



Having technical problems with your metal-based restorations? Here's critical information on how to work with an alloy vendor to find a solution.

# Serving up alloys

By Richard Palmer

**M**ost dental labs at some point will probably deal with the difficult decision of having to switch alloy vendors, a sticky situation that can cause owners and managers to lose sleep at night. Metals are used in nearly all indirect restorations: copings for porcelain build-up, the anatomical structure in a full gold crown, or the framework for partial denture cases as well as with implant-supported prostheses. So a reliable alloy supplier is paramount to the business of the dental lab.

Kris Van Laanen recently faced a transitional situation with his alloy vendor. As vice president of Technology as well as Consultant Leader and a working ceramist at Lord's Dental Studio, a full-service lab with two locations in Wisconsin, he only considered alloy suppliers who could—and would—give quick feedback when he or any of the other technicians in the labs were having trouble with their metal work. “We buy an awful lot of alloy, so it's a big part of what we do,” he said.

## Quality vs. communication

Mirroring the respondents of a recent survey conducted by the editorial and research departments of *Dental Lab Products* (see “About this online survey” sidebar on page 12), Van Laanen also places quality as the top determining factor when purchasing precious metals. However, whereas survey respondents feel that price would be their second strongest influence, Van Laanen believes that the relationship with the manufacturer's customer support representative should be considered above price. “I look at quality of the alloy and quality of the company kind of equally,” he said. “Price is lower on the list.”

His troubles with supplier assistance were not isolated, as 28% of survey participants responded that they, too, would change alloy manufacturers due to a

decrease in customer service. Most surveyed lab owners and managers responded that their actual work experience with alloys—not working with the vendor—would lead to switching manufacturers. Seventy-two percent cited technical difficulties as the most frequent reason to leave, followed by quality issues at 58%. An even 50% said they would leave over price.

## Alloy ally

**85%** of survey participants have changed alloy manufacturers, yet...

**75%** have been buying from their primary alloy manufacturer for five years or more.

Source: DLP June 2005 Alloy Usage Survey.

## Revolving door

And leave they do. More than four out of five (85%) of the survey respondents said that they have changed alloy manufacturers at one point in their business. According to Van Laanen, Lord's Dental Studio has changed its alloy supplier twice in the past five years, once four years ago and again just a few months ago. In contrast, 75% of survey participants have been buying from their primary alloy manufacturer for five years or more, with another 14% remaining with their main distributor for three to four years.

Like nearly one-third of the labs surveyed (31%), Lord's buys alloys from a single manufacturer. The largest group of respondents (49%) buy from two alloy companies, while another 16% make their pur-

chases from three vendors. Only 5% use more than three alloy manufacturers.

This might indicate that labs stay long-term with one primary supplier of the alloys they use most frequently, while keeping a roster of separate vendors for specialty alloys or metals used infrequently for individual cases. Or, are some lab owners switching suppliers with every problem that occurs without trying to work out the problems with the vendors and developing long-term, beneficial relationships?

## The trust factor

In the relationship between the clinician and the lab technician, dentists working at chairside rely on the technician working at the bench to provide them with the latest information on indirect restorative materials. In that same manner, the technician needs a helpful, always-available ear to bend with questions and concerns about those same materials. That's where the manufacturer's support rep enters the scenario, whether it's an alloy manufacturer answering metal-based questions or a maker of investment materials fielding concerns about gypsum.

As Dell Dine, vice president of Research and Development with National Dentex Corp., pointed out, lab technicians are not necessarily trained metallurgists and need to trust in the skills, knowledge, and honesty of their alloy manufacturer's agent. “In alloys,” he said, “if you're using a reputable manufacturer, you just sort of depend on them for the quality of the metal.”

Dine recalled when National Dentex pared down from using around a dozen alloy suppliers for the multi-lab network to just two vendors, there was no small degree of anxiety among the technicians. “They had a comfort with the alloy that they were using,” he remembered. “And then, it was absolutely the relationship with the rep that they hated to give up.” The

comfort level and technical connection that had been built up over time had to be restarted from scratch.

