

The German tinplate packaging market: inconsistent developments in 2007

(D) – Depending on the product segment, demand in the market for tinplate packaging has developed along rather different lines this year. After a strong start in the first half of 2007, individual segments began registering a slackening of business in the third quarter, while other segments reported very stable developments – with the exception of seasonal fluctuations. However, all areas are subject to an increasingly critical profitability situation resulting from high costs of upstream products and production. This situation could intensify in the coming year, according to EUWID market respondents: considerable price hikes have already been announced in particular for upstream materials, freight and energy costs.

The three main suppliers of packaging steel have announced hikes of up to 6% as of 1 January. Packaging manufacturers in the individual segments are optimistic about passing on the price hikes to their customers albeit not always in full. First official announcements have been made by the US packaging company Crown Holdings, Inc. who has said that prices will be raised by an average 5.5% as of 1 January 2008 via the European subsidiaries Crown Food Europe and Crown Closures Europe.

The supply situation of tinplate in the third quarter is generally described as being unproblematic.

Stable demand was reported this year by suppliers of cans for **food and luxury goods** in the segments of pet food, convenience food, meat and sausage products. In view of the unsatisfactory summer weather, tins for fruit and vegetables did not witness positive results in areas such as cherries and gherkins. In contrast, demand for packaging for autumn vegetables or apples was at normal levels.

Demand for **screw caps** made of tinplate has been satisfactory over the course of the year. However, individual segments did report harvest-related drops in demand. According to market observers, domestic producers were under pressure by aggressive price strategies pursued by foreign suppliers, especially from eastern and southern

European quarters. Another factor which might have a negative impact on deliveries is the considerable price increase of the raw material glass, which together with screw caps constitutes a packaging system.

After the already strong 8% growth rate of deliveries on the European market in 2006, suppliers of **beverage cans** managed a further 10% rise of deliveries in the first half of 2007. In view of the bad summer, growth rates slowed down a little in the third quarter of 2007. Nevertheless, business prospects – especially with regard to the European Championship and the Olympic Games in 2008 – are described as being very good.

The German market is also registering a continuous increase in demand, albeit at a rather small level. Meanwhile cans - with the exception of discounters - were listed comprehensively and registering positive delivery figures in the beer sector, according to insiders. It was predominantly branded beers that were being sold in cans; with soft drinks it was mainly cola beverages. Deliveries were also good in the sector of energy drinks. Wine and sparkling wine beverages were also being filled increasingly into cans.

Nevertheless, the increase in domestic demand did not meet the expectations of suppliers by far, one producer emphasised in an EUWID interview. In contrast, exports of cans for beer and soft drinks were at a persistently high level. All can producers were almost producing at capacity limit due to the strong increase in demand from East and South Europe. Compared to previous years, post-seasonal operating rates also remained “very satisfactory”.

The profitability situation of can suppliers was a little more relaxed due to the price hike achieved this year, however, not all cost factors had been accounted for, according to respondents. Market participants see good chances of passing on the January hikes announced by steel producers to their own customers.

Packaging producers for **chemical-technical products** said they were generally content with domestic business activities in 2006 which had contributed to boosting

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sales. However, there are some who speak of a “rather average year” with a considerably weaker second half compared to the previous year. According to insiders, the market had calmed a little in the third quarter after a good start in the first half of 2007. This was mainly due to – especially with regard to demand from the building sector – the weather and a potential softening of business activities in customer markets. With the implementation of the “Decopaint and VOC guidelines” the trend to water-based filling goods has picked up speed and this resulted in customers employing more tinplate packaging that is coated on the inside.

Suppliers in the segment of packaging for technical-chemical applications are also aiming at achieving price hikes in 2008. The majority of respondents admitted this would not be easy but that they had no other option but to try.

In general, the market for **aerosol cans** (continued on page 2)

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normally is rather steady, but this year there have been unusual movements in demand. After a strong increase in demand in the second quarter which had partly led to longer lead times, deliveries dropped noticeably in the third quarter. Currently the market appears to be settling at normal levels again though.

According to market experts, aerosol cans for personal hygiene, household and industrial applications are in particularly high demand. Cans for polyurethane foam used in the building sector were witnessing a downright boom in demand.

A supplier of aerosol cans described the passing on of the price hikes announced by steel producers as a "imminent struggle". Suppliers interviewed by EUWID said they would definitely pass on the increase albeit not in full.

Demand for **decorative cans** made of tinplate in 2007 was described as being "satisfactory" to "good" and correspondingly capacities were almost fully booked in Germany – especially after having entered the main season. Altogether an in-

crease of seasonality with a strong focus on the last four months is to be observed. The background to this is that both converters and retailers are constantly moving their scope for decision closer to the end of the year which leads to delivery difficulties both in the run-up to and during Christmas business. "It is expected that suppliers become increasingly flexible," said a producer of decorative cans to EUWID.

