Within the framework of the Interfilière Paris and Mode City trade shows, held in Paris between Saturday 7th and Monday 9th July 2012, a Symposium on Cosmetic Textiles was held on Saturday 7th July from 4.30 pm to 6.30 pm. The event was organised by the Fédération de la Maille & de la Lingerie, and coordinated by Dominique Demoinet (DLD Consultant).

In France, microencapsulation was introduced by Yves Rocher which used the technology for “scent communications” in the 1980s.

Having reached the end of this brief historical recap, Dominique Demoinet cited the definition of cosmetic textiles attributed in 2006 by the French Textile-Apparel Industry Standardisation Office (Bureau National des Industries du Textile et de l’Habillement or BNITH): “cosmetic textiles are textile articles which contain a substance or preparation designed to be released over the long term onto different, superficial areas of the human body, in particular the epidermis, and claiming one or more specific properties, such as cleansing, perfume, figure-enhancement, skin protection, maintenance or anti-odour”.

### PART 1: “HIGHLIGHT ON COSMETIC TEXTILES”

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<td>Marketing Manager</td>
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<td>CEO</td>
<td>ROBERT BLONDEL COSMETIQUES</td>
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<td>Anne SIRVENT</td>
<td>Responsable R&amp;D et Communication Scientifique</td>
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<td>Isabelle ORQUEVAUX</td>
<td>Regulatory and Scientific Advisor</td>
<td>FBEA (Fédération des Entreprises de la Beauté)</td>
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<td>Pierre LEBON</td>
<td>Assistant Director</td>
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Before opening the debate, Dominique Demoinet reminded the audience that cosmetic textiles made their first appearance in the late 1990s, when Ted Lapidus and later Hermès decided to offer scented silk scarves. In the intimates domain, Neyret was one of the first to test the process in 1998 by adding fragranced microcapsules beneath the floral pattern of its prints. She also explained that these microcapsules, now used in a variety of domains (agri-foodstuffs, printing, pharmacology, textiles), were first created in 1954 by the American company National Cash Register. While seeking a process for duplicating invoices, it discovered a way of encapsulating ink which was then revealed under mechanical pressure.
Leyre Quibus, Marketing Manager, NUREL

Leyre Quibus presented the technology developed by the company over the last six years under the Novarel label. “Novarel is a new patented technology, applied to fibres using a process involving microencapsulating cosmetic ingredients. It is completely different to previous technologies. Working like microscopic sponges, which are highly resistant, porous and inert, these microcapsules contain cosmetic additives that Nurel incorporates at the heart of the fibre, within the polymer itself,” she underlined.

To help everyone understand the workings of this “permanent” technology, Leyre Quibus took a few minutes to explain the principle to a very attentive audience: “Each filament contains thousands of Novarel microcapsules, featuring different active ingredients. Introduced just before extrusion, these nanoporous microcapsules gradually release their content when the garment is worn. The fibre contains a sufficient amount of cosmetic ingredient to offer the benefit expected. This cosmetic product is diffused via a controlled release method, due to the difference in pressure inside and outside the capsules, as well as by physical mechanisms, in particular the rubbing of the fabric during wear.”

It is worth noting that, although highly resistant to temperature and washing, the active ingredients in the microcapsules run out after 100 washes. Maintaining their shape and volume, the capsules remain inactive within the fibre throughout the garment’s remaining lifetime. “Our products are, of course, guaranteed by clinical and scientific studies, carried out by renowned international laboratories”, added Leyre Quibus, before outlining the different certification processes adopted by Nurel.

To conclude, she presented the Novarel products already available on the market, their ingredients and properties, namely:

- Novarel Aloe, moisturizing, containing pure aloe vera,
- Novarel AntiOx, anti-aging, with aloe vera and vitamin E,
- Novarel Slim, featuring caffeine to control cellulite,
- Novarel Firming, using the skin-firming properties of retinol and ceramides.

And the two latest additions:

- Novarel Natural Care, nourishing, it contains sweet almond and rosehip oil,
- Novarel Minerals, for deep-down moisturising, with pure mineral water extract.

Yann Balguerie, CEO, ROBERT BLONDEL COSMETIQUES

Speaking on behalf of Robert Blondel Cosmétiques, Yann Balguerie underlined the fact that RBC technology, which can be applied to both knits and wovens, had enabled the company to move into new markets with a varied product range, including scented towels, venotonic tights, slimming dresses, “plumping” bras, slimming leggings and moisturising T-shirts.

