Aquamill™ XRM

Product Code: 2101024
Revised Date: 8/17/2017

Aquamill™ XRM

DESCRIPTION

Aquamill™ XRM is an accelerated mass-finishing liquid compound for ferrous alloys, normally used in vibratory finishing mills. When used in vibratory mills we recommend the use of ceramic abrasive free or ceramic fine cut media. Media shape and size will be determined by part configuration.

FEATURES AND BENEFITS

- Extremely fast cut cycles -
- High rate of stock removal
- Final pH of 7 plus assures no pitting or etching
- Concentrated liquid
- Produces very low Ra surface
- Effective on harden or soft steel
- No strong acids
- Will not cause embitterment

TYPICAL APPLICATIONS

- Machining and grind line removal of hardened steel – producing a bright ready to plate finish
- Forging scale, forge roughness and parting line removal of soft steel.
- Part on part finishing of hardened steel

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MEDIA:

1. For preplate finishes - High Density L bond or 0 bond media is typical. 10 bond can also be considered.

   For soft vibe – forging roughness removal - 20 bond media is typical. High Density L (0) bond or 10 bond can also be considered.

2. Media size and shape selection considerations – primary; provide sufficient media to part contact in areas that require surface finish improvement Secondary: reduce or eliminate lodging.

3. Media shape considerations - various shapes and sizes such as Angle Cut Cylinders, Triangles, Cones, and Tri-Star are typical.

4. Media's are often mixed in size and shape to reach all critical areas.

EQUIPMENT:

1. Flat bottom bowl lined with chemically resistant material including the drain.

2. The bowl is generally set up with a 3 mm - 4 mm amplitude with a 60-70 degree lead

   angle. This is usually done with the minimum weights required to roll the media and parts.

3. The vibratory bowl should be fitted with a closeable drain if batch processing is the method chosen to finish the work.

4. Metering pumps are required particularly when a flow through process is chosen.

5. Burnishing setup is required.

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OPERATING PARAMETERS:

Closed Drain – preferred method
Concentration: Full strength
Dosing: 50 ml per square foot of surface area per 0.0001" surface material removal
Time: Application dependent – typical machine lines removed in 2.5 to 3.5 hours. Typical forging roughness removed in 5.5 to 6.5 hours

Flow Thru (open drain)
Flow Rate: 25% dilution dosed at .25 gallons per cubic foot of bowl equipment volume per hour.
Time: Application dependent – typical machine lines removed in 2.5 to 3.5 hours. Typical forging roughness removed in 5.5 to 6.5 hours.

Typical Process Steps

Closed Drain – (preferred)

1. Cut using **Aquamill™ XRM** with the drain closed.
2. Open drain.
3. Burnish using **Metal Guard® 800D** at 1% to 3% by volume with a flow rate of 0.5 to 1 gallon per cubic foot of bowl capacity per hour. Normal burnish times are 30 to 60 minutes.
4. Unload

Flow through

1. Cut feeding **Aquamill™ XRM** at a constant rate over the course of the cut cycle,
2. Burnish using **Metal Guard® 800D** at 1% to 3% by volume with a flow rate of 0.5 to 1 gallon per cubic foot of bowl capacity per hour for 30 to 60 minutes.
3. Unload.

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GENERAL:

Rule 1 – Generally – in closed drain process no more than 1500 ml per cubic foot of bowl volume is added at any one time. Drain depleted product and recharge if needed.

Rule 2 - Chemistry is depleted when the black phase film is no longer present or the liquid becomes too thick for the bowl to move the parts.

Rule 3 - Additions of water can be made if the bowl runs very hot and evaporation becomes a problem, however, the volume of water (metered into bowl) should not exceed 250 cc. per cubic foot per hour.

Rule 4 -The best surface finish (non-etched) is achieved by allowing the active chemistry to be 95% to fully consumed before burnishing.

Your Hubbard-Hall technical service representative is available to assist with process development.

It is advantageous for our technical service laboratory to process parts to fine-tune the process to your particular needs prior to field trials.

DISPOSAL

Discharge spent solutions, rinse waters, and burnishing solutions to a permitted wastewater treatment system. Discharge and treat these in accordance to any applicable local, state, and federal environmental regulations.

WARRANTY

THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.

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