Market observers say that business in the area of decorative cans for confectionary the trend was going more strongly towards bulk business, for instance larger packaging units. In this context it was said that can suppliers were obliged to improve the design of their products so that they could be used as a presentation medium among end customers.

The companies active in this segment do not believe that profitability will improve in the coming year, especially since they are also affected by the price hikes announced by steel producers. "We will be able to pass on a certain part to customers, but the cost increases will remain with

us," said a supplier of decorative cans.

In retrospect, the current year had little positive aspects to offer to producers of **crown caps**. Even if the unusually warm weather in the first and second quarter had boosted domestic demand to begin with, a slump occurred in the third quarter due to the cold summer.

Apart from domestic business, exports also did not live up to the expectations of suppliers. Demand within Western Europe was reportedly weak and Southern Europe had also shown less demand than usual due to the large heatwave there. "If it's too hot, beer consumption drops," said a market observer to EUWID. Suppliers of crown caps were now placing their hopes on the coming year with the upcoming European Cup, which could result in an upswing for the industry segment. However, respondents pointed out that it remained to be seen how the planned price hikes of brewers would affect the market. Market players said they would definitely pass on the price hikes announced by tinplate producers as of January 2008 to customers. □

The British paper and board market: waste paper prices under pressure

Price negotiations for white top Kraftliner still under way

Packaging paper

(UK) – **Kraftliner**: The kraftliner market remained quiet in terms of prices in November amid middling demand. If prices moved, it was generally downward. Insiders reported more low-priced offers for brown kraftliner again and North American suppliers were still relatively active on the British market. The impact of the dollar is more noticeable in the UK than some Central European markets because most brown kraftliner is billed in this currency. Mixed statements were made regarding American suppliers' pricing policies. Some said that US producers were selling at dollar prices without taking into account the dollar-pound exchange rate, while others felt that steps had been taken to adapt prices. However it is still clear that British prices, which mostly stand at \$610-650 per tonne free delivered for 175 g+ brown kraftliner duty paid, have become even cheaper in euro terms than just a few months ago.

The current round of price talks for white-top kraftliner seems to be still underway. Talks had dragged on and buyers had negotiated smaller hikes than demanded or later timing. Higher prices were billed as early as November, yet many prices were unchanged compared with October.

Recycled corrugated case material: Unchanged prices were reported on the

British recycled corrugated case material market, as well. Producers said that the last price hike, which was fairly generous at £2530, had been implemented without major problems and looked to be lasting. Prices on the British market were not excessively high, either, given the relatively weak pound-euro exchange rate. The recycled corrugated case material business was now much quieter than in the first half, yet none of the suppliers surveyed by EUWID described business as bad. Demand has now "returned to normal," producers stated. However they did not expect a turnaround in market conditions. Suppliers no longer anticipated major changes before the year's end. A seasonal lull was forecast for February and March.

The market for lightweight paper is more robust, with manufacturers still reporting strong demand. The latest round of price talks resulted in a mark-up of about £15 for lightweight paper, putting this increase slightly higher than those normal on continental markets.

Board

Over the past four weeks, no significant changes have occurred on the British cartonboard market. It is not yet clear whether and when additional producers will an-

nounce hikes, thereby joining just a few of their competitors. In the GD sector, one company made the first move around a month ago by informing customers of higher prices from January. Since then some declarations of intent have been made but little concrete action. Notwithstanding this fact, a very few producers negotiated and sometimes achieved hikes for October and November for customers who paid relatively low prices.

A similar picture was painted for GC. In this sector, one manufacturer's announcement of plans to increase prices from mid-November some time ago had generally been postponed to the start of next year. While quite a few other producers stated that they wanted to "announce something for the first quarter" in the immediate future, this company was the only one to have done so as this edition went to press. A few market sources felt that after the last two weeks in November it would probably be too late to announce and negotiate higher prices from the start of January. Many market insiders still believe that additional manufacturers will join this move but there was also scepticism about whether some producers were worried about losing market share or did not want to enter into a fight for orders given the traditionally slightly quieter business in the first quarter. Nonetheless producers were emphasising the need for higher prices more than ever.

Sources generally described demand for GD and GC as stable in the UK, with no growth or dramatic collapse in orders.