### The search begins

At some point, due to any number of factors—dissatisfaction with service, unresolved technical issues, a change in company policy, or too often, because of price—a lab will likely change one or more of its suppliers. Establishing a protocol for dealing with the transition ahead of time can save a considerable amount of grief, as well as money due to lost productivity.

When he was considering making a change

do they have that suit us best.”

Dine added, “The porcelain is paramount. A lab gets accustomed to using a porcelain that gives them the results they want. The alloy supplier would match an alloy to your porcelain.”

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## Identalloy

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## Due to technical difficulties...

**72%** cited technical problems as the top factor that would prompt a change in alloy manufacturers.

Source: DLP June 2005 Alloy Usage Survey.

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at Lord's, Van Laanen created a survey that he sent to alloy suppliers for their information on several areas that he felt were important. “What type of technical support do they have; what can they do to help me train my technicians in the proper use of alloy; do they have any system or standard operating procedure in place that I can implement and maintain in an audit-based system,” he listed, adding, “Then I would look at marketing, but price is low on the list.”

The survey is part of a process that Lord's established to review its vendors on an annual or biannual basis. A lab of any size can set up a review process of its own that would be treated like an annual employee evaluation and would involve a review of performance and the meeting of expectations over the past year as well as establishing goals for the coming year.

The primary objective of Lord's survey was to identify a company that would not only be able to provide the lab with dental metals, but increase productivity by helping it to control the quality of its product.

“Eliminating miscasts, eliminating creep in margins, blowing up bubbles in porcelain, cracking of porcelain,” he listed. “Those are things I look to the alloy manufacturer to help me determine. Based on my porcelain products and techniques, what alloys

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## Keep it simple

**49%** of survey respondents purchase their alloys from two manufacturers.

Source: DLP June 2005 Alloy Usage Survey.

## Glidewell

Standard Page

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## Determining factors

The top three factors that influence precious alloy purchasing decisions of survey respondents are:

Quality	41%
Price	22%
Relationship with manufacturer sales rep.	16%

Source: DLP June 2005 Alloy Usage Survey.

of contracting a debilitating lung ailment known as chronic beryllium disease. Tin, nickel, and other metals found in base alloys as well as silver can cause allergic reactions in technicians, dentists, and patients.

While doctors typically are aware of the allergies of their patients through questions asked at an initial or hygiene exam, this information needs to be transferred to the technician fabricating any metal-based restoration to prevent allergic reactions down the road. As it is, nearly two-thirds (64%) of survey respondents reported that fewer than one-quarter of their dentists request a specific formulation of alloy.

"While the vast majority of clinicians leave the decision to the lab, those that are involved in the selection do so because they recognize the liability associated with the choice," said Davis. "Others make choices based on patient holistic requirements."

Van Laanen agreed that doctors often are too busy to make individual alloy requests case by case and leave the selection to the technician's—and the manufacturer's—technical acumen. "If I recommend an alloy that might cost a little more because it's going to be stronger in a particular situation," he said, "I never get a complaint."

While not preoccupied with the actual

## About this online survey

An invitation to participate in *Dental Lab Products's* first online survey was e-mailed in June to 1,966 qualified dental laboratory owners, managers, and technicians randomly selected from the DLP circulation base. Those notified were given the opportunity to go online and take a brief 24-question survey on their alloy usage; 162 usable surveys were successfully completed for a response rate of 8.2%.

### Your input is important to us

We plan to use this method of administering DLP's industry-leading surveys in the future, as it allows the greatest number of dental lab professionals to participate in the important research-gathering initiative spearheaded by the editorial and research departments of DLP.

If you would like to be considered for future surveys (topics include implants, and trends in CAD/CAM), or if you want to suggest survey topics for next year, e-mail [pjohnson@advanstar.com](mailto:pjohnson@advanstar.com) with "DLP survey request" in the subject line.

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### Recipe for success

The metallurgical expertise of the alloy manufacturer comes into play when the technician needs to select an alloy for use with a porcelain to avoid processing problems. Through their own research and development, vendors have a vast array of technical information on their alloys to assist in this selection.

