

The BMC Impec

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As many of you already know the reason I was able to swing my TdF trip was because BMC invited me to their 2011 product launch in Switzerland. It was like winning the lottery. I couldn't think of anything more perfect since it also allowed me to get back to my primal MTB roots and do the Pass'Portes du Soleil with my good mate Pat.

Both Pat and I attended BMC's product launch in the small town of Grenchen, Switzerland (pronounced with a strong, back of the throat, German accent). It's also the capital of many of the Swiss watch making factories. If you want a good example of Swiss precision, this is probably the best place to visit.

When Pat and I arrived to our hotel in Grenchen we got our first taste of the graciousness of our hosts. It was a short walk from the BMC HQ and factory and close to some excellent riding in the Jura mountains that we got to experience later with the bikes of our choice. Unfortunately the Swiss sizing is quite a bit smaller than the Aussie fit so I could barely get into this particular kit shown below (I had also eaten a mountain of Swiss cheese and chocolate the week before, so that may better explain my fitting issues). Fortunately this kit was won by a lucky reader in on of the TdF quiz competitions.



The launch was primarily to introduce BMC's new flagship bike, the Impec, along with the new manufacturing facility built specifically for this bike. One of the highlights of my trip was having dinner with BMC and Phonak owner Andy Riis. He was an intriguing guy to listen to and it gave me and understanding of his philosophy on business and innovation. He's a very inspiring and down to earth man to say the least.

It wasn't good enough for BMC to rely on other manufacturers to build their carbon fiber. Their thinking is that handmade frames can be excellent, however there are human factors that introduce variants in the frame quality and feel. Being Swiss, BMC wanted to get rid of any variables that alter performance and quality. They wanted to do away with any uncertainty. The only way they felt they could have absolute control was to create a \$40M (AUD) manufacturing facility specifically for their purposes. They call it "handmade by robots", or was it "handmade by droids"?, or something like that. Ah yes..."handmade by machines", that's it.

A brief background on how carbon frames are made:

Traditionally monocoque frames are built by a carbon fiber cloth being wrapped around a balloon or foam core that's the shape of the frame. The carbon fiber is impregnated with thermoset resin and then placed in a metal mold. The frame is then heated until the resin has set. It's actually much more complex than that and there are multiple variations, but you get the idea.

Carbon fiber lugged frames are made by individually joining the carbon tubes together. One big advantage to this method is that it's highly customizable for a specific geometry and rider preferences. Monocoque molds are extremely expensive to create so if you need a custom geometry a whole new mold needs to be made.

The Impec Manufacturing Process

BMC takes a different approach in their new factory located down the street from their headquarters. They weave carbon tubes to a specification (depending on the load and what function they serve on the bike) which are then joined using injection molded composite parts they call “shells”. Don’t say “lugs”...they’re “shells”.

Here is a photo of their carbon fiber weaving mechanism they like to call “The Stargate”. Basically, that orange robot arm feeds this silicon sleeve into the Stargate. All of the carbon strands are then weaved around the silicon sleeve in a pattern dependent on the tube being made. It’s fascinating to watch. The whole process from start to finish is a completely new way of frame building, however the first part of the process shown below is similar to that of another manufacturer.



The “Stargate”. To give some perspective, it’s approximately 2m in diameter



This is what a carbon weaved tube looks like with half of it resin treated and the other half without treatment. It's just a flimsy sock until it's hardened with resin.

The Finished Product

Once the carbon tubes goes through the process of being injected with resin, heat treated, cut, and all joined together by the “shells”, you get the finished product:



The Impec “Noble” version with Di2



The Impec Team Version. You just saw Cadel and George riding this one at the TdF



The Impec uses the BB30, a bottom bracket standard that allows the bearings to be pressed directly into an oversized bottom bracket shell. It eliminates the need for external (or internal) bottom bracket cups. The performance benefits are that you get a substantially lighter and stiffer BB, lets you use cranks with a reduced Q-factor, and you saves weight. You can see that this model uses Campy which doesn't have a BB30 crank option and is therefore using adapters.



I was squirming in my seat all weekend just itching to ride one of these things. No one said anything about a classroom!



It was a pleasure meeting Andy Riis who joined us for most of the weekend. He had a helicopter to catch to Rotterdam to see the Prologue. What a rockstar!

The Ride

This is the part I was patiently waiting for the entire weekend. If you're into buzzwords, here's how some of the other sites described the ride of the Impec:

Bike Radar: "The Impec gave a great performance and the overall impression was of a bike working as a whole, with every component well balanced and unified. The handling is fantastic, with a rigid front end and excellent stability"

Bicycling: "Out on the roads, the ride is silky smooth in a way few carbon frames are...There was no perceptible sway to the frame and a welcome absence of road noise. Comfort was paramount, but not at the cost of stiffness. When standing to accelerate or carving fast descents, this machine was all business."

Please give me a good stiff backhand if I ever start using jargon like this. It's a \$10k-\$15k bike (depending on specs). Of course it feels absolutely beautiful! I'm not gonna use bunch of marketing hype to describe how this bike rides. You guys are smarter than that. However, one perceivable point that Pat and I definitely agreed on is that the Impec rides very smoothly. "Compliant" might be the marketing term I'm looking for. We rode hard over a short cobbled road and it was quite remarkable how it sucked it all up. Other than that, yes...it's a fantastic bike, as it should be. It's a nimble, comfortable, lean mean race machine. If you're blaming a bike for hindering your race results then go back and take a good look at your training. Well, maybe Andy Schleck has a different opinion...

I think you'll either love it or hate it depending on your taste on the aesthetics. I'm personally a fan of the black Noble version one shown above. I like the way they hide the DI2 battery and love the stealthiness of it. The Race version is a bit flash for me but it depends what you're into.



This is the lineup of bikes we took out on the 77km circuit that BMC uses for test rides



What a dream it would be working there at BMC HQ. This is their lunchtime loop! They do work extremely hard though. Maybe being a product tester would be the job for me...



Markus Eggimann (in the stars and stripes), Brand Manager for BMC, said that this wasn't going to be a race. Oh please...what do you consider a race then?!



Here's Pat and his "always on" helmet cam. He never takes it off! I'll try to add some footage of our ride later...



There's Markus at the front again. A true Jens Voigt hardman



It was about 38°C on our afternoon ride. A welcome change from 7°C in Australia