EUWID Price Watch Paper and Board UK November 2007

Prices in pound per metr. ton free delivered unless otherwise stated	November 2007 £ € (as of November 19)		October 2007 £	November 2006 £
Recovered paper (prices ex works)				
Mixed paper (1.02)	45 - 55	63 - 77	45 - 55	25 - 35
Old KLS (1.05)	60 - 68	84 - 95	60 - 68	45 - 50
News and pams (1.08/1.09)	60 - 70	84 - 98	60 - 70	40 - 50
Once-read news (2.01)	65 - 75	91 - 105	65 - 75	47 - 55
Coloured letters (2.06)	95 - 105	133 - 147	95 - 105	70 - 78
White woodfree letters (3.05)	140 - 155	196 - 217	140 - 155	115 - 130
White newsprint (3.14)	140 - 155	196 - 217	140 - 155	130 - 140
Best woodfree white (3.18.01)	225 - 250	315 - 350	225 - 250	200 - 225
Corrugated case material				
Recycled grades				
Fluting	310 - 330	434 - 462	310 - 330	260 - 285
Testliner II	330 - 350	462 - 490	330 - 350	280 - 310
Testliner III	310 - 330	434 - 462	310 - 330	260 - 285
Kraftliner 175 g+ (duty paid delivered)	610 - 650 \$	415 - 442	610 - 650 \$	610 - 650 \$
Semi-chemical fluting	330 - 365	462 - 511	330 - 365	305 - 340
Cartonboard				
GD II	455 - 535	637 - 749	455 - 535	410 - 500
GC II	635 - 745	889 - 1,043	635 - 745	610 - 710

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Recovered paper

The supply of recovered paper has improved in the UK during recent weeks. The controversy surrounding ocean freight rates meant that shipments of some material to Asia were cancelled or delayed. Moreover it is now peak season for collection volumes. Furthermore British recovered paper merchants said that quite a few buyers in the Far East were a little more cautious now, not only because of the hike in freight rates but also because European recovered paper prices were becoming more and more expensive amid the weak dollar. Insiders suspected that some buyers in the Far East were now sourcing more material in the USA again. Merchants said that one hot topic was the current shortage of containers for exports to the Far East.

Recovered paper merchants had thought that this problem was solved with the introduction of higher freight rates but container shortages continued to create problems in day-today operations.

Yet this minor tailback in recovered paper shipments in the export-dependent British market has not led to any major domestic inventories or to any pressure to sell off material so far. All merchants confirmed that they had not yet experienced any significant problems selling their recovered paper domestically, on the Continent or in the Far East. However, a downturn in prices looks to be on the cards now. Export prices declined, especially for ordinary grades, and a few market observers felt that it was likely that domestic prices might dip towards the end of November as a result.

Otherwise, prices remained unchanged from October's level in the first three weeks of November.

The issue of ocean freight rates for shipments to the Far East still does not seem to have been completely resolved even after the recent mark-ups. Merchants have been informed of additional hikes for December. Even if only part of the higher costs were passed on to buyers in the Far East, these customers could be scared off and turn to the US market or put pressure on prices, sources told EUWID. However a few market insiders did not believe that these increased rates posed a lasting problem because, in their opinion, demand for recovered paper in the Far East was so great that considerable volumes will still have to be purchased in Europe and, above all, in the UK. □

The German paper and board market: boardsector development unclear

Kraftliner producers can look forward to the Christmas season

Packaging paper

(D) – **Kraftliner**: Healthy demand dominates the German kraftliner market, even if order intake in some segments is no longer as strong as it once was earlier this year. Western European suppliers are still facing competition from cheap overseas deliveries, but consider them less relevant for the German market. Suppliers of brown kraft-

liner report that although customers like to use these offers as an argument to create pressure in negotiations, customers are often not seriously considering a change in supplier. Although market observers report that North American manufacturers significantly increased their shipments to Europe at the beginning of the year, levels have remained stable ever since. Apart from that,

healthy domestic demand in Russia, and as a consequence less Russian kraftliner in Western Europe, is taking some pressure off the market. EUWID respondents currently report healthy operating rates and stable prices. A healthy backlog of orders allows suppliers to look forward to the Christmas season without apprehensions, one of many suppliers with positive expectations for the beginning of 2008 noted. Plans for price corrections have not yet been made known. Observers forecast stable prices on a long-term basis. On the topic of resubstitution most reports indicate that integrated

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Scandinavian companies have substituted relatively large volumes at the expense of testliner while independent corrugated manufacturers only substituted a small number of volumes.

White top is currently the strongest segment of the German kraftliner market. Several downtimes carried out at the same time and healthy demand have led to a shortage in supply. Manufacturers report unfilled orders, several said demand exceeds available volumes. One EUWID respondent said he had never enjoyed higher order levels than at present. Others spoke of healthy business but also noted that the trend is slowing down as usual towards the end of the year. The announced price hike of €40-45 is being implemented since October. The general solution seems to be a two-phased increase. However, respondents report different implementation dates. In some cases, hikes of up to €30 were implemented in October with the rest following during the course of November; in other cases, the first phase was only carried out in November while the second phase is planned for December. "Under no circumstance" do manufacturers want to lose the €40 mark out of sight.

