

AMORIM CORK COMPOSITES

Global Technical Manager &
Global Product Manager at Amorim

Interview with **Marta Reinas** & **Margarida Figueiredo**



Marta Reinas & Margarida Figueiredo

CREATIVE SYNERGY
PEOPLE
PROFESSIONAL
AND SKILLS
WORK
TOGETHER.
Ken Robinson

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Alan Ross: Hello, I'm Alan Ross, and I am the managing editor of APC Media. Today we are interviewing two members of Amorim Cork Composites. Amorim is a very unique company, in fact when I first heard about them, I thought, why are we interviewing a cork company? However, there's so much more than cork. We're going to find out today what exactly cork has to do with the power industry.

My first guest is Marta Reinas and she is an engineer and the Global Technical Manager with Amorim Cork Composites. Marta, it's lovely to have you. Could you tell us a little bit about what you do at Amorim?

Marta Reinas: Hello, Alan, it's wonderful to be here. I am a part of the Innovation Department, and I provide all the technical support to our customers and even to our commercial team. Apart from that, I'm also responsible for making all the adjustments to the formulations and also for developing new products for this area.

AR I love the innovation adjustments to the product. It's cork. How do you make adjustments to cork? We're going to talk about that. And then my other guest is Margarida Figueiredo. Margarida, thank you for being here. Could you tell us what do you do with Amorim?

Margarida Figueiredo: I work with Marta at the Innovation and Product Management Department. I'm not a Technical Manager, however, I am a Product Manager. I make the bridge between technical management and the markets. Therefore, I'm responsible for the portfolio management of our industry sectors and basically making the bridge between the market needs and to the possible applications of cork.

AR Every company is going through great changes right now specifically decarbonization. In the power industry, we have to make twice as much power and we have to reduce dependence on oil and gas. Amorim is the world's largest cork processing group, but you've gotten into other products that support that. Talk to me about the vision of the company. Where are you going as an organization?

MF I think we should start with the background and the origin of the company. Amorim Cork Composites belongs to the Corticeira Amorim. It's a family-owned company, and our origin starts back in the 70s with four generations. We started with cork, mainly with cork stoppers.

We then started to evolve as a company and began to develop different areas. We have 5 business units that belong to Corticeira Amorim which includes our raw materials division (Amorim Florestal), Amorim Cork that it's responsible for the cork stoppers production, Amorim Cork Composite which produces composites, Amorim Cork Flooring, and Amorim Cork Insulation. Amorim Cork Composites has a presence in ten different sectors, three joint ventures, and we have a worldwide presence. When we talk about the vision of the group, specifically for the power industry, it's really important to understand that our wish is to add value to cork. As a company, we play a major role in terms of innovation and developing new products.

AR I really want to focus on what Margarida just said about adding value to cork and innovation. Marta, talk to me a little bit about how you do that in regard to the power industry. How do you add value to cork?

MR Yes, in this case, specifically, we are mixing cork with different raw materials and specifically rubbers in order to enlarge the value proposition of our materials. In mixing these two raw materials, we are able to have what we call the best of two worlds because with the introduction of rubber, we are able to have the compatibilities needed. For example, for the sealing sector, when it comes to insulating the transformers, the addition of cork allows us to have other benefits that rubber alone doesn't allow. What I mean is that, is with the introduction of cork, we are able to have a better compressibility inside of the material, meaning it has less extrusion than the rubber.

AR I want you to talk about that specific technology. Speak to our audience about why the products that you make for sealing the transformer at the top are so important and what the difference is. Because that's important to the transformer manufacturers to avoid getting moisture and air in that area.

MR Cork has very good compressibility and recovery characteristics, and when we mix it with rubber, we don't lose this factor. We add it to our materials. So compared to the traditional rubber present in the market, our cork-and-rubber materials allow us to have better compressibility and recovering solutions or properties. When we are dealing with these types of transformers, which are very large in size, sometimes they have deformations and cork, when it is compressed, absorb the

movements of the rubber, and conform to the flange's surface. Which is great for minimizing the contact or improving the contact areas and minimizing the defects that we have.

AR The cork actually acts like a sealant when you press that down, which is brilliant.

MR Yes, exactly Alan, the cork will conform and adjust perfectly to all the imperfections that you may have. It can be used with oils or as you were saying, to prevent moisture, or other substances to enter the transformer.

AR Margarida, you are talking to customers, right? Now customers are probably not used to hearing about a cork-rubber combination. It's not a normal gasketing material. How do you present that to the people who specify transformers? For instance, does your product happen at the specification level or does it happen after the transformer manufacturer gets the spec and then is just buying the material?

