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Sticking to innovation. Henkel PSA Forum in Wrocław



Henkel PSA Forum was visited by over 80 guests from Poland and abroad.

Henkel brand is mostly known for its detergent production – after all it introduced the first washing powder Persil in 1907. However not many are aware that since 1922 Henkel had been expanding its production of adhesives for packaging of own consumer goods. With development of this segment current sales revenue of these products is 50 percent of total sales. During two-day meeting with clients in Poland the company, along with its partners from various industries, promoted its latest solutions in Pressure Sensitive Adhesives (PSA).

In terms of PSA adhesives Henkel presented four product groups: hotmelt, waterbased, solvent born PSA (acrylic) and UV Hotmelt which are applied on industrial tapes, graphic foils, packaging labels and medical applications.

The first group is distinguishable through good adhesion to a variety of substrates (including recycled paper, cardboard, PE, tyres and packaging film), resistance to changing temperature, water or fatty surface (including hypercondensation on frozen bottles), no migration, excellent squeezability on HDPE without de-keying from the substrate, no wrinkling (tunneling effect) and repositionability. The second group – clear and easy peeling-off labels from various surfaces, balance of adhesion and cohesion preventing label flagging (for vials, bottles and wound care plasters), water resistance, suitability for wet application on frosted glass and ageing resistance. On the other hand the line of solvent born PSAs possesses high resistance to heat and shear, water, other solvents and ageing (for re-closing labels), excellent transparency, plus they are non toxic and skin-friendly which makes it perfect for medical applications. However the pure novelty are UV Hotmelt adhesives which are fast curing, environmental friendly, offering higher coating speed, lower operating costs and better water resistance. "PSA labels will be replacing wet glue labels in beverage market, mainly due to its ease of use and lower costs", forecasts dr Rainer Rauberger, sales manager PSA, tapes & labels for CEE in Henkel.



The UV Hotmelt PSA can be applied also to re-closable flexible packaging. After detaching the sealing coating while opening, the label remains on the packaging revealing the hotmelt adhesive.

From adhesives to plastics

This view is shared by Richard Southward, product manager from Innovia Films: "In 2013 the global label market was dominated by PSA and glue applied labels which both shared 38 percent. However, all indicates that this distribution will change soon in favor of Pressure-Sensitive Adhesives". This thesis was an introduction to a broad discussion of the decision-making factors when choosing the proper label film, including: moisture level, high or low temperature, chemical environment and UV exposure. Precise determination of the above mentioned factors allows to match suitable material to packaging type. For example: PET is ideal for rigid containers in beauty and chemical industry (highest water and chemicals resistance), for „no label look“ effect (highest clarity) and for UV curing (best thermal stability), but it is most expensive. PE on the contrary – it is the cheapest and most flexible type, which is why it is mostly used for squeezable tubes. Still the most universal film is PE and PPC (BOPP „compatible“) for both semi-flexible and rigid, as well as fully flexible and rigid applications. While

choosing a proper label material one should take into consideration also the paint and printing characteristics – for flexible packaging printed on narrow web best are water based or UV inks; for flexo and gravure printing – water or solvent based inks.



According to AWA Assoc. BV data, the global label market in 2013 used over 40 billions m2 of paper and foil, what makes 40 000 ton silicone (1 g/ m2). The new TEGO RC silicone with UV cold cure technology in combination with linerless label can save much of this material usage and reduce the operating costs.

From plastics to silicones

The greatest interest however gained the presentation of TEGO RC silicones from Evonik. The cold curing technology allows for the use on heat-sensitive substrates (like PP, PE, PET, PVC), no solvents, low energy and foil consumption, compact and space saving through using thinner paper. Additionally it enables operations at high speed, because shorter curing time allows for using silicone with adhesive coating. Possible applications are both self-adhesives, graphic arts, tapes and hygienic products. Moreover the guests of the Forum got to know the basic differences between silicone acrylates on free radical curing (so far only one company in Poland is using it) and the common epoxy silicones in the presence of cationic photo catalyst. Both release systems are solvent-free and produce release coatings without the use of heat, but differ in their underlying chemistries. The latter reaction has limited applications and is sensitive to poisoning. While the free radical curing is very robust and unaffected by impurities in the substrate, but it requires nitrogen during UV exposure to exclude oxygen from the surface and the area under the UV source. This way it covers the whole range of release levels, unlimited choice of silicone

base (SCK, Glassline, CCK, PEK) and all filmic substrates (even colored or PVC), plus the curing process itself is very fast and without post-curing. "The best results can be achieved by using TEGO RC silicone in free radical curing on linerless labels – with up to 40 percent reduced material costs and more labels on the roll", summarized Jürgen Pomorin, technical and sales manager at Evonik. These kind of labels can be already found in supermarkets in UK, where they are thermal printed and directly applied on the fish or poultry packaging. The questions is – who in Poland will see the benefits first and introduce it to the market? The answer we will surely know at next meeting with Henkel.

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Kalendarium

29.09-02.10.2014 · Taropak, Poznań
14.10-17.10.2014 · POLEKO, Poznań
15.10-17.10.2014 · LuxePack, Monaco
17.11-20.11.2014 · Emballage, Paris

Current issue



Editor's note

The fascinating world of packaging



When asked about the perfect couple an economist would answer 'heads and tails', an actor 'Laurel and Hardy', a doctor 'cause and effect', a philosopher 'being and non-being'. Our answer would be: product and packaging. Of course it's the packaging that interests

most of all, though we are happy to pay attention to the product as well, which is the decisive factor. [more »](#)