According to manufacturers, there have been no major discussions as regards new prices for semi-chemical fluting. Prices were hiked by €40 in a "straightforward move", one EUWID respondent reports. These impressions are echoed by other manufacturers: especially Scandinavian suppliers were extremely uncompromising in light of the severe cost pressure. However, especially prices for European grades with recovered-fibre content move in a wide price frame. Converters assiduously report price hikes of €2040 for all grades up until and including October, and in some cases another increase was dished out in November.

Recycled corrugated case material: After numerous pricing rounds in the current business year, marking a steady upward trend, prices on the German market for recycled corrugated case material are steady at the beginning of November. Not all converters had anticipated this because the state of the market had been a little weaker, prompting them to try to exert pressure on paper prices. EUWID respondents said the aim was to revoke part of the last price rise of €30, for which packaging producers no longer saw any grounds in the last round of pricing. Delivery periods are said to have shortened, enabling stocks to be replenished.

The current trends on the recovered paper market, however, are apparently another reason for packaging manufacturers exerting pressure on paper mills. Attempts are being made to reduce prices there, too.

Kraft/sulphite packaging paper: The German kraft and sulphite packaging paper market in November is characterised by price talks between manufacturers and converters. Paper manufacturers are targeting a plus of €3040/t or 35% for January. Reports indicate that agreements to the effect have already been signed in individual cases although the price maximum was not reached and later implementation dates were sometimes agreed. The majority of negotiations, however, are still ongoing. An upward price trend is palpable in Germany as well as the rest of Europe, but packaging manufacturers say there is some room to negotiate.

Operating rates for the first nine months of this year are on the same level as last year; prices are slightly higher, paper manufacturers report. Packaging manufacturers also say they slightly increased prices for their products but see more need for action.

Some paper mills consider the time for price hikes favourable as a general upward price trend is discernible for raw materials, among others for pulp, transport and starch, which affects the entire market. From today's perspective, prices appear to be moving sideways for paper bags for bakeries and butcher's shops; these bags are facing unchanged difficult conditions as the market is still offering alternatives. Market participants say existing oversupply in the market is making things difficult for manufacturers who are trying to increase prices. However, manufacturers of paper and packaging have not been confronted with the developments affecting paper bags for bakeries in the wake of the 5th amendment to the Packaging Act.

The picture looks different for companies supplying specialty grades and premium papers. Supply and demand are converging which is good for the price development, market participants say. However, the steady influx of new packaging materials into the market is affecting sales of kraft and sulphite packaging paper. For example, a major chocolate manufacturer has decided to replace the old paper and aluminium wrapping with plastic film.

Since prices have not experienced hikes in November, the price frame for bleached 40 g kraft paper remains wide at €790 to €950/t. Prices for unbleached 40 g kraft paper amount to €700-800/t. Prices for kraft paper for lamination purposes are quoted between €1,000 and 1,100/t, prices for one-side coated kraft paper range between €1,050 and 1,300/t, in both cases depending on the grammage. ZP 3 changes hands at €720-770 while ZP 5 is reportedly available for €780-820. □

Corrugated board

In Germany, prices for food and daily consumables have risen recently and will continue to do so. The price increases are attributed partly to high prices for raw ma-

terials and partly to rising prices for packaging materials over the last twelve months. At the same time, though, manufacturers of corrugated cardboard packaging do not consider themselves having reached their goal yet despite the adjustments that have gone through. They are talking of persisting pressure on prices, which is to be passed on continuously. The association of the German corrugated cardboard industry (Verband der deutschen Wellpappeindustrie – VDW) showed that its member companies' average earnings have risen 3% in the last four years but that paper prices have simultaneously risen tenfold. Compensation by corresponding growth in volumes is not possible either.

Deliveries of corrugated board have increased sharply again compared to what was already a strong year last year. VDW members were able to raise their deliveries on a square-metre basis by another 4.2% in the third quarter alone, resulting in cumulated growth in deliveries of 5.2% over the first nine months of this year. Corrugated board manufacturers had already registered growth of 8% in 2006.

EUWID respondents said October got off to a slightly slower start but then picked up again towards the end of the month. Business is now back to the good level seen in the preceding months.

Market players continue to have different views about future prospects but they are no longer as pessimistic as they were a few months ago when many were wary of the upswing.

Owing to favourable forecasts for private consumption given by the expert committee, the VDW is expecting a positive mood on the market. Customers are willing to pay more for quality again, which will have an effect along the whole supply chain.

