Either framework doesn’t snap in or there is a gap between metal and palate or teeth. I have tried 3 different labs and they all had different problems.

What impression material are you using? Alginate.

If the frame fits your model and it isn’t abraded, you have to look at your impression technique. We use Xantalgin for our partial frame impressions. Mixes like alginate but a bit more accurate.

I was using one of the most well-known labs around here for years and had nothing but trouble. They kept telling me my impressions were bad. I switched to a new lab 11 years ago. I have had to remake one frame in 11 years. Evidently, the labs with the big advertising budgets aren’t always the best.

Polyvinyl should yield a much more accurate impression and therefore better model for the lab. Alginate imp just for Dx cast and RPD design. Works OK for flippers too, but I wouldn’t count on it for creating a metal framework. There’s my two cents. Good luck.

Irreversible hydrocolloid (alginate) hands down for RPD impressions. But, you need to make a custom tray. Remember it’s the most accurate under compression, so never use stock perforated trays. We also use a monojet syringe to capture rest seats and add to the vestibule.

Why exactly is alginate better for RPD impressions? My only hesitation with switching to alginate (from polyether in custom tray) is that then I’m on the hook for pouring up the impression and I don’t have a fast, predictable way to pour a model without distortion. Beading and boxing drove me nuts in school. Maybe I’ll give that alginate-in-a-bowl method of boxing another try. Any other ideas?

Hydrophilic, adapts to the teeth and soft tissue better than PVS, and it’s more hydrophilic when set, and thus you get a more accurate and “smoother” surface cast. And you can take
advantage of the water content. If you don’t submerge it in water, syneresis occurs and the material will shrink slightly towards the bulk resulting in a slightly larger cast and more passive fitting frame made to this cast.

PVS impressions are almost too accurate for all the metal shrinkage that occurs in casting a RPD frame. Have you ever wondered why when using a proximal plate in combination with a cast clasp it’s so tight?

You are 100 percent correct, you need to pour it up immediately, and not store it in water because it will absorb the water and swell, resulting in a cast that is too small and a frame that will be too tight. ■

The best impressions I ever got were from a doc who used alginate. It was a two-person technique. He would mix and load a monojet while his assistant mixed and loaded a tray. He would capture the rests (or PDs) and the buccal and labial areas. He would then take the tray from the assistant and slap it in.

He would always pour it up before taking the opposing. He said the time it took to pour up gave the patient time to recover from the first impression and the impression was never forgotten and poured up an indeterminate time later. ■

What’s the best way to make sure alginate sticks to custom tray? ■

Use alginate adhesive on a custom tray. Pouring models is an art. We use a vacuum mixer, graduated cylinder, and scale. It must be immediate. There must be no paper towel wrapping, etc. That said, I use PVS and they drop in. ■

I used to have major problems, but now almost every framework fits. I use resin-modified alginate (Alginmax). You can pour this four days later, just keep it moist in a zip-lock bag. Assistant mixes with an Alginator. She gives me a little glob and I put it into a Monoject syringe. I cut off half of the tip and syringe it around rest preps and guide planes. Assistant hands me metal rim-lock tray with Alginmax in it and I’m done. Let lab pour up this model. ■

Alginate, and then pour it with vacuum mixed die stone. Alginate cannot be sent to the lab, it’s just not accurate enough. You’re expecting a full arch of metal to fit on this, so treat it like that. ■

Uwe, do you have any issues with using polyether (in a custom tray) and letting the lab pour it? ■

Best way to do it. Just make sure the tray is not too tight, with PE you need some thickness in the material otherwise the teeth keep breaking off when you take the tray off the model. ■

AccuDent (used to be system I and system II). Maybe in a custom tray. Best I’ve ever tried for frameworks. ■
Lane, why does the custom tray allow alginate to be in compression and not the stock tray? Thanks. ■

Most people use perforated stock trays, think about it for a second. So, if you want to use a stock tray I’d use a metal “rim lock” over a plastic perforated one. ■

Alginate or AccuDent XD/Acu-Gel (whatever they changed the name to now), pouring it up within five minutes. Many prosthodontists I’ve talked with still use Alginate to do dentures and partials. If you use a syringe in the vestibule, a good fitting tray and pour within five minutes (12 if you look at the textbook I suppose), you should have good results.

I also take and do a “border molding” while the alginate sets up. Since alginate doesn’t “snap set” like PVS does (much quicker set time—it goes from mush to hard too quickly) it gives a more gradual time to mold the borders.