He reminded the audience that it is RBC’s know-how which enables the company to uphold promises relating to “customisable” cosmetic benefits over the long-term, these include: slimming with anti-cellulite properties, a skin-firming and tightening effect, skin moisturising and restructuring, anti-age and plumping actions, aromatherapy and relaxation, as well as actions to stimulate blood circulation. Next, when introducing the details of how “his” technology works, he pointed out that there is no need to oppose
Nurel technology and RBC technology. Instead, it is important to highlight the differences between them. “Unlike Novarel capsules, our microcapsules are on the outside of the fibre, grafted on to the exterior, rather than being inserted within the fibre. These microcapsules gradually release their active ingredients in a controlled way. They are designed to suit the product’s lifecycle”.

Yann Balguerie then highlighted the 3 potential applications proposed by RBC:

- Seamless products with slimming programmes, established using treatment cycles of 30 wears,
- Applications in tights, with treatment cycles of 5 wears,
- And on a daily basis, with the possibility of using refill solutions.

While explaining that the different legislative and regulatory points will be looked at by the organisations in question, he nevertheless underlined the fact that RBC technology complies with current regulations and standards relating to GMP (Good Manufacturing Practice), the REACH regulation, quality control, clinical trials, safety and toxicology assessments, etc.

Dominique Demoinet then asked Yann Balguerie about the different ingredients available on the market offering genuine active potential for cosmetic textiles. “I’m sure some of the other journalists present remember, as I do, the cosmetic textiles on Interfilière stands a few years back with a host of different scents, that were surprising to say the least and seemed more of a gimmick than anything else: campfires, gingerbread, fresh butter, mulled wine, incense, oil, pudding, marzipan... and why not grilled meat?” To an amused audience, Yann Balguerie immediately repositioned microcapsules in a more serious context by asking the following question: “Why do we need to take care of the skin?” After outlining the role and composition of the skin, and reiterating the various claims, he added that the main ingredients used these days are vegetable oils and butters, with avocado oil, sweet almond oil, apricot kernel oil and argan oil, for instance, or shea and mango butters in particular. Using the example of cellulite – the consequence of increased fat cells, deteriorating connective tissue and alterations to the vascular network – he listed various ways of combating the condition, before concluding that caffeine, well-known for its lipolytic activity, is the most widely-used substance. “Nevertheless, new substances have appeared over the last few years with very promising results,” he indicated.

Anne Sirvent, R&D and Scientific Communication Manager, DERMSCAN

Dominique Demoinet next invited Anne Sirvent, Scientific Communication Manager for the Dermscan Laboratory, to continue the exploration of claims made by cosmetic textiles, by offering evidence of their effectiveness, essential for gaining consumers’ trust and ensuring the development of these textiles in the market. Having explained that the Dermscan laboratory has been testing cosmetic textiles for the last 16 years, with wide-ranging expertise in other domains, she clarified the methodology of tests carried out. She then looked at the various risk assessments relating to cosmetic textiles, starting with safety, which is checked after several irritation and sensitization tests. “We carry out a series of verifications using several techniques: a patch test with a single application for 48 hours and scoring of reactions on removal of the patch and a usage test, requiring a garment to be worn under normal conditions for 4 weeks;
these two techniques allow us to control skin irritation risks. We then check the risks of skin allergy using the repeated patch test, RIPT method,” she underlined. Anne Sirvent explained that effectiveness was controlled using various clinical examinations, biometrological measurements and an analysis of the results expressed in subjective self-assessment questionnaires. Taking the slimming effect of cosmetic textile tights as an example, she outlined all the different phases in the study carried out before the results are reported after 6 weeks’ daily wear. The observations made regarding an effective, significant reduction, or not, in the circumference of the thighs, dimpling and skin firmness scores are compared with an analysis of feedback from human volunteers which allows Dermscan to confirm the effectiveness of a cosmetic textile or not, whether this is to demonstrate a moisturising, soothing and anti-irritant, draining (heaviness in the legs) or anti-odour and antiperspirant effect. To conclude, Anne Sirvent reminded the audience that launching cosmetic textiles on the French and European markets is subject to regulations designed to protect the consumer and distinguish between the products on offer. “At the end of the day, the evidence required to support claims is very similar to requirements for cosmetic products,” she concluded.