Board

The board market was a mixed bag at the beginning of November. Many manufacturers claim to have not yet been approached by their suppliers with calls for higher prices, at least not for the rest of this year. Although the intention to make an upward adjustment in prices has been discussed with others, converters are not expecting anything to happen in the very near future as many contracts run at least until the end of the year. Board manufacturers' plans are mostly regarded as an attempt to get the price increases called for in 2007 pushed through in full or to stabilise the mark-ups achieved.

In view of the cost situation, however, producers are underlining the necessity of more price hikes. Individual adjustments are being allowed in some cases to the extent that mainly converters still paying comparatively low prices are the ones being asked to pay up. Some want to get

more adjustments accepted over a wide front, claiming to have already asked and obtained higher prices in non-contract business. No-one has entered into long-term agreements at the old prices again recently. Suppliers of GD board are striving for an increase of €3050/t, and for GC board there are calls for an extra €60.

Market conditions are very balanced, report observers. Demand is good, though no longer bubbling over as had been the case earlier on this year. Average delivery periods of approximately four weeks are being quoted for GC and GD board whereby those for GD board still seem to be displaying a tendency to be a little longer.

At the end of October, the shareholders of Reno De Medici S.p.A. (RDM) approved the Italian company's merger with the recycled board division of the European Cascades subsidiary Cascades S.A. Cascades and RDM are expecting to be able to conclude the merger in January next year, though approval is still required from the appropriate authorities. This will rearrange the market architecture and create another strong market player alongside MM Karton in the recycled board segment. □

Recovered paper

According to concurrent reports from the German paper industry, stocking up with

recovered paper is going very well at the moment. The high volume of arisings this month and last month has enabled stocks to be replenished, providing a good basis for argumentation in calls for price reductions in bulk grades and for sorted graphic paper for deinking in November. Suppliers and converters alike report price reductions of around €10/t for these grades in one-month contracts. In view of the good availability, less material was sold through premium price contracts, which were being concluded at lower price levels.

Prices quoted for mixed paper in November range from €75 to €80/t free delivered, with higher prices than this were given in scattered instances. Premium price contracts which – as already mentioned – are turning out to be less distinctive than they were last month, are changing hands at €85-95/t free delivered. A price range of €80-58/t free delivered has emerged for supermarket paper and board, though in some cases the quoted prices are higher. Prices of €90-100/t free delivered are being paid for. Reductions of €5/t free delivered have occurred in corrugated board II (€105-110) and newspapers (€105-115). Price peaks for sorted graphic paper for deinking were clipped back by €10 in the one-month contract segment. However, no change has occurred at the lower end of the price scale from last month, resulting in a new price

range of €95-110/t free delivered for November. Long-term contracts still span a range of €73-105/t free delivered. Prices for the rest of the grades of recovered paper investigated by EUWID remain exactly as they were in October. Coloured letters continue to fetch €120145, multi printing €135-160, white newsprint/magazine paper €190-240, and white woodfree uncoated shavings €360420/t free delivered.

Still mixed are the details received about the current situation in exports to the Far East. Many EUWID respondents have reported finding it less of a problem to offload the higher freight rates on to buyers in China at the moment than obtaining enough containers for shipping. "The container shortage is a problem all over Europe," says an exporter.

British recovered paper suppliers are also said to be having difficulty shipping their volumes to Asia. This is why more British recovered paper is plying European markets – especially in Germany and France –, which is further increasing the already seasonally high arisings on these markets.

Prices quotes for Far East export are mixed. Prices being quoted for November are either slightly lower than October or have remained unchanged. This has given rise to a range of €97-115 for mixed paper, and €105-120/t FAS for supermarket paper and board. □

The German PET market: excess supply prevailing

(D) – Large quantities of PET are currently available on the market. This is mainly due to capacity extensions caused by a new line in Italy. Swiss Equipolymers, has started up a new PET production facility on 1 November 2007 in the Italian Ottana site. This move has added an extra 150,000tpy to production and extended the total production capacity of the Ottana site to 485,000tpy thus firmly establishing the company among the European market leaders.

According to suppliers, demand is rather moderate which is due to seasonal aspects and high prices. Producers have reduced the output of their plants. Force majeure in Saudi Arabia has rendered the upstream product MEG rather expensive and market experts believe this will remain like this for the time being. In view of MEG becoming more expensive, PET prices were also increased in October. Depending on the base level, different hikes are mentioned. Increases amounted to about €45/t with low prices and were thus slightly below the increases for raw materials. In November, PET remained at the previous month's level just like MEG and paraxylene. European film and bottle grades (A and C PET) fetched €1.17-1.25/kg free

delivery (September: €1.13-1.25/kg).

