

Glen Sietsema

From: Wright, MaryAnn
Sent: 11/28/2005 03:11:38 PM
To: Sietsema, Glen D.; Ray, Randolph C.
CC: Ray, Randolph C.; George, Ronald M.; Marley, Matthew M.; Nichols, Scott; Ogrodnik, Frank A.; Parkhurst, James L.; Doolittle, James F.; Luke, Kyle D.; Matousek, Rob A.
BCC:
Subject: RE: RH Blockers With Higher Hardness (Carbon)

Glen, our trucker just delivered the RH blockers to Randy this afternoon.

We plan to start molding another group this week. We plan to sinter these approximately 2000 parts to smaller dimensions.

Please contact me with any questions or concerns.

Thank you!

Maryann

-----Original Message-----

From: Sietsema, Glen D.
Sent: Monday, November 28, 2005 11:09 AM
To: Wright, MaryAnn; Ray, Randolph C.
Cc: Ray, Randolph C.; George, Ronald M.; Marley, Matthew M.; Nichols, Scott; Ogrodnik, Frank A.; Parkhurst, James L.; Doolittle, James F.; Luke, Kyle D.; Matousek, Rob A.
Subject: RE: RH Blockers With Higher Hardness (Carbon)

MaryAnn,

Please send these parts to Randy's attention.

Randy, when you receive these parts please see me. We will need to develop an experimental shorter heat treat process for the SPL blockers.

Thanks,

Glen D. Sietsema

Metallurgical Engineer

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-----Original Message-----

From: Wright, MaryAnn

Sent: Friday, November 18, 2005 12:22 PM

To: Sietsema, Glen D.

Cc: Ray, Randolph C.; George, Ronald M.; Marley, Matthew M.; Nichols, Scott; Ogrodnik, Frank A.; Parkhurst, James L.

Subject: RH Blockers With Higher Hardness (Carbon)

Glen, about 1 week late, I have 3 pans of about 840 parts, or 2520, RH blockers at pack/ship. These parts were processed with an altered debinding schedule and a high-nitrogen sintering atmosphere, with the intention of retaining carbon. We were successful in achieving a microstructure of pearlite, a higher-carbon, higher-hardness metallurgical phase, and the physical data on the parts are as follows:

Hardness: HRB block 86.6 get 87.4

Density, 5-piece average: 7.514

85.5, 84.5, 86.0, 85.0, 84.0

7.518, 7.514, 7.506, 7.515, 7.516.

So, the density is acceptable, and the apparent hardness has been increased from the HRB 50's to 80's.

Because of the higher hardness of the parts and the fact that some dimensions were OHL, coining was more difficult. Going forward, we would need to obtain more shrinkage, and re-develop the coining process for the harder part. However, I believe that both are feasible.

Please use these parts for your work to re-develop the heat treating process. I should note that I am uncertain as to whether or not these particular parts would be suitable for machining trials.

Shall I have the parts delivered to Randy Ray, in Heat Treat?

Thanks.

Maryann

Maryann Wright

Engineering Supervisor

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