Isabelle Orquevaux, Regulatory and Scientific Advisor, FEBEA

Tackling the subject of European cosmetic regulations head on, Isabelle Orquevaux spoke on behalf of the Fédération des Entreprises de Beauté (French Association for Beauty industry companies or FEBEA). She started by reminding the audience that cosmetic products, which are currently subject to the regulation imposed by a Directive dating back to 1976 (76/768/EEC) would be required, as of next year, to adopt the Cosmetic Products Regulation published in the Official Journal of the European Union on 22 December 2009 (Regulation [EC] No 1223/2009). She insisted on a very precise calendar which sets the deadline for full application of this new regulation as 11 July 2013. “In the interim, the process of enforcing this regulation will, or has already featured a number of different steps,” she explained, while presenting the three-year calendar. She then offered a point-by-point overview of what the 2009 Regulation will change in comparison to the 1976 Directive and what remains the same.

Elements remaining unchanged:
- Definition of cosmetics,
- Safety reasoning,
- Freedom to choose ingredients,
- Prohibition of animal testing,
- Role of competent authorities,
- And probably the registration process.

Elements likely to be modified or simply adjusted:
- GMP (Good Manufacturing Practice),
- CMR chemicals (Carcinogenic, Mutagenic or Repro-toxic),
- Cosmetic product safety,
- Claims,
- Distributors’ obligations.

“Good Manufacturing Practice (GMP) will be clarified with harmonised standards and the risk management regime for CMR 1A and 1B substances will be subject to strict new conditions,” continued Isabelle Orquevaux, before going into the details
of these new conditions and looking at changes to the Product Information File and monitoring the safety of cosmetic products. As regards distributors’ obligations, she underlined the importance of product labelling, which must mention a number of specific details (name, list of ingredients, batch number, durability date, etc.).

She then listed half a dozen minor modifications, before directing the audience’s attention to a number of key changes:

• Legal form,
• “Responsible person”,
• Notification,
• Management of nanomaterials.

She insisted, in particular, that the change in legal form, which places legal provisions within the framework of a regulation rather than a simple directive, should eliminate the problem of local discrepancies and transposition delays. As well as simplifying the legal framework, the new legal form renders any national legislation that is incompatible with the material provisions of the regulation inapplicable.

Pierre Lebon, Assistant Director, ASQUAL

Pierre Lebon, Assistant Director of the ASQUAL certifying body, stepped up to round off this first part of the symposium, aiming to offer an insight into cosmetic textiles. He started by explaining the role of product certification, which has a double objective: ensuring the safety of consumers and offering a guarantee from distributors. “Certified products place users in a position to make the best possible choices regarding products present on the market, as well as enabling suppliers to obtain market acceptance more effectively by demonstrating their products’ compliance,” he confirmed. While admitting that the definition of cosmetic textiles was specified in 2006, Pierre Lebon explained that the certification standard had taken time to establish, even though the specifications were not overly unwieldy. The ASQUAL therefore published a certification standard relating to cosmetic textiles in 2009. Its main requirements relate to the cosmetic product used, after ensuring that it is harmless, GMP (Good Manufacturing Practice) traceability and the cosmetic textile product itself, after ensuring that it is safe and monitoring claims made to consumers. He underlined that the requirements of the certification standard were in line with the technical report CEN/TR 15917: 2009 regulating general characteristics, safety, effects, wash-resistance and labelling, etc.

“The guarantees offered by ASQUAL COSMETOTEXTILE certification ensure that the product will not affect the wearer’s health, that the cosmetic effect has been demonstrated and that the claimed durability has been checked. Certification also offers the guarantee that all the above-mentioned information remains transparent and available,” he added.

When Dominique Demoinet asked how many cosmetic textile products were currently certified by ASQUAL, Pierre Lebon replied that distributors are awaiting a positive reaction from the market before making a commitment to applying for certification in this domain.

“We are here today to demonstrate that the market is ready and mature. Highly attentive to their bodies and on an eternal quest for slimness and wellbeing, consumers are looking for product benefits. Cosmetic textiles can offer them the properties they require. This is what we are going to look at in the second part of the symposium”, she concluded, before thanking all the participants for their comprehensive and high-level presentations.
Mateo Agliaudi, R&D Manager, EUROJERSEY

The second part of the symposium, designed to provide an overview of the cosmetic textile market, opened with the presentation of two new knits, developed by two specialists exhibiting at Interfilière: Eurojersey from Italy and Dogi from Spain.