Manufacturers are trying to improve their margins and are therefore aiming for price hikes in December in spite of excess supplies. Converters believe that increases would be possible if MEG prices also rose.

Business with preforms and bottles is currently seasonally weak and Christmas business has not really taken off yet either. Suppliers are hoping that this will kick off at the beginning of December. The market is characterised by strong pressure on prices. Imports from non-EU countries, especially from Russia and the Ukraine, are reaching Europe in the shape of considerably cheaper offers. Market participants say that European preform suppliers are already planning to take active measures against these offers by calling for the introduction of an anti-dumping duty.

Efforts for reducing the weight of support rings and bottle threads are ongoing. Hitherto the lighter short threads have been employed for beer bottles and now the first lines are being re-adjusted for mineral water and CSD beverages. There are also continued efforts to reduce the weight of the bottles. □

EAA strengthens recycling of cans in Romania

(EU, RO) – The packaging unit of the European Aluminium Association (EAA), Brussels, is planning a cooperation with the Romanian metal packaging recycling company AMEP-Pack – a part of the Can Pack Group – in order to actively strengthen the take-back and processing of beverage cans within the market.

The plans are supported by the Romanian Environment Ministry. The first collections of used containers are to start-up in the near future.

In a first attempt, consumers are called upon to bring back their used aluminium cans to retailers where they are to be informed on the advantages of recycling. Similar projects are envisaged by the cooperation partners.

The new partners report to note increasing importance attributed to recycling among the population. In addition, corresponding systems are already running successfully in Poland and Hungary. Poland alone achieved a beverage can recycling ratio of 65 %.

According to the European Aluminium Association, aluminium beverage cans have the highest collection and recycling ratio within Europe with an average of 52% in 2005. □

Nanotechnology: improved UV protection for plastic bottles

(D) – Nanotechnology is also gaining inroads in the packaging industry. During a session of the “RKW-Arbeitsgemeinschaft Verpackung” – an initiative of medium-sized companies in Hesse – the engineer Marion Schmidt from the Fraunhofer Institute for Process Engineering and Packaging, Freising, gave a prognosis for the year 2010: according to a study by Principia Partners, the market for nanocomposites will have reached US\$250m by then – compared to US\$75m in 2005. Over 80% of this amount will be made up of applications for the packaging and automotive industry with 70% of consumption attributable to nanoclays.

As early as the 1970s the packaging industry started nanoscale aluminium layers made of plastic. Key speaker Marion Schmidt from the Fraunhofer Institute referred to an earlier event in 1959 when Richard Feynman drew up the hypothesis that the structure of atomic precision was possible with the aid of machines the size of molecules.

After 2000, nanoparticles were applied for anti-static packaging materials in the electrical industry. When nanoparticles are included in plastics the deflection of the electric charge is improved. And the aluminium sputtering on plastics leads to the Faraday-Cage-Principle. In addition, since 2002 nanotubes (carbon tubes) are included in thermoplastic compounds.

“Nanomaterials have properties that are very advantageous to the packaging industry,” said Marion Schmidt and she also pointed out a few current applications: the inclusion of nanoparticles in plastics leads to a filling effect without brittleness thus improving the ratio of stability and stiffness. The companies Nanocor, Lanxess and Southern Clay all employ different techniques in this context.

Plastics smelters work faster during the extrusion with nanoparticles since increasing the surface roughness within the nanoscale area reduces friction. With regard to anorganic layers on plastics the optical characteristics of nanomaterials can be useful: the interference of light and nanomaterials leads to the well-known pearl-effect. Moreover, nanoparticles in plastics reportedly improve UV protection – an effect which the beverage industry uses for the production of plastic bottles.

Nanosilver proves spoilage inside packaging

Silver nanoparticles are an important topic with regard to active packaging. On the one hand, they have an anti-microbial effect by

impeding the metabolism and reproduction of harmful microorganisms. On the other hand, nanosilver reacts with hydrogen sulphide from spoilage processes and produces silver sulphide. And this effect is exploited by manufacturers of opaque polymer-based body films for groceries. A cross printed on the packaging film which changes its colour from light brown to white indicates to the consumer that the content is spoilt.

According to Schmidt, the Fraunhofer Institute is also in the test phase for high and ultra-barrier packaging materials whose production is strongly influenced by nanotechnology. The encapsulation of flexible organic electronic components, such as OLEDs or OPVs, requires high barriers against the permeation of oxygen and water vapour. Nanoparticles in polymers reduce the permeability of these materials. Excellent barrier functions are achieved by an alternating structure of nanoscale anorganic layers and barrier polymers, eg, hybrid polymer coating, on substrates such as PET. The barrier improvement which takes place in a thin polymer layer between the two anorganic layers leads to the “tortuous-path-principle”: the path is simply extended for permeating gas molecules.