MF In terms of sealing, we have a long track record not from the power industry, but in the automotive industry. For more than 50 years we have been using this technique for automotive engines. Therefore, we have a lot of knowledge and background in this area. What we then decided to do is, transfer part of that knowledge into the power industry. We work with the main OEMs of the power industry, and we work with them to prescribe our materials together. So basically, we have the capability internally to help them with technical drawings for example, and we have proven throughout the composition of our materials and our reverse engineer the performance of our materials in the equipment.

AR I think that's fascinating. I'm going to come back to you, Marta, because I know you can put rubber and you can put cork. Right. But when you say it's infused, it's a different technical process of how you create it. How do you do that? I think you will be showing us a picture of that. Explain that to me because I don't understand how that happens.

MR Yes, so in our factory, we have different mixers that are able and specifically designed to mix different rubbers with cork and all the additives needed for the final product. We then mix it, and after that, we produce all blocks or cylinders that we then cut to a thickness that our customer needs.

AR Explain to me how your product helps with vibration. It does help with noise too, but to me, the biggest thing that you do is help create a stable product when it arrives. Talk about that, please.

MR When we are talking about the transportation of transformers, some of our customers have a solution that we provide together with them, with our material, for example, we may cut the cork like a donut shape to put on the pins to prevent any impact, to prevent the deformation of the transformer. This is one solution we provide to our customers. Other customers also work with some PADs to decouple the metallic parts to prevent, any damage during transportation. We also have solutions for transportation from the factories to the commissioning sites.

AR Ok so the application for your products is flat and you can add thickness, correct? Different thicknesses. These blocks can go anywhere. You can pretty much create anything out of the cork/rubber combination. Is that right?

MR Correct. Because the blocks can be cut by different means, for instance by a CNC or by water jet if needed, the thickness can be adjusted to as fine as needed so, there is no problem. And the customer can cut it according to their designs or the place of application with the traditional equipment present in this type of industry.

AR Do most people buy material and then do the cutting? Or do you sell precut, ready-to-deliver parts?

MR We work in two ways. First, our main business is to supply the materials to our customers, and then they have the technology to customize our product according to their transformer. Second, we supply it directly to the customer if needed.

AR One of the commitments of the company is sustainability, and I love the fact that you're using cork. It's one of the most sustainable products that we can do. But where do you get the cork from?

MF The majority of cork is from the south of Portugal. And then we have some cork that we also get from the Mediterranean area. Mainly Spain, Italy, and Greece.

AR Wow you have European cork, but does it come from the cork tree? You only take the bark from the tree, right?

