



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-4631

June 22, 2010

via U.S. mail and facsimile to (216) 481-2523

Mr. John D. Grampa, Senior Vice President Finance and Chief Financial Officer
Brush Engineered Materials Inc.
6070 Parkland Blvd
Mayfield Heights, OH 44124

**RE: Brush Engineered Materials Inc.
Form 10-K for the fiscal year ended December 31, 2009
Filed March 8, 202010
Definitive Proxy Statement on Schedule 14A filed March 25, 2010
Form 10-Q for the period ended March 31, 2010
File No. 1-15885**

Dear Mr. Grampa:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the year ended December 31, 2009

Management's Discussion and Analysis, page 23

1. We note your statement on page 9 that various projects including the F-22 fighter aircraft have been canceled, which had and will have a negative impact on your sales. Please revise MD&A in future filings as appropriate to disclose the impact of such project cancellations on your operating results, liquidity and financial position for the periods presented.

Results of Operations, page 23

2. We note the following quality and other issues and/or errors:
- On page 24, a “manufacturing quality issue” related to the medical market, which is also discussed on page 29.
 - On page 25, margins were reduced \$5.7 million in 2007 as a result of “quality returns from a key customer and related rework and scrap costs.”
 - On page 30, a “quality issue and a change in material specifications” related to media applications contributed to decreased sales in the second half of 2007.
 - On page 30, a “\$2.6 million sales correction” made in the first quarter of 2008 for “an error from 2007”.
 - On page 17 of the April 2, 2010 Form 10-Q, margin in the Beryllium and Beryllium Composites segment was lower in the first quarter 2010 despite a slight increase in sales because of “yield issues on certain products”.

In future filings, please better explain the nature of these issues, including how they were identified and resolved, the period(s) they affected as well as their impact your operating results, liquidity and financial position.

Specialty Engineered Alloys page 31

3. For the basis of a materiality test, please forward to our engineer as supplemental information and not as part of your filing, an estimate of your Utah assets associated with the mining and milling of your bertrandite ore and internal and external beryllium hydroxide sales revenues. This information should encompass your assets from your mining operation up to the point of your beryllium hydroxide sales.

Financial Position, page 37

4. We note your statement on page 41 that you were in compliance with all of your debt covenants as of December 31, 2009. If it is reasonably likely that you will not meet your financial covenants, please disclose in future filings the required minimum/maximum ratios or amounts for each of your financial covenants and the actual ratios or amounts achieved for each financial covenant as of the most recent balance sheet date. This disclosure will allow an investor to easily understand your current status in meeting your financial covenants. Refer to Sections 501.13.b.2 and 501.13.c. of the Financial Reporting Codification for guidance. Also, disclose any known future changes to each covenant, and state whether you expect to be in compliance when such changes come into effect.

Ore Reserves page 44

5. In your discussion of ore reserves we note you define a probable reserve as “the estimated quantities of ore known to exist, principally at greater depths, but prospects for commercial recovery are undeterminable.” Please revise your disclosure to incorporate a probable reserve as defined by Section (A) (2) of Industry Guide 7.

Quantitative and Qualitative Disclosures About Market Risk, page 48

6. Please revise future filings to disclose your strategies employed to manage exposure related to the price of natural gas and electricity. In this regard, we note your disclosures on page 12.

Consolidated Statements of Income, page 54

7. We note the net loss incurred in 2009. As such, in future filings please revise the title of these statements accordingly.

Consolidated Statements of Shareholders' Equity, page 57

8. Please revise future filings to clarify the nature of the line item/column “Other equity transactions”. Provide quantification of material items therein.

Note G – Leasing Arrangements, page 67

9. Please revise future filings to disclose whether you are in compliance with the restrictive covenants under your facility lease.

Other

10. You disclose on page 15 that as a holding company, you are dependent upon dividends or other intercompany transfers of funds from your subsidiaries and that the payment of dividends and other payments to you by your subsidiaries may be restricted by, among other things, applicable corporate and other laws and regulations, agreements of the subsidiaries and the terms of our current and future indebtedness. Please tell us how you considered the requirements under Rule 5-04 to provide Schedule I condensed parent only financial statements. Refer to Rule 4-08(e)(3) for a discussion of the computation of restricted net assets and an illustration of its application.

Consent

11. Please amend your Form 10-K to provide a signed auditors' consent. We note the current Exhibit 23 does not contain a conformed EDGAR signature. Please ensure the amended Form 10-K contains a prominent explanatory note in the forefront, clearly explaining the reason for the amendment.

Definitive Proxy Statement on Schedule 14A

12. We note your disclosure in response to Item 402(s) of Regulation S-K. Please describe the process you undertook to reach the conclusion that disclosure is not necessary.
13. Please disclose whether, and if so how, your nominating committee considers diversity in identifying nominees for director. See Item 402(c)(2)(vi) of Regulation S-K.

2009 Summary Compensation Table, page 28

14. The disclosure in footnote (3) to the 2009 Summary Compensation Table indicates that you have included in the "Stock Awards" column amounts that represent the grant date fair value of performance restricted shares. We are not able to locate any disclosure in the Grants of Plan-Based Awards table that corresponds to performance-based restricted stock awards having been granted in 2009. Please advise.

Form 10-Q for the period ended April 2, 2010

Financial Position, page 20

15. You disclose that while accounts receivable increased \$29.4 million during the first quarter, the percentage increase in the level of receivables was less than the percentage growth in sales in the first quarter 2010 from the fourth quarter 2009 due to an improvement in the average collection period. Given the significant impact receivables have on your operating cash flows, please revise future filings to disclose days sales outstanding and explain material fluctuations therein.

Off-balance Sheet Arrangements and Contractual Obligations, page 22

16. You state there have been no substantive changes in the summary of contractual obligations under long-term debt agreements, operating leases and material purchase commitments as of April 2, 2010 from the year-end 2009 totals as disclosed on page 41 of our Annual Report on Form 10-K for the year ended December 31, 2009. In light of your \$50 million increase in long-term debt

during this quarter, please consider the appropriateness of this statement in future filings.

* * * *

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Jenn Do, Staff Accountant, at (202) 551-3743, or in her absence, Jeanne Baker, Assistant Chief Accountant, at (202) 551-3691, or me at (202) 551-3355, if you have questions regarding comments on the financial statements and related matters. Please contact John Coleman at (202) 551-3610 if you have questions on comments 3 and 5. Please contact Errol Sanderson at (202) 551-3746 or, in his absence, Jay Ingram at (202) 551-3397, with any other questions.

Sincerely,

Terence O'Brien
Branch Chief