“The barrier properties of film compounds can be improved considerably and cheaply by means of nanotechnology,” continued Schmidt. Fundamental methods were already being applied successfully for decades the same as simple quantitative models were. “However, we are only beginning to master the technology and understand the transport processes,” Schmidt said in unison with leading figures from the packaging and logistics sector from Hesse and neighbouring states. The understanding of some phenomena remained rather patchy and particularly not quantitative. However, it was vital to master these for the continued development of future products. Numeric simulation of the gas permeability of barrier films contributes to explaining these phenomena, however, the simulation on atomic level is also important in this context.

A limiting factor for the practical application within the packaging industry is the partly high cost of research and development due to the fact that there is no universally applicable solution. “Specific properties have to be custom-designed,” explained Schmidt. Furthermore, the adding of dispersing aids or phasing agents was partly very expensive. And finally, the toxicology was unclear; risk assessments were still in progress. “Nevertheless the advantages of nanomaterials call for further optimisation and development efforts,”

Euwid Packaging Markets

is published and printed by
EUWID Europäischer
Wirtschaftsdienst GmbH,
Gernsbach, Germany

Publisher and managing director:
Dr. Casimir Katz

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Test subscription (3 months) € 95.-,
annual subscription € 325.- + mailing fees
+ bank charges, published fortnightly.

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Incpen says packaging should be applied sensibly

(UK) – In the wake of the persistent debate over packaging reduction in the UK, the Industry Council for Packaging and Environment (Incpen) has highlighted the positive aspects of packaging. “If we didn’t have packaging, landfills would be a great deal fuller, with damaged goods and spoilt food,” said Incpen-Director Jane Bickerstaffe. She continued by stating that packaging occupied less than 3% of landfill space and companies were also undertaking efforts for further reductions.

Bickerstaffe said it was shocking that over 6m t of food from households ended up in landfills each year. Packaging could help reduce these levels, since the right packaging extended shelf life and allowed for suitable portion sizes.

Bickerstaffe criticised a recent study published by the Local Government Asso-

ciation (LGA) which states that UK supermarkets were using too much packaging material. For instance, Marks & Spencer was accused of using packaging of which only 60% was recyclable, whereas Asda achieved a rather good recycling ratio of 79%. “Of course there always are examples of excessive packaging,” admitted Bickerstaffe. It was precisely for this reason that an independent packaging watchdog was needed in the UK in order to ensure unnecessary packaging was done away with.

However, the Incpen Director continued by saying that it was a shame that the LGA’s survey did not follow on and look at how much food arrived home in good condition and how much ended up as waste.

According to the LGA study, packaging constituted about 5% of the weight of the products in an average shopping basket.

“Weight isn’t the only measure of environmental impact,” said Bickerstaffe. The carbon footprint was also important as well as the use of recycled content since this meant that the packaging needed to be heavier to do the same job. Moreover, in some cases packaging had to weigh almost as much as its contents. For instance, a champagne bottle made up 47% of the total product weight. If it were lighter it would not survive the transport let alone contain bubbles. On the other hand, some packaging was much lighter, eg, butter wrapping which only made up 1% of the product weight.

According to Incpen, 50% of the total energy used in the food chain is used in food production, 10% on transport to retailers, 10% to make the packaging and the remaining 30% used by consumers to drive to the shops and store and cook the food. □

Germany closer to new packaging legislation

(D) - Germany’s fifth revision of its Packaging Ordinance has been approved by the country’s parliament. The legislation will now be voted on in the upper house (Bundesrat) on 20 December. The Bundesrat, which represents the federal states, is expected to make a number of amendments to the revision.

The revision aims to bring “fair competition” to Germany’s packaging recovery market, according to the environment ministry (BMU). The new rules will secure the future of residential collections of packaging waste and stop some packaging producers from getting a “free ride” in the system, according to environment minister Sigmar Gabriel.

Under the new rules, all packaging waste arising among private end-users must be registered with a “dual system” waste recovery scheme. “Every producer will be required to fulfil his obligations. Other op-

erators will no longer have to pay the costs for managing the packaging waste of the free-riders,” Mr Gabriel said.

It had been estimated that up to one third of packaging waste ending up in the “yellow bin” for household packaging waste was not registered with one of the dual systems that financed the management of this waste stream. The BMU emphasised that nothing would change for private consumers with the new regulations. The ministry added that the “increasing competition among dual systems will lower the waste management costs for packaging”.

The packaging waste management market had become increasingly complex and intransparent in the past few years, with a rising number of dual systems and self-compliance schemes. The new revision will no longer allow retailers to meet their collection and recovery obligations for consumer packaging waste by collecting

recyclable waste from commercial and industrial enterprises. This practice had led to distortion of competition, many producers complained. In certain sectors, “functioning take-back solutions” of this type will be allowed to continue, provided they are approved by the competent authorities and do not include packaging waste that ends up in private households.