I’ve tried four different labs, none come close to getting the frameworks fitting as nicely as Trident. They make the frameworks very thin. I don’t use them for anything else, but their frameworks blow my local guys and Glidewell out of the water. ■

I was taught to run, not walk, into the lab as soon as I take an alginate impression for an RPD frame. It needs to be poured immediately. The distortion curve starts right away. If you can’t do this, don’t use alginate. ■

Also, I add more water to the stone when setting. Remember more water equals less expansion with stone materials. ■

Most of our clients still use alginate. The ones from out of town either pour up their own or use AlgiNot or some type of substitute. If the casting doesn’t fit the palate in the mouth and does in the model, I would change impression materials and see if that helps. ■

Use resin modified alginate. It’s accurate up to four days after the impression. I just keep it moist in a Ziploc bag and let the lab pour it up. I used to have problems with my frameworks, but no more. PM me if you want material name. ■

I use alginate, always with a metal rim lock tray. I mix in a bowl and use my finger to apply a small amount to the rests, and guide planes. Fill the tray and seat. Alginate should be removed quickly, with a snap or jerk as wiggling it out can cause distortion. This is the only time I don’t let my staff pour up the impression. I pour it up and have had very good success with this over nine years. ■

A couple of useful references:
1. heraeus-dental.com.cn/media/webmedia_local/china/hkcn/sm/dentistry_1/Impression_Guide_Alginates.pdf
Continued from p. 36

2. ncbi.nlm.nih.gov/pmc/articles/PMC2813082/

In my opinion, alginate is an excellent material for impressions, and one of the errors I witness often is premature removal from the mouth. I also see inadequate tray design, movement of tray during setting, and poor retention to the tray, all being factors to consider. Best advice is to always refer to the manufacturer’s instructions for use, they spend a fortune developing these materials only to see many users develop their own unique routines.

I use Bego’s system for making RPD’s. Digital design and printed. It’s nice to check fit before I even cast. I see the same results in any type of impression material. If there is a fit problem, it’s usually in the design.

If the frame is done correctly, there will be no difference between the fit on the model and the fit in the mouth. If there is a difference, check for abrasions on the master cast, usually at the terminus of the clasps or the minor connectors under the rest seats. If there are no signs of scraping, the fault is either a distortion of the impression, too much pressure (mucosal depression), or some other impression issue. Changing the impression material is the easiest way to tell if it’s a chairside problem or not. Believe me, if the lab is remaking your cases, they want to know why as well. The last thing we want is to do a case twice.

I never use alginate for RPD. FW. Always PVS. Rarely have FW not fit. I also don’t use alginate for bite guards only PVS. Saves me time and frustration.

I make custom trays and then perforate and add tray adhesive. Alginate impression border molded PRN. Leave in mouth additional two minutes from time you think it’s set. Remove and check to see that no material pulled away from tray. Get to lab immediately. Dry impression with compressed air and pour cast. I use die stone to pour final. Sounds like you might be getting some separation from the tray that’s creating a tweaked model.

Make sure you are not inverting the impressions before the stone is set. If you do, they will always fit the model, but won’t fit in the mouth.

While everything you stated is true, the lack of parallel guide planes or rest seats doesn’t answer the OP’s statement. If the framework doesn’t fit against the palate or the teeth, that’s either a distorted impression, a distorted refractory model, or a bent framework. The latter two should have been caught at the QC stage in the lab, the former is undetectable at the lab. I really like the part where you feel cast partials should be more expensive than implants, but I think we’re both dreaming.

A thread showing how a frame should fit on a well-done irreversible hydrocolloid impression: Anterior Dual Path RPD (dentaltown.com/MessageBoard/thread.aspx?a=11&s=2&fc=495&ts=2610111&g)
If you want to experiment, I would suggest sending a couple of cases to a reputable removable lab. Tim at Cynosure, Jerimiah at Inverness, Chrome Works in Chico, all do very good work. If you seem to still have problems, I would respectfully suggest it's your end.

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If the framework fits model then it’s your impression that is the problem. Plain and simple! At least on metal FW. If doing Valplast take impression with light body to avoid any pressure on tissue that will cause tissue pressure with partial.

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This is a partial denture frame work. Just about any impression materials, as long as clinician’s technique is sound, will work just fine. Most dentists here will attest to that. A full implant case with screwed down abutments? A completely different story.

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