines for controlling the three basic blastcleaning operating variables

These three variables account for as much as 90% of all problems adversely affecting quality of finish, cleaning productivity, and operation costs.

### PROPER BLAST-PATTERN AIM

- 1 Check location of blast-pattern "hot-spot" regularly. (Test-blast a metal target plate placed at normal work height for 20-30 seconds. Hot spot should be approximately 8" in advance of wheel center-line.)
  - 2 Inspect, *daily*, degree of wear of wheel components:
    - Impeller:** Change when leading edges exceed 1/8" wear.
    - Control Cage:** Change when beveled edge exceeds 1/4" wear.
    - Vanes/Blades:** Change when grooving is 1/2 thickness of blade.
- Excess wear of wheel components distorts blast pattern and causes "hot-spot" to shift. (10% shift can cause 25% loss of cleaning efficiency.)
- 3 Do not permit sand or excess fines in the work mix. (2% Sand content can double wear rate on wheel components.)
  - 4 Establish records of parts replacement vs. wheel hours operated, so preventative maintenance can be utilized.

### BALANCED WORK-MIX

- 1 Screen analyze work-mix *weekly*.
- 2 Add new abrasive *every operating shift*.
- 3 Do not allow abrasive spillage/leakage to accumulate; return to machine *daily*.
- 4 Check Separator/Ventilating system regularly:
  - Scalp screens: Holes? Blockage?
  - Shed Plates: Holes? Be sure a *full* abrasive curtain exists.
  - Keep dribble valves on all separator or expansion-trap discard pipes.
  - Dust Collector Pipes: Check for dust build-up in pipes.
- 5 Check separator and dust-collector baffle settings regularly to be sure air-flow is correct.

### FULL ABRASIVE FLOW

- 1 Add new abrasive *every operating shift* and maintain hopper level above 2/3 full *always*.
- 2 Keep all paper, cardboard, plastic, wood and other trash out of the blast-cleaning equipment.
- 3 Be sure scalp screens are clean and not plugged.
- 4 Check wheel components daily for excess wear.
- 5 Check feed control valve to be sure it is functioning properly.
- 6 Check for worn or loose drive belts.
- 7 Post the "Full Amps" target above each ammeter. Record actual readings every shift.
- 8 Keep ammeters in good working order at all times.

# ERVIN



# AMASTEEL BLASTCLEANING OPERATIONS ANALYSIS

(Company Name) \_\_\_\_\_ (Address) \_\_\_\_\_

Date: \_\_\_\_\_ Shift:  1  2  3 Equipment Identification: \_\_\_\_\_  
 (when samples obtained)

## Operating Data at Time Samples Obtained

Abrasive Level in Feed Hopper  
 (Check Appropriate Box)  Full  3/4  1/2  1/4  
 OK OK NG NG

## ERVIN SPOT CHECK GAUGE

### Wheel Hour Meter Readings

At time samples taken \_\_\_\_\_ hrs.  
 At time abrasives last added \_\_\_\_\_ hrs.

Ammeter Readings of Wheels Sampled \_\_\_\_\_

Rated Full Load AMPS? \_\_\_\_\_

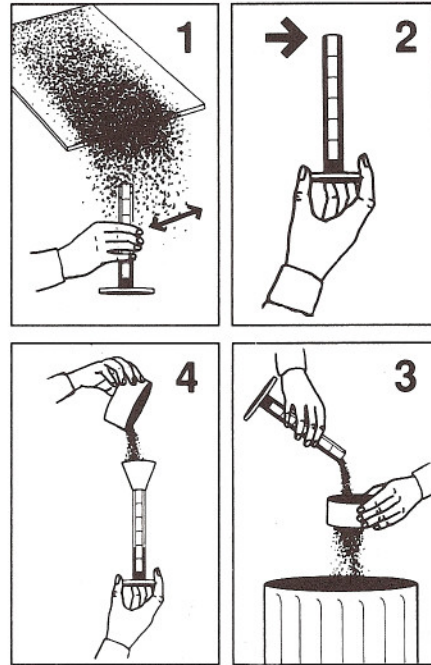
Wheel HP? \_\_\_\_\_ Number of Wheels? \_\_\_\_\_

Target lbs. per wheel hour =  $HP \times .35 =$  \_\_\_\_\_ lbs/wh

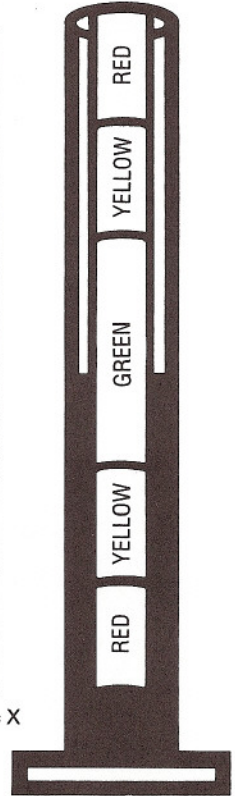
Actual: Week ending \_\_\_\_\_ = \_\_\_\_\_ lbs/wh  
 (From Abrasive Additions Card)

Abrasive Size: Shot \_\_\_\_\_; Grit \_\_\_\_\_

Supplier: \_\_\_\_\_



Check to see where top of workmix levels off. = X  
 Mark X on the scale at right



The best protection against inefficient operation is to make frequent analysis of your blastcleaning operations.

**FEED HOPPER LEVEL:** When too low: Runs the risk of insufficient feed to wheels; Indicates work-mix is out of balance, and cleaning-profiling will be poor.

**AMMETER READINGS:** If below full-rated amps, wheel is being short-changed. For each amp below full-rate, approximately 30 lbs of abrasive is **not thrown**. What isn't thrown can't clean-profile your work.

**TARGET POUNDS PER WHEEL-HOUR:** SAE-quality cast steel shot or grit, in a properly operated system, should equal **.35 lbs per hp per wheel hour usage rate**. (Example: wheel hp at 40, times .35 equals 14 lbs per wheel hour usage. If usage is at 21 lbs/wh, consumption is **50% higher than it should be.**)

### WORK-MIX ANALYSIS (SPOT-CHECK):

W/M x in green-zone represents optimum operation, with respect to:

- **Cleaning-profiling finish: Productivity; and Abrasive consumption.**
- W/M x above the green zone means the w/m is too coarse for efficient and effective cleaning-profiling - Result:
  - **Spotty cleaning-profiling, finish too rough, parts warpage, breakage;**
  - **Blast-cycle time can be 25% to 100% more than normal, or re-blast is required;**
  - **Equipment wear/tear can increase greatly.**
  - **Shot and grit consumption can increase easily as much as 100%, or more.**
- If the w/m x is in the **yellow zone**, it is an indication the operation has **serious problems** - but, when x in the **red zone**, it means the operation is flirting with **disaster**.

**When the operations analysis indicates trouble - it's time to review the ERVIN TROUBLE-SHOOTING GUIDELINES shown on the reverse side.**