

December 5, 2011

Via EDGAR Submission and Overnight Delivery.

Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Attn: Pamela A. Long, Assistant Director

Re: Proto Labs, Inc.
Amendment No. 3 to Registration Statement on Form S-1
Filed October 26, 2011
File No. 333-175745

Ladies and Gentlemen:

On behalf of Proto Labs, Inc., a Minnesota corporation (the "Company"), we are writing to respond to comment number 6 raised in the letter to the Company, dated November 17, 2011, from the staff of the Securities and Exchange Commission (the "Staff") relating to Amendment No. 3 to the Company's Registration Statement on Form S-1 ("Amendment No. 3"). The Company's response to comment 6 is set forth below under the corresponding caption and number from the Staff's comment letter and the text of comment 6 is reproduced in italics. As discussed telephonically with the Staff on November 22, 2011, at this time, we are only responding to comment 6 from the Staff's letter relating to Amendment No. 3. We appreciate the Staff's commitment to work with the Company to resolve comment 6 prior to the filing of another amendment to the Company's Registration Statement on Form S-1 that would include responses to all the comments in the Staff's letter relating to Amendment No. 3.

Note 15, page F-22

6. *As referenced in our letters dated August 19, September 15 and October 11 of 2011, there is a concern regarding your compliance with the applicable segment reporting requirements. ASC 280-10-05-3 states that the required segment disclosures be consistent with the way that management organizes its segments for making operating decisions and assessing performance. In this regard, page 69 discloses that you have Managing Directors that supervise your European (Proto Labs, Limited) and Japanese (Proto Labs G.K.) subsidiaries. Page 80 discloses that executive compensation is linked to the performance of your major geographic business units (the United States, the European Union and Japan). Said disclosure states that 100% of Ms. Schneider's bonus is linked to U.S. sales targets and that 100% of Mr. Tumelty's bonus is linked to European sales targets. The disclosures on pages F-19 and F-22 reflect substantial disparities between the profit margins and revenue growth rates of your domestic and foreign businesses. This assessment is consistent with the CODM reports which show significant differences between the 3 segments in measures such as revenue growth rates, gross margins, operating margins, pre-tax margins, net profit margins, and EBITDA margins. We understand that you may expect that the profit margins of your segments will converge over time; however, the fact that the segments were not economically similar during the financial statement periods is also relevant to this issue. Further, the CODM reports include a "financial review" section wherein the operating performances of the 3 segments are separately analyzed. Consequently, it continues to appear that you have 3 geographic operating segments. Given that your CODM is provided separate financial statements and narrative analyses for each of the 3 segments, it is not clear how you reasonably determined that the CODM does not use this data for the purpose of evaluating performance and allocating resources. We understand that after you received our comment on the previously provided CODM reports, you have provided us with additional reports that are reviewed by the CODM. It appears that these reports reflect an ability of the CODM to obtain revenue and profitability data on both a product line and/or geographic basis. This capacity to generate alternative financial reports does not obviate the requirement to determine your segment reporting compliance in a manner consistent with the principles of the management approach as articulated in ASC 280-10. Your reference to a matrix form of organization does not appear consistent with your management hierarchy and organizational structure. The CODM reports you provided in your 9/26/11 response are consistent with the structure of your internal organization and appear to be most relevant in determining what information to report in your segment disclosures. Please revise the financial statements in your IPO registration statement to provide data for the 3 reportable segments.*

Response: The Company acknowledges the Staff's comment and respectfully requests that, in addition to the information previously submitted to the Staff, the Staff consider the following information which provides further clarification as to how the Company is organized and how the chief operating decision maker (CODM) of the Company, its Chief Executive Officer (CEO), regularly reviews operating results to make decisions about resources to be allocated to the segment and assess its performance.

The Company determined its operating segments in accordance with the provisions of ASC 280-10-50-1, which states that an operating segment is a component of a public entity that has all of the following characteristics:

- a) It engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the same public entity).
- b) Its operating results are regularly reviewed by the public entity's chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance.
- c) Its discrete financial information is available.

As such, in accordance with the management approach specified in ASC 280-10-05-4 and the provisions of ASC 280-10-05-3, which state that the required segment disclosures should be consistent with the way that management organizes its segments for making operating decisions and assessing performance, the Company considered the following information in determining its operating segments:

- The Company is a global organization that manufactures custom parts using two different processes—Firstcut CNC machining and Protomold injection molding. Protomold was the first service offered by the Company beginning in 1999 and the Firstcut machining service was first offered beginning in 2007. Customers upload their part designs, choose the manufacturing service that best meets their needs, and the Company manufactures and ships the customers their custom made parts. The Company has developed software that automates the process of price quoting through manufacturing. The Company's primary value proposition is completing in days what often takes others weeks or months to complete. Maintaining three strategically located global manufacturing facilities is a key enabler to providing custom parts to customers quickly.
- The Company's management and technology is centralized in the United States with all executive discipline leaders including marketing, sales, manufacturing operations, software development, finance and human resources reporting to the CEO. The Company's U.S.-based leadership creates and disseminates all strategies, plans, corporate cultural practices and technology.
- The Company has established manufacturing facilities to provide its services in close proximity to where large groups of its customers and potential customers want custom parts delivered. The Company's first manufacturing facility opened in 1999 in the United States. In 2005, the Company established a subsidiary and manufacturing facility in the United Kingdom. In 2009, the Company established a subsidiary and a manufacturing facility in Japan. The Company created the foreign subsidiaries (legal entities) to operate manufacturing locations closer to customer delivery locations and to comply with local customs and legal

requirements. This minimizes shipping time and potential export and customs delays. Keeping the manufacturing processes in its three manufacturing facilities identical is important to allowing the Company's CEO to dynamically allocate its global manufacturing capacity to support customer demand and delivery schedules.