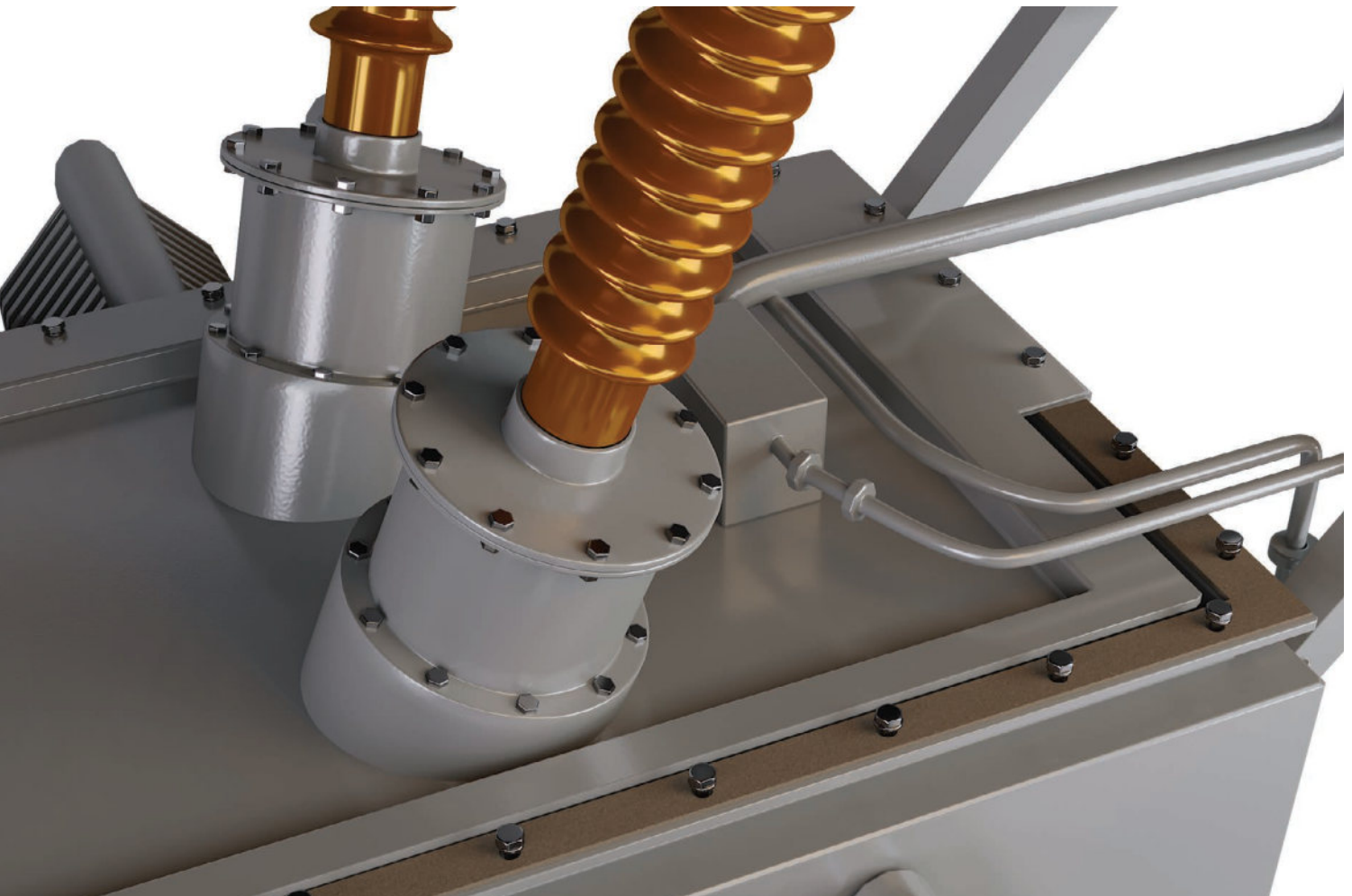


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Cork is actually a great vibration insulator. In addition to that, when we remove the vibration of the equipment coming from the active part or even from other parts of the transformer, we are able to bring the DB level of the transformer to a minimum.



MF Yes, that is correct, we only use the bark and we don't damage the tree, therefore we only take the outer bark of the tree and we harvest it. The cork tree can be harvested every nine years by peeling the outer bark and that is how we do it.

AR Marta what's next? If you can put cork with rubber and you can create this composite type material that does what it does, what do you think is next either for that material application or innovation? What are you working on?

MR We are trying to develop new materials with different characteristics in order to get to different applications or even markets that we are not present in due to high demand. We are also trying to see if we can enter into new solutions and also in new places and new types of transformers.

AR I love the fact that the company has made a commitment to sustainability and the very product is sustainable in using rubber products. Do you make your own rubber products, or are you purchasing from another supplier?

MR Yes, we supply the raw material, meaning the rubber and other additives needed for the formulation, and we mix it internally. In our factory, we have all the equipment needed to produce the materials from the mixing part to the vulcanization and afterward split it to the thickness according to the customer's needs or even finish the piece for them according to their designs and specifications.

AR Excellent. You're a totally controlled source. You make your own rubber. It's wonderful. Is there anything else that you think the customer ought to know? Anything else that you think they should know about the advantages of using core rubber?

MR Yes, we also have another solution, which is our vibration control solution. We have four of them that can be internal or external PADs material to be put inside of the tank wall, on the tank wall, and also material to decouple metallic parts. What they have in common is the minimization of the vibration of the equipment. Cork is actually a great vibration insulator. In addition to that, when we remove the vibration of the equipment coming from the active part or even from other parts of the transformer, we are able to bring the DB level of the transformer to a minimum.

AR I have a final question for you, Margarida. The problem is that transformers have been around for a long, long time and they've been made the same way for a long, long time. Now they're beginning to evolve. Talk to me as I was a customer and tell me why I should work with your company.

MF As a customer, you would want to work with Amorim because we are the world cork leader. Therefore, if you want to use cork and any of our products for this application, you won't get any other player with the presence that we have in the market. The second thing is that our brand is already consolidated in the market. Our mission and our vision for our brand is to be considered as a quality partner. In terms of quality material, you won't find any other player in the market that can deliver the quality material that we have. And in terms of distribution, we are present all over the world. Additionally, we have been in this business for more than 20 years, with the biggest OEMs. Therefore, we have a lot of knowledge and several engineering teams that are only dedicated to this sector which in turn helps our customers to provide the best solution for the power industry.

AR Well said. I've learned from working with Marta before. You've been in the industry a long, long time. You've made a commitment to the industry. Pedigree matters. You have a proven technology, you are innovating all the time. Marta, you just inspired me with the fact that cork and rubber, and innovation work together to make the transformer industry better. So, thank you for the innovation. And that's important because that's what's happening. The best companies evolve. They create products that matter!

Thank you for joining us. I enjoyed this interview with you. You're both wonderful. Thank you again.

MR & MF Thank you so much Alan.

