

Chopsticks —

Mika Ihanus

I developed the chopsticks in 2006 and thanks to UPM Formi I was able to go ahead with my product. We tested similar plastics that use wood waste, but they didn't yield the same results. The environmental impact of the material is really important and so is the transparency of the manufacturing process.

UPM Formi is really useful for the prototyping stage. As an industrial designer you sometimes need to explore and experiment with your design and unlike standard plastics, UPM Formi can be milled, sawed and doesn't melt, leaving a clean finish. Normal plastics are messy, they stick to the blade or melt, and I guess it's UPM Formi's cellulose content that stops this from happening.

Another great benefit of UPM Formi is that it doesn't shrink after it comes out of the mould, so the moulding time is very short, and the addition of wood pulp also helps cut down on time. In terms of touch, there is a completely different feel to the surface of the chopsticks compared with other plastics. They feel different, perhaps more natural,

and it is this gentle touch experience, as a result of the wood fibres, which makes it unlike other plastics. If you're looking for an additional visual effect, we tried regulating the heat of the mould, which created an interesting surface effect like marbled stone for free!

“The gentle touch is the result of the wood fibres that make it unlike any other plastics.”

Aniara Loudspeaker —

Antti Louhivaara, Aurelia

Ten years ago we came across a plastic with wood content and we always kept it in the back of our minds. Then, a year ago, we were looking for that same material and the company was no longer in business, which is when we came across UPM Formi. Thankfully UPM Formi was better quality and even cheaper than the material we were originally after.

For loudspeakers it is very important that the cabinet isolates the vibration and the sound so there is no leakage through the walls. It would be almost impossible to make good quality speakers using ordinary plastic. We didn't want to compromise on sound quality and so UPM Formi was really the only choice. With UPM Formi we can achieve a wall thickness four to five times thicker than with ordinary plastics and this is why it is ideal for acoustics.

If we used traditional materials like wood, MDF or even aluminium, it would be a lot more complicated and much more expensive and, let me put it this way, without UPM Formi it just wouldn't have happened.

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Prima Series school chairs —

Antti Olin, Design Director at Isku

We use UPM Formi in our Prima Series school chairs. The product itself is more than ten years old and it is a staple piece of furniture in Finnish schools. About two years ago we were looking to end production of the chair because it was made from plastic, but then we discovered UPM Formi. The benefits of the material enabled us to give our very expensive injection moulding tooling a second life and now, with just some minor changes, the Prima series is going strong again.

Architects and school principals like the ecological value that UPM Formi offers and it's not just the buyers of Prima that enjoy this feature; it is also a good story to tell to young students too. They really like the fact that there is wood fibre in the plastic, which gives it that soft feel. It would be great if it had even more pulp.

We also like the colours, which is a real improvement to the previous plastic, and when you compare it to non-composite materials, the fact that it has wood fibre content makes it feel more like 'today's plastic'.

Before we started to use UPM Formi we ran a lot of tests to make sure we were happy with result and it's been working well. Price is important and it's getting more and more critical every day, so we're looking to using UPM Formi in more products because of its cost effectiveness.

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M-series —

Siamäk Naghian, CEO at Genelec

We've been searching for a composite material for around ten years, the reason being that one of our core strategies is to decrease the carbon footprint of our products. We're not driven by sustainability because it is a trend, instead we believe it is our duty to do so and it's been in place for some years.

Our monitors are used in television, radio, and music studios where sound engineers need to monitor the quality of their work. Our brand offers quality assurance to our customers, that the output is exactly what they expect to hear. We are the leaders in the industry and we have a strong brand. Any new material we use needs to be near perfect.

