

START to FINISH

THE CERAMIC MEDIA NEWSLETTER

Washington Mills Ceramics Corporation • Spring 2007

WASHINGTON MILLS
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Welcome!

We are pleased to re-introduce our ceramic media newsletter *Start to Finish*. With the completion of our new Parts Processing Laboratory in Sun Prairie, WI, and using this newsletter for effective communication, we can keep our customers and distributors informed of new situations we encounter on a daily basis in our parts processing laboratory to meet the ever changing demands of the mass finishing industry due to new metal applications, changes in part configurations, and new parts processing equipment and techniques. We'll identify problem applications, process situations or media application issues and the solutions as they apply to you. All the part applications discussed in this newsletter have been run successfully in our lab and have resulted in complete customer satisfaction and business growth. We are hopeful that the results and recommendations provided will assist you in recognizing the value of our parts testing capabilities and help you provide solutions for similar applications you encounter. As the largest manufacturer with the largest selection of precision preformed ceramic media sizes, shapes and formulations, it's little wonder that our DURALUM® and DURAMEDIA® products are *"The Best Start to a Great Finish."* ■



PARTS PROCESSING CAPABILITIES

Our new parts processing laboratory has been set up to include various sizes of vibratory bowls, 1 to 7 cubic foot, 3 & 20 cubic vibratory tubs, a rotary barrel, two centrifuge barrels and a variable speed disc machine. In all, we have over 50 cubic feet of equipment and we're ready to develop parts processing recommendations for you and your customers. So send in those parts! We're ready to get started to get your desired finish.



We are currently awaiting the arrival of additional technical equipment which will provide microscope photography, multi parameter and recordable profilometer capabilities, as well as an optical comparator.

Please don't forget that there are 5 different media kits available from our laboratory: DURAMEDIA®, DURALUM®, XA&XM, DURAMEDIA® STEEL, DURAMEDIA® PK and WISCONSIN PORCELAIN PREFORMED CERAMIC MEDIA.

Send Us Your Sales People and Their Parts

Media and Deburring seminars are forming now! Call us for available dates. Let the deburring team in our Washington Mills Ceramics lab facility provide the training for your sales personnel in media selection processes, vibratory processes and high-energy applications. Starting with the media selection process, the need for proper shape and composition and their critical interaction using the different types of equipment available for mass finishing is evident. After learning which media is right for the customer's finishing requirements, your sales personnel will be tutored in the art of fine tuning equipment to ensure the media selected is running properly and the media is performing the correct action to generate the desired surface finish. Have you ever wondered why one media works well in a vibratory machine and not in a centrifugal disc application? Questions like these will be answered during this seminar so your salesperson will know how to choose the correct media for the equipment their customer is using. Let your sales people be the "go to" guys your customer requires.



APPLICATION SITUATION/PROCESS SOLUTION

Recently one of our distributors came to us with an application problem—their customer, a large powdered metal manufacturer, had a part (*depicted in the diagram below*) they wanted processed faster and cleaner, utilizing a more efficient means to deburr and finish their part. Their primary objectives were to reduce cycle time, reduce sludge and be supplied with a media which had improved wear characteristics.

As always, the first step was to visit the customer and assess what type of equipment was being used. Was the equipment being run properly? How was the part loaded and unloaded? What, if any, compound was used during the finishing process? All of this information was critical so as many conditions as possible could be duplicated in the process lab to achieve the best results for the customer.

The first observation made during the visit was that the equipment was not producing the proper media roll and flow in the vibratory unit, causing longer cycle times. Adjustments were made on the spot by the distributor to reset the eccentric weights to allow proper utilization of the equipment. With this information, a duplicate process was established in the laboratory, which included a sample of the customer's compound, to begin finding a media solution which accomplished the customer's objectives.

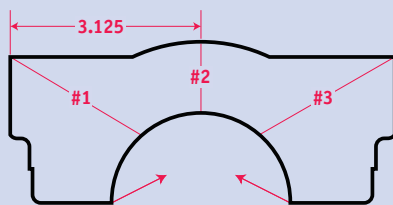
The diagram below depicts the measuring parameters used for burr removal. These burr removal areas were critical to the customer's finish requirements. After determining the part weight and knowing the number of parts normally loaded into the customer's machine, we concluded that in order to process the

parts faster and meet the customer's two other objectives, we needed to look at a high density media (120 lbs. per cubic foot) that would stand up to the part weight and would be resistant to fracturing and extreme wear. We ran several shapes and sizes of our DURAMEDIA® 120C and determined that the best shape and size was a 7/8" CO (*straight cut cylinder*). Ultimately we were able to achieve the customer's requirements for metal removal (Process Test Data Chart Below) in a cycle time which was reduced by more than 30% and we provided a media with low wear characteristics (*65,000 parts processed with <3% wear*). As a result, their issue with sludge was corrected.

We're here for you—a **value added, no cost solution for our customers**. All you have to do is ask! ■



Measuring Parameters For Burr Removal



Burr Point #1-side One: A diagonal line from the top left to the right bearing journal corner.

Burr Point #2-side One: A perpendicular line 3.125 inches from the bearing cap sides.

Burr Point #3-side One: A diagonal line from the top right to the left bearing journal corner.

NOTE: Direction of the arrow designates side 1, turn part over and repeat for side two.

Process Test Bearing Cap MEDIA #5518 BOND 120C

Part #	Burr Point #	Start Dimension	Finish Dimension	Amount Reduced
OBTDKT Side One	1	2.577	2.568	.009
	2	1.186	1.183	.003
	3	2.558	2.543	.015
Side Two	1	2.545	2.524	.021
	2	1.198	1.178	.020
	3	2.599	2.575	.024

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