- Though the United Kingdom and Japan subsidiaries have managing directors, their duties are to ensure that global strategies created by the CEO and the centralized executive management team are executed, personnel are managed, and regulatory and statutory reporting requirements are supported. In addition, they ensure proper language translation of marketing materials and web sites to fit their respective cultures. The managing directors do not have authority over many other processes traditionally afforded managing directors of foreign subsidiaries such as product pricing, services offered, marketing and sales planning, budgets, forecasting and strategy. This is consistent with the fact that the Company does not allocate the costs associated with the global marketing, human resources, sales strategy, software development, research and development, and other activities to the manufacturing subsidiaries. As a result, and as noted by the Staff in its latest comment, the incentive compensation for the managing directors of the Company's UK and Japan manufacturing facilities is strictly tied to the attainment of revenue goals because they are responsible for assisting in the execution of the Company's global strategy to drive revenue growth. However, they are not accountable for or incented on operating income or other financial metrics that are in the hands of the CEO and the centralized executive management team in the United States.

In addition, to address an aspect of the Staff's comment above, the Company advises the Staff that Ms. Schneider's incentive compensation, in her role as V.P. of Sales and Customer Service, is tied to the attainment of U.S. sales targets since the United States continues to represent approximately 75% of the Company's global revenues. Ms. Schneider does not have any authority within the organization that would cause her to be considered a segment manager.

- The combination of a singular focus on revenue by the foreign subsidiary managing directors and the lack of any global resource cost allocation results in legal entity reporting that does not represent the economics of the global business. Therefore, the Company's CODM does not regularly review the operating results of the legal entities to make decisions about resource allocation or to assess their performance. Instead, the CODM regularly reviews operating results by service offering (i.e. Protomold and Firstcut) to make decisions about resource allocation and to assess the performance of the global Company.

- The Company's reporting on operating metrics and financial performance is provided through two main sources:
 - A real-time information dashboard on the Company's proprietary intranet called Protonet. This utility provides information on quotes, orders, revenue and many operational metrics by service, manufacturing facility and by various time periods. Protonet has been utilized since 2002 in providing real-time information to the Company's CEO to make resource allocations to efficiently run the business.
 - Standard financial reports, such as profit and loss statements and balance sheets, summarizing general ledger activities by department and legal entity.

The Company's CODM utilizes Protonet on an hourly basis to understand operational conditions, review financial performance and allocate resources. The Company's business model requires very fast response times to customer orders and pricing queries. Every order from a customer is custom made and is fulfilled in days. This speed of service requires dynamic decision making tools that enable real-time decisions. The standard financial reports, provided weeks after a month end, are not utilized by the CODM and do not address key variables like current capacity issues, lead generation results or sales pipeline analysis, all of which are provided by Protonet. The CODM utilizes the real-time financial information provided by Protonet to assess the financial performance of Protonet and Firstcut, allocate resources between the Company's two service offerings and manage global manufacturing capacity to ensure that customer orders are manufactured and shipped within the requested timeframe. In the dynamic atmosphere within which the Company operates, it is imperative to be able to manage the business such that customer orders are produced within the timeframe established by the customer. As a result, the Company's CEO, who is the segment manager for the Company's two operating segments, manages the Company's business to maximize the efficiencies of its manufacturing facilities.

- At times, based on the timing of customer orders and the current capacity utilization at the different manufacturing sites, the Company's manufacturing facilities may produce custom parts for a customer located nearer to another of the Company's manufacturing facilities. When manufacturing is assigned to another facility in this fashion, the decision is based on both the Company's current capacity utilization and the customers' specific selection of either Protomold or Firstcut manufacturing services (customers select if their parts are to be injection molded or CNC machined). Furthermore, the Company's ability to seamlessly allocate capacity in this manner is enabled by having a common Protomold process and common Firstcut process at each of its global manufacturing facilities. As such, the Company's CODM, who is also the operating segments manager, dynamically manages the business globally by service offering to meet the Company's customers' needs.

- The Company is run globally, whether it is allocating manufacturing capacity, executing marketing or sales strategies, expanding operational capabilities or ensuring a consistent corporate culture. As such, the Company's financial performance can only be measured on a consolidated basis which is why the Company's CODM regularly reviews consolidated global operating results by service offering to assess performance and make decisions regarding resource allocation.