Mateo Agliaudi, R&D Manager for Eurojersey, unveiled A-More, the latest addition to the Sensitive range, to an audience which was not yet familiar with the new product. “This new Sensitive fabric has been developed within the framework of a new skincare concept which works just like a beauty cream. A-More stands for “Act More” because that’s exactly what this cosmetic textile does.” Launched with a strong marketing campaign and a visual featuring a skincare container to evoke the world of women’s beauty products, Sensitive A-More uses Nurel technology. “We chose Novarel Firming for its skin-firming qualities,” underlined Mateo Agliaudi, before presenting the results of the tests carried out on A-More: skin is toned after just 28 days of use, 95% of women noticed a real difference and 76% reported genuine benefits.

When Dominique Demoinet asked about clients’ reactions to the innovation, he replied that it had been easily understood and warmly welcomed by clients. Mateo Agliaudi made no attempt to conceal his satisfaction and confidence in the future success of “Sensitive ultra light Firming A-More”.

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<td>Sergi DOMENECH</td>
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Sergi Domenech, Marketing Manager, DOGI

Next, Sergi Domenech presented his Winn range of cosmetic textiles, which have actually been developed over the last few seasons. “Dogi began presenting its first microencapsulated knits in 2005. The Winn brand, derived from the words “Wellness” and “Innovation”, was launched in 2007. However, it wasn’t until the second half of 2011 that we began to sense a real interest,” he explained. This interest immediately translated into significant demand, which was sufficiently high for Sergi Domenech to confirm that “if you look at the last 15 years, the most remarkable innovation for consumers was the arrival of microfibres which were softer and less aggressive on the skin. Cosmetic textiles are the next step in this revolution.” In reply to Dominique Demoinet, who asked how clients had perceived the innovation, he explained: “Although I can’t divulge my clients’ names for confidentiality reasons, I can confirm that two major brands have placed very large orders. This is sufficient to demonstrate the success that Winn Slim and Winn Firming are set to enjoy in the very near future.”

Christine Sohier, Scientific Manager, SKIN’UP

Two manufacturers then took over to present their product ranges and corresponding claims. Christine Sohier, Scientific Manager for Skin’Up, started by underlining the company’s expertise. Based in the Touraine region, this leading French cosmetic textile laboratory has been manufacturing cosmetic textiles since 2005 under the Skin’Up brand. She then outlined “her” technology, explaining that millions of microcapsules containing a concentrated formula, rich in extracts of seaweed and safflower seed oil, were embedded within the heart of the fibre. “When the fibre is stretched and released as the body moves, the capsules break open, the active cosmetic ingredients are released and begin acting on the skin”.

Having highlighted the fact that Skin’Up takes pains-taking care when selecting active plant and fruit extracts, while respecting a stringent quality policy, as well as monitoring and traceability in its formulations, Christine Sohier underlined the originality of the performance indicator. “This is a worldwide first, which gives users an ongoing indication of the level of active ingredients left. Starting out as a dark fuchsia colour, the indicator gradually fades to its lightest shade to alert the user that all the microcapsules have been used up and it is time to “refill” the cosmetic textile, using the spray.” Having confirmed that the Skin’Up slimming range is definitely the brand’s flagship line, she explained that Skin’Up also offers ranges of relaxing and refreshing products (knee-socks) and hair care (towels). A Spa bodycare line with moisturising bathrobes is also to be launched in the near future. Christine Sohier presented a number of the company’s bestsellers – boxer-shorts, cycle-shorts, briefs – before ending with the latest addition to the product range, Biowave, launched at Mode City. Results in performance tests are decisive: a third of users reported decreases of 4.4 cm from the hips, 5.4 cm from the waist and 3.7 cm from the thighs after wearing the garment for 8 hours a day on a daily basis for 28 days.
Marc Vautier, Marketing Director, LYTESS

Offering polished expertise in his domain, Marc Vautier, Marketing Director at Lytess spoke before a captive audience. He asked the ladies present about their obsessive quest for slimness and wellbeing, “a universal and timeless requirement which is ever increasing and translates into a constantly evolving slimming market, that is also innovation-led,” he added. He then included the male members of the audience and took visible pleasure in underlining the success of Lytess which has collaborated since 2008, with various brands and labels, in particular those belonging to the L’Oréal group, with Mennen following in the footsteps of Biotherm, Garnier and Mixa. Marc Vautier reiterated the cosmetic know-how of Lytess which uses preparations consisting of 100% active concentrates in 26 exclusive, paraben-free cosmetic formulations.

