



DIVISION OF
CORPORATION FINANCE
MAIL STOP 7010

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-0405

December 27, 2005

Mr. John D. Grampa
Vice President Finance and Chief Financial Officer
Brush Engineered Materials Inc.
17876 St. Clair Avenue
Cleveland, OH 44110

**Re: Brush Engineered Materials Inc.
Form 10-K for Fiscal Year Ended December 31, 2004
March 14, 2005
File No. 1-15885**

Dear Mr. Grampa:

We have reviewed your filing and have the following comments. We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Fiscal Year Ended December 31, 2004

Financial Statements

Note B – Inventories, page 36

1. We note your disclosure that indicates certain LIFO layer liquidations occurred that resulted in a reduction of your cost of sales. It appears that overall your LIFO inventories increased significantly in 2004. Please expand your disclosure here and in your Critical Accounting Policies to address the financial statement impacts of the overall change in your inventories including the change in your LIFO reserve.
2. It appears from your disclosure that multiple LIFO inventory pools exist. Please address the following:
 - Tell us how many LIFO inventory pools exist.
 - Tell us how you have determined your LIFO inventory pools and why you believe multiple pools are appropriate.
 - Please provide us with an understanding of when and why separate LIFO pools were created.

Note N – Related Party Transactions, page 50

3. We note your disclosure that indicates the company terminated in 2004, life insurance policies for certain employees including executives. We further note that these policies involved loans to the employees. Please address the following:
 - Tell us the terms of the loans and whether the terms were equivalent to comparable third partly loan arrangements.
 - Tell us whether any modifications were made to these loans since inception.
 - Tell us whether any extensions of repayment were granted.
 - Tell us the maximum amount of outstanding loans by executive, for each period presented.

- Tell us whether these loans were repaid by the employees when the policies were terminated.
- Please refer to SAB Topic 4:E, and modify your presentation of these loans accordingly.

Closing Comments

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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 connection with responding to our comments, please provide, in writing, a 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

Mr. John D. Grampa
Brush Engineered Materials Inc.
December 27, 2005
page 4

You may contact Kevin Stertz at (202) 551-3723 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3683 with any other questions.

Sincerely,

Jill S. Davis
Branch Chief