



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

Mail Stop 4631

January 7, 2010

Mr. Anthony S. Colatrella
Chief Financial Officer
Momentive Performance Materials Inc.
22 Corporate Woods Blvd., 2nd Fl
Albany, NY 12211

**RE: Form 10-K for the fiscal year ended December 31, 2008
Forms 10-Q for the periods ended March 29, 2009, June 28, 2009 and
September 27, 2009
File No. 333-146093**

Dear Mr. Colatrella:

We have reviewed your response letter dated December 9, 2009 and have the following additional comments. If you disagree with a comment, 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 or may not 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 on 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 YEAR ENDED DECEMBER 31, 2008

General

1. Where a comment below requests additional disclosures or other revisions to be made, please show us in your supplemental response what the revisions will look like. These revisions should be included in your future filings.

Item 7 – Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 28

Critical Accounting Policies, page 31

Goodwill and Other Intangible Assets, page 31

2. We have reviewed your response to prior comment 2 from our letter dated November 24, 2009. Your response indicates that you believe each region of the Silicones segment has similar economic characteristics and qualifies for aggregation into one reporting unit. Please provide us with your key metrics used in your quantitative analysis including the amount of revenue, gross profit and gross margin for each region in the Silicones segment for each of the last five years, the most recent interim periods, and each subsequent year and interim period for which you have budgeting information. Please ensure that you also show the dollar and percentage changes from period to period in your analysis. Please include detailed explanations for any apparent differences in economic characteristics and trends and explain why each of these differences would not be considered an indication of differences in economic characteristics and your basis for concluding that each difference was only temporary. In addition, please address any differences in regulatory schemes for each region and how you considered any such differences in concluding that the Silicones segment represented a single reporting unit pursuant to paragraph 30 of SFAS 142.
3. Please also provide us with a copy of the operating results information provided to members of your segment management for the year ended December 31, 2008.

FORM 10-Q FOR THE PERIOD ENDED SEPTEMBER 27, 2009

Item 1 – Financial Statements

Note 6 – Indebtedness, page 11

4. We have reviewed your response to prior comment 5 from our letter dated November 24, 2009. We note that Apollo’s portion of the exchanged debt was less than 15% of the total recorded book value of the old notes exchanged. Given Apollo’s participation in the exchange of debt, we remind you that you should clearly disclose in future filings the nature and extent of involvement by any related parties in transactions that you are involved in. Please also clarify in your disclosures whether Apollo initiated this transaction.

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Please respond to these comments within 10 business days, or tell us when you will provide us with a response. Please provide us with a response letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please file your supplemental response on EDGAR as a correspondence file. Please understand that we may have additional comments after reviewing your responses to our comments.

If you have any questions regarding these comments, please direct them to Jeffrey Gordon, Staff Accountant, at (202) 551-3866 or, in his absence, Jeanne Baker, Assistant Chief Accountant, at (202) 551-3691.

Sincerely,

Rufus Decker
Accounting Branch Chief