Attributing his company’s leadership to its perfect mastery of a variety of domains, he explained that the success of Lytess was based on a combination of solid cosmetics expertise and textile know-how in circular and seamless knitting. He then underlined the principle of continuous time-release which ensures that products maintain a sufficient quantity of active ingredients for the duration of the treatment and beyond, and which also enables microencapsulated active ingredients to be released quite simply, as the fabric rubs against the skin. “Time release is the progressive controlled release of microcapsules on a continuous basis for 8 hours a day,” he clarified, before insisting once again on the importance of performance guarantees, as certified by a whole series of clinical trials and industrial checks. Having reached the end of his demonstration, Marc Vautier gave a brief presentation of the ranges – Slim Express, Stop Cellulite, Sculpt & Slim and Sculpt & Lift – before mentioning the new therapeutic applications for dermotextiles that Lytess is keen to explore and for which it devotes 10% of turnover to R&D. Dry skin conditions and atopy, preventing stretch-marks, relieving ligament and lower-back pain, after-sun and footcare treatments are all in hand. Created in 2003, with the first pair of slimming tights, Lytess is now top-ranked in Private Label sales and leader in the market for commercialising multi-sector collections with 5.4 million products sold.

Armelle DELAAGE, Marketing Manager, SIMONE PERELE

An air of softness and femininity reigned at the symposium when Armelle Delaage took over to talk about the “cosmetic textile” approach adopted by Simone Pérèle, the famous lingerie and corsetry-maker, which revolutionised the very concept of the bra in the 1950s. “The brand has chosen to develop two lines of cosmetic textiles since we had two objectives to fulfil: obtaining a ‘textile’ result by working with the fabric to achieve optimal softness (Caressence line) and obtaining ‘cosmetic’ results by inserting slimming ingredients within the microfibre (Top Model line),” explained Armelle Delaage.

“This dual approach is interesting,” intervened Dominique Demoinet, “since it allows us to underline the benefits of cosmetic textiles and evaluate their
development perspectives which extend well beyond the slimming market that we have heard a lot about so far.” Launched last year, Simone Pérèle’s Caressence line was an immediate success with consumers, since it succeeded in winning-over die-hard fans of microfibre or cotton knits, particularly wary of lace, which is often viewed as a less comfortable option.

“We chose to combine a 3D spacer, offering a perfect fit, with a lace featuring microcapsules of aloe vera that make it extremely soft and comfortable,” clarified Armelle Delaage, before concluding by explaining a very different approach that led to the launch of the Top Model line. The first line featuring Lycra Beauty microfibre and lace, Top Model shapes and firms the body, reducing unsightly dimpling and the orange-peel effect thanks to active ingredients.

Mélanie LEBIHAN, Consumer

Were these presentations, supported on the one hand by claims certified by official organisations and backed up, on the other, by laboratory figures, sufficient to convince the audience? What about the consumers? What do they think?

One consumer, Mélanie Lebihan, expressed her view, explaining that she had been rather suspicious of cosmetic textile products boasting softening and/or slimming properties until now. “I’m prepared to believe in their effectiveness, since my friends and I have been testing them and several of them have come back with convincing results. But I still find that there’s something a bit cold about these products, the way they’re presented doesn’t make you want to buy them, the packaging is unattractive,” she accused gently. This was enough to get a reaction from Marc Vautier and Christine Sohier, who persuasively encouraged her to reconsider this negative perception. Since claims made by these products are very precise, brands such as Lytess and Skin’Up take great care in providing information and transparency. Above all, packaging is designed with this desire for honesty with regard to consumers in mind.

Dominique DEMOINET, Director, DLD CONSULTANT

Since the audience did not request any further information at the end of this very comprehensive two-hour symposium and did not have any specific questions for the participants, Dominique Demoinet concluded by highlighting the fact that the IFM estimated worldwide turnover from cosmetic textiles at €500 million in 2013. It is therefore crucial not to underestimate the development perspectives represented by this generation of “smart textiles”, even if we consider France alone, where the slimming market represented €1 billion in 2010. “Other generations of ‘new textiles’ will follow, smart textiles developed using ceramic-based technologies which capture infrared are already emerging. “Let us not forget,” she underlined “we estimate that in 20 years, 80% of textiles will be technical or functionalised”.

Mélanie LEBIHAN, Consumer

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