We did a considerable amount of testing over the years, but then 18 months ago we were assessing a new prototype and decided to experiment with UPM Formi. We knew it was an environmentally friendly material, but the next step was to test its acoustics. As you can imagine this is critical, as the enclosure of the monitor should not vibrate or this vibration needs to be at an absolute minimum. We tested UPM Formi's acoustic properties for a long time and the results were consistently great. Another reason that we arrived at UPM Formi was our new design. We've used and tested a variety of materials like aluminium and MDF, but you can't achieve the same shape as with a composite and

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these other materials tend to dictate the form instead of the other way around. We manufacture everything in our factory in Iisalmi, Finland, and so our costs are relatively high in comparison to say, China. We are a very rare company for our industry, in that we manufacture everything under the same roof. This focus on quality means we have to be efficient in our production and UPM Formi allows us to omit a few phases in the production process, which are critical in terms of cost, like not having a finishing stage (e.g. painting) unlike with aluminium. UPM Formi not only tested well in terms of sound, but we could use a manufacturing process that achieves an optimal shape at an efficient price. For our industry UPM Formi is a very innovative material and being the first to introduce it is very important to us. We can't be following others, as the leaders we need to lead from the front and in terms of materials we've done just that.



Keeploop —

Jukka-Tapani Mäkinen

The founder of our company was the driver for using UPM Formi. He discovered the material during another project while researching materials for the car of the future. When the opportunity came along we were able to use it immediately. The eco-story is key for our marketing purposes and, because it was a new material, we could also sell that story.

The low cost of UPM Formi is a real benefit to us, especially given its tactility. It is soft and pleasing to touch and has that premium feel. In terms of manufacturing, UPM Formi provided us with great colourability and was easy to injection mould. Another key reason for choosing UPM Formi was because we could label Keeploop as being made from an environmentally friendly material, unlike standard ABS or polycarbonate. Before going into production we did have one unknown which was quite risky. We didn't know how it would perform in a drop-test, but after we ran a few pieces we saw that the material was strong enough for our product.

Last, but not least, the material cost is lower compared to ABS and polycarbonate and that is always good to have.

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Kitchen cabinets —

Jussi Aine, Managing Director at Puustelli Group Oy

We were looking for a replacement for chipboard, which is widely used in kitchen carcasses today. The aim was to find something that was more environmentally friendly. A lower carbon footprint, and being more sustainable and formaldehyde-free were important factors in our decision for moving away from less sustainable chipboard.

We searched and tested a variety of materials from across Europe, but found that the majority weren't suitable. We needed a material that was greener, performed at higher temperatures, didn't smell, was resistant to stress, chemicals and moisture and UPM Formi tested excellently on all these points. It was the best material for our needs. Another great benefit for using UPM Formi is in the production; the moulds include ready-made holes for mounting drawers, hinges and other mechanisms. There is no need for extra machining, which is new to the furniture industry, and the frames are lighter. This will lead to lower transport costs, energy saving and our manufacturing carbon footprint is reduced by thirty-five to forty-five per cent.

“
... our manufacturing carbon footprint is reduced by 35 – 45% ”

In the future we'll look into other areas where we can introduce UPM Formi, like in lids and legs. Given this is a new production method for the furniture industry there are many applications where UPM Formi could potentially work.



CSI Composite Solutions and Innvations Oy—

Kari Kannisto

It all started two years ago when we set out to find a replacement material on behalf of one of our clients. They were using plywood, but the new material had to be faster to manufacture and also cheaper, plus it had to be lightweight and look better than ply. It also needed to match its technical properties. We tested what was available on the market globally and found there were between five to ten companies, but mainly in Asia or the US, producing green materials. However, the majority were small suppliers, so they were unable to trade in the volumes we were after. From the beginning UPM Formi met all the requirements, including also being based in Europe. Another superior advantage of UPM Formi was the price - it was clearly cheaper and it also worked better than anything else we were looking at. As a result we are currently developing five products using UPM Formi and some are very high volume projects.

Since UPM increased the wood fibre content in UPM Formi it has also been proven to have the same mechanical properties as technical plastics like ABS,

but again at a lower price. This is an important factor for anybody, but especially when more than fifty per cent of your price comes from material costs. At the moment consumers can buy green gasoline, green electricity and so, naturally, it's very important to offer end users environmentally friendly products too. Our clients need green plastics for their products and we need to meet this demand. Having a material that is non-toxic and that can be disposed of through the normal recycling system is important to us, but overall the main reasons why we use UPM Formi is not for its green credentials, we use it because of its mechanical properties and its price.

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