Even seemingly identical alloys with similar compositions of metals can produce dramatically different results. However, 42% of the survey respondents said they think all alloys with common composition are virtually the same product.

Michael J. Davis, director of operations for Metalor Dental USA, likens alloy blending to culinary creation. "Two cooks can start with the same ingredients and end up with an entirely different meal," he analogized. In addition to the various metals used, he said alloy processing also involves temperature, pressure, and annealing, all of which can influence the final alloy.

Trace elements (those that each make up less than 2% of the total composition) may be added by the manufacturer to base or non-precious alloys to enhance such characteristics as metal fluidity, castability, and grain refinement. Yet even in such small amounts, they can affect dental professionals and patients alike. Technicians who grind or polish alloys containing beryllium without using proper ventilation run the risk

makeup of the alloy used, dentists often request a certain category of alloy such as high-noble or noble (see "Identifying Identalloy" sidebar, below), which also may account for a percentage of survey participants who responded that they have had dentists request certain alloy formulations.

### Road trip

To make sure things run smoothly in the lab, the vendor needs to visit the facility on

a regular basis. Dine and Van Laanen both feel that a large amount of alloy troubleshooting can't be done over the phone but needs a hands-on approach to problem-solving. "If I have a problem, I need to go to someone specifically to fix the problem," said Dine. "What makes the manufacturer's rep so important is that I have someone to call and come into the lab."

Van Laanen's selection criteria included in-lab training and audits by the manufacturer of the fabrication processes. "Watch what we're doing and make sure we're handling their material properly," he said. "It's making sure we're following the right operating procedure."

A vendor rep should be able to travel to the lab and observe technicians working through the entire PFM process, from metal casting to porcelain firing. If the rep notices a step that is being done improperly—or knows of a better or more efficient technique—then it goes into future technician training. DLP

## Identifying Identalloy

In an industry that is often resistant to the idea of any outside regulation, the dental technology industry has embraced the Identalloy Program as a means of self-regulation of alloys by the manufacturers to establish standardization through a classification system. Working with the ADA's Council on Dental Materials guidelines on alloy content, the Identalloy Council established four classifications of dental alloys, each with its own recognizable symbol:



■ High noble	■ Noble	■ Predominantly base	■ Cobalt base
at least 60% noble metal content with at least 40% gold content	at least 25% noble metal content	less than 25% noble metal content	

Manufacturers participating in the voluntary Identalloy Program provide specification information on alloy content confirming compliance with the guidelines. The manufacturer then places a two-part certificate with the alloy that includes the company name, brand name, and composition of the alloy as well as the unique symbol for insurance coding. One part of the sticker is included with the lab records, while the other part is attached to the patient record. This permanent documentation of alloy usage can be particularly beneficial to labs, dentists, and patients in the event of future questions or complications concerning the alloy used in the restoration as well as insurance claims.

According to the Identalloy Council, 2004 was a record year, with more than 10.4 million alloy certificates being distributed in North America, surpassing the previous record of 9.8 million in 2002.

For additional information on the Identalloy Program, including a list of participating companies, call 888-577-2634 or go online to [www.identalloy.org](http://www.identalloy.org).

Source: Identalloy Council; [www.identalloy.org](http://www.identalloy.org), accessed July 13, 2005.

## Making requests

**36%** of survey participants said that more than 25% of their dentists have requested a specific formulation of alloy.

Source: DLP June 2005 Alloy Usage Survey.



## Survey says:

The DLP online survey participants also reported:

- **Biocompatibility (51%)** and **strength (38%)** are the two most important qualities in alloys
- **55%** say patients "occasionally" make specific alloy requests, while **43%** say "never"
- **37%** use 1-2 different alloys in fabricating metal-based restorations, **39%** use 3-4, **13%** use 5-6, **8%** use 7-8, **2%** use 9-10, and **2%** use more than 10
- Of the **87%** who say they mark-up precious metal costs to dentists, **89%** increase the price up to 50%, **10%** add 51-100% to the price, and **1%** at least double the costs to dentists
- Of the **90%** who say their alloy manufacturer offers refining service, **50%** use the service

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