rotorprint®

Rethink, Redesign, Recycle – Pharma's 100% PET Blister

IPI Speaks with Alberto Negra, Technical Manager at Rotor Print about creating a pharmaceutical blister which can be recycled, but without losing the properties of the conventional blisters.

Q: Rotor Print provides all kinds of solutions for flexible packaging to the pharma industry. Can you tell our readers a brief history of the company, how you started and your growth so far?

A: The original idea for the project of Rotor Print was released during 2010. At that time, we detected some significant needs in the pharma primary packaging market. The ISO 15378 was just released in its first version in 2006, and only a few converters were able to adapt their existing facilities to those exigent requirements. Building a new plant according to these requirements was easier than adapting an existing one. Additionally, just the previous year, the merger between the two main players in the Spanish market (Amcor & Alcan) was completed and that opened an opportunity for other converters in those customers that were concentrated in the big new player.

Q: The manufacture of packaging materials for medicines requires compliance with standards of hygiene to ensure that the product is not contaminated with external elements that may alter the product. Can you tell us what these regulations are and how does your operations adhere to these guidelines?

A: The Standard required for primary packaging materials production is the ISO 15378 (current version is from 2017). This is equivalent to the traditional ISO 9001 Quality Standard plus the Good Manufacturing Practice (GMP) Standards. In this Standard of course there are a significate number of procedures to be followed, but I would like to emphasize that all the production processes are done inside a Certified Clean Room. This is very important, as there are not too many converters who have Rotogravure printers, Flexographic printers and Laminators inside a Clean Room. Most companies do the final process, slitting, in a Clean Room, while Rotor Print is doing 100% of their activity.

A Certified Clean Room is a facility built following the recommendations of ISO 16444 and are validated afterwards, achieving a minimum qualification of ISO-8. This means that you have a maximum number of particles per square meter of air inside the room, and this air is changed at least 20 times per hour.

Q: Have you noticed any recent changes in the industry? What are customers looking for now? How are you addressing these changes?

A: During the last 5 years, we have been introducing new structures using more sustainable materials for the flexible packaging in the food industry. The pharma market was initially reluctant to make these changes, but recently a bigger number of customers are asking how we can help them to make their blister packs, sachets or stick packs more sustainable.

Q: As a, industrial giant, I am sure you are governed by the vision of sustainability, emission control and circular economy. What steps are you taking to lead in this category, and what commitments have you made and gained from your customers and suppliers?

A: The use of flexible packaging by itself helps the companies to reduce their carbon footprint if we compare them to the use of other kinds of packaging. For instance, now we are in a project to calculate the carbon footprint reduction of a company who wants to switch from rigid PP pots to stand-up pouches.

In terms of circular economy, we are following the recommendations of different EU organizations such as Ceflex, Citteo or Recyclass, to produce flexible packaging laminates fully compatible with a further mechanical recycling process.

One of our principal aim is to substitute those standard flexible packaging structures, combining different molecules of plastic compounds and aluminium foil, for another structure using in all layers of the same family of molecules, to be fully compatible with the existing recycling requirements. In some cases, we must help the customers to adapt their existing packaging machinery. In other cases, the material can run in their existing machines with minimum adjustments.

Q: You have an interesting strapline – Rethink, Redesign, Recycle, to refer to your – 100% PET Blister. Can you tell us about it. How will this impact the industry?

A: The blister packaging as we know it, is using a rigid film of PVC for the bottom and a lacquered aluminium foil for the lid.

In this current situation, we are using two materials completely incompatible for the recycling process, which cannot be separated from each other after disposal.

At Rotor Print we are committed to sustainability, and so, with the recyclability of the packaging concept. Our goal was to create a pharmaceutical blister which can be recycled, but without losing the properties of the conventional blisters.

In our 100% PET blister we use a PET foil for the bottom and a PET foil for the lidding film. It is mono material and it's not opaque, so fits the recycling plants requirements to be recycled. It has a push-through system that allows the user to extract the pill with the same convenience as with the aluminium. And the barrier properties are the same as the conventional blisters.

Q: The rotogravure printing system is the origin of your company. Can you explain the technology further & why is this unique process beneficial to your clients?

A: The origin of Rotor Print was only with rotogravure printing, as it was the technology offering a premium quality at that time.

During the last 10 years, the flexographic printing has achieved a significant improvement in its quality, using machinery equipped with the latest technologies in this field.

By the end of 2018 we introduced new machinery with the state-of-the-art technology in flexographic printing, and now we are glad to offer both technologies to the market, offering the same level of high quality.

Q: The pharma industry faces challenges from global competition, shorter innovation cycles, legal regulations for safety and environment, and individualized product demand. How does your company help ramp up production faster and accelerate faster products to market to combat new diseases?

A: In a few years, due to the UE regulations, the recyclability of pharmaceutical packaging will be mandatory to commercialize it. That's why at Rotor Print we keep on investing on I+D+I, to be able to create recyclable solutions of the conventional structures.

This regulation poses a huge challenge for the industry regarding the environment. Historically, pharmaceutical packaging was created focused on preserving the product, without considering the environmental impact of the packaging.

Nowadays, the industry might start to move into a more sustainable packaging concept. This move will pose other challenges, to move to a recyclable packaging meanwhile it keeps preserving the product.

In Rotor Print we help the laboratories to move to a recyclable packaging with the correct barrier properties to preserve the product without any additional investment in new machineries.

Q: What is Rotor Print's vision for the future? What projects are you most looking forward to?

A: Rotor Print vision is recyclability and reducing the environmental impact. That's why we keep developing recyclable solutions for all kind of packaging (sachets, sticks, blisters, etc). Talking about the reduction of the environmental impact, we are creating life cycle assessment, being able to provide to our customers the environmental impact of the production of the packaging.

Alberto Negra

Chemical Engineer specialised in plastics and packaging materials. Since 1992 he has worked in the manufacture of flexible packaging for the food and pharmaceutical industries. In 2010 he was part of the group of professionals who founded Rotor Print SL. During the last 6 years he has been especially involved in the development of new structures and combinations of materials that replace those existing on the market to have the most sustainable solution possible.