As the Company has continued to analyze the requirements of ASC 280, the Company advises the Staff that it continues to believe that its product offerings of Protomold and Firstcut represent operating segments, as defined by ASC 280-10-50-1, and that the segment manager for each of these segments is the Company's CEO, who is also the Company's CODM. In addition to the information previously submitted to the Staff as well as the information set forth above, the Company has reached this conclusion based on the following:

- The Company's product offerings meet the definition of an operating segment based on the information reviewed by its CODM available from its intranet Protonet system from which operating decisions are made. The Company does not believe that the legal entity reporting prepared for its foreign subsidiaries provides meaningful operating results that are regularly reviewed by the CODM to make decisions about resources to be allocated to the subsidiaries or to assess their performance. Accordingly, the manufacturing locations or subsidiaries do not meet the definition of an operating segment as defined by ASC 280-10-50-1.
- As described above, the managing directors of the Company's foreign subsidiaries have limited responsibilities and as such, the Company does not believe that they meet the definition of a segment manager as defined by ASC 280-10-50-7, which states that generally an operating segment has a segment manager who is directly accountable to and maintains regular contact with the CODM to discuss operating activities, financial results, forecasts, or plans for the segment. The Company's managing directors are responsible for helping grow revenues in their geographic region, and this is evidenced by their incentive compensation, which is tied solely to revenue growth. In addition, as has been described, the Company's CEO has the ability to allocate capacity at all three manufacturing facilities to meet the demand of its customers across the globe. As such, the financial reporting of any individual manufacturing facility and the related legal entity provide no value, other than to fulfill local statutory and tax filing requirements.
- When analyzing who is the segment manager of the Company's two operating segments, the Company applied the guidance of ASC 280-10-50-8, which states that the CODM also may be the segment manager for certain operating segments. In addition, that same paragraph describes how a single individual can be the segment manager for more than one operating segment. Based on the fact that Mr. Cleveland, the Company's CEO and CODM, has overall operational authority to determine production levels, the location to manufacture customer orders and the implementation of the Company's operational plan, the Company believes that it has appropriately identified him as the segment manager for its two operating segments.

Based on all the factors discussed above, the Company respectfully advises the Staff that it has appropriately determined that its service components constitute two operating segments.

In addition, the Company has reviewed the aggregation criteria of ASC 280-10-50-11 and has determined that its operating segments, Protomold and Firstcut, have similar economic characteristics, have similar services and production processes, sell to the same class of customers, and utilize the same distribution methods based on the following considerations:

1. Similar economic characteristics. Both Protomold and Firstcut have similar economic characteristics. The Company continues to experience substantial growth in the sale of both its Protomold and Firstcut service offerings. For the nine month period ended September 30, 2011, Protomold revenue grew 50% while Firstcut revenue grew 86%. And, it is anticipated that the long-term growth rates for Protomold and Firstcut will be comparable as Firstcut matures. For the same financial period, the gross margin for Protomold sales was 62.5%, while the gross margin on Firstcut sales was 58.2%. Similar to long-term growth rates, the gross margin difference between the segments will continue to decrease as Firstcut matures.
2. Nature of services. The nature of the services is very similar. The end-products can be interchangeable from the customer's viewpoint. Many times a customer will request a quote for both services, will initially buy a part utilizing Firstcut and then at a later time, especially if they need higher quantities of parts, will utilize Protomold.
3. Type of customer. The customer for Protomold and Firstcut services is the same—product developers utilizing 3D CAD software to create new products. Once the product developers have created digital models of their products, they look to the Company to provide them with physical parts for prototyping, functional testing, market evaluation or eventual production.
4. Methods of marketing, production and distribution. The Company markets its products through one sales force and utilizes one technology platform to receive the product developers' 3D CAD part designs, provide pricing quotes and begin the manufacturing process. In addition, the parts produced are distributed utilizing the same shipping process.

As previously disclosed to the Staff, the Company has determined that aggregation is consistent with the objective and principles of ASC 280. Namely, aggregation is appropriate because of the similarity of the Company's operating segments as investors would not be benefitted by presenting information disaggregated and aggregation is consistent with the Company's management structure. Therefore, the Company believes aggregating the two operating segments is appropriate.

Based on all the factors discussed above and a careful consideration of the quantitative thresholds of ASC 280-10-50-12, the Company respectfully submits to the Staff that it has appropriately determined that its service offerings of Protomold and Firstcut constitute its two operating segments, that it has appropriately presented segment information in Amendment No. 3 in accordance with ASC 280, and, therefore, that no related changes to its previously-filed disclosures are required.

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In connection with responding to your comments, we acknowledge that the Company is responsible for the adequacy and accuracy of the disclosure in the filing, that 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 that the Company may not assert Staff comments as a defense in any proceedings initiated by the Commission or any person under the federal securities laws of the United States.

We hope that the foregoing has been responsive to the Staff's comments. Should you have any questions relating to any of the foregoing, please feel free to contact the undersigned at (612) 766-7136.

Very truly yours,

/s/ W. Morgan Burns

W. Morgan Burns

Enclosure

cc: Bradley Cleveland
Proto Labs, Inc.
Kenneth Guernsey
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