Another important aspect of the revision is a new obligatory reporting system for all packaging material brought on the market. Producers will have to report this information to a system run by the German Chamber of Industry and Commerce (IHK).

With the new revision, there will be more opportunities to expand the range of materials accepted in the municipal “yellow bins”, the BMU said. The “yellow bin plus” could be a receptacle for not only packaging waste, but also other recyclable household waste made of the same material as packaging, such as plastic toys or aluminium foil. □

EU: Commission calls for battle on counterfeiting

(EU) – The European Commission in Brussels would like to see a more global and uniform approach in tackling the counterfeiting of brands and products. According to Dow Jones, the European Commission intends to draw up a new treaty (Anti Counterfeiting Trade Agreement – ACTA) with important EU trade partners, such as the USA, Japan and Korea with the aim of aligning the standards in the fight against product pirates. The European authority said that the EU member states had already been approached for a corresponding mandate.

The EU is already cooperating with trade partners such as the USA in their bat-

tle against counterfeiters. The envisaged treaty is to be based on the principles of this cooperation, said the Commission. The authority hopes that uniform standards for the implementation of brand protection will coincide with improved communication of the responsible authorities. Furthermore, the treaty is to take into consideration the global trends in counterfeiting. Accordingly, increasingly more storage media is “ripped” and the counterfeiting of groceries and medication, which is particularly dangerous for the consumer, was also increasing constantly, the Commission said.

Once an ACTA has been negotiated the

Commission hopes that further countries will be enticed to introduce the regulations. The EU intends to grant developing countries transitional periods and also offer technical support. China is mentioned by name. An ACTA could increase the pressure on Beijing to improve protection of copyrights, said the Commission. According to an OECD study the value of counterfeit goods amounts to more than US\$200bn each year, which corresponds to 2% of the global trade volume. The Commission pointed out that unlike during the 1980s it was not just luxury goods that were suffering from counterfeit goods today, but that almost all products from toys to aeroplane parts were meanwhile affected. □

Trend towards thicker aluminium film continues

(EU) - In the third quarter of the current business year, deliveries of aluminium film amounted to 211,900t compared to 211,700t in the previous period and thus remained at a stable level, according to the European Aluminium Foil Association (EAFA), Düsseldorf.

In the first nine months of 2007, deliveries increased by 1.4% from 654,900 to 663,900t. However, the growth rate had

slowed down due to the 8% drop in exports in the first three quarters, said the EAFA.

Domestic demand within the EAFA region increased by 1.1% in the third quarter and by 3.3% in the first nine months. During the last quarters, members registered a trend towards thicker film which particularly applied to containers and technical applications. The growth rate of these thicker gauges was above 6%.

Deliveries of thinner gauges, which are mainly used for flexible packaging, were stable in the first nine months of 2007. "The demand inside the EAFA region continues on a very high level. The European foil rollers expect the positive trend to continue also in 2008," commented EAFA Executive Director Stefan Glimm.

The EAFA domestic region comprises Armenia, Bulgaria, EU 15, Norway, Russia, Switzerland, Slovenia, the Czech Republic, Turkey and Hungary. □

Aluminium aerosol cans booming in 2007

(WW) – Worldwide deliveries of aluminium aerosol cans continue to be on full speed. As the International Organisation of Aluminium Aerosol Container Manufacturers, Aerobal, reports, in the first half of the year member companies were 10 % ahead of a strong previous year.

Additionally a high number of incoming orders led to expect a good business year as a whole. Manufacturers were confident to reach deliveries of approximately 5.2bn aluminium aerosol cans in 2007, the Organisation said.

The reason for the upswing is the increased demand in shaped cans. The flexible production technology of impact extrusion enables the manufacturers to shape the full body of the can. The innovation of the aluminium aerosol industry is also reflected in the broader area of application. Meanwhile the field of application outreaches the traditional deodorant market. New products such as shower mousses, body lotions, self-tanning "make-up" products and sun protection lotion open up new markets for manufacturers of aluminium aerosol cans.

Also new ideas such as the "Walk Easy 138-decibel DNA Personal Alarm" provide new ways.

Thereby the DNA-containing and therefore clearly traceable content of the can creates, in combination with a UV marker, a new kind of personal safety alarm. This can was awarded as the most innovative product at the FEA 2007 International Aerosols Award.

One of the most important recent innovations is the implementation of powder coatings in the production of aluminium aerosol cans. "Especially with respect to the current discussion of climate protection and sustainability, this innovation is a valuable contribution for more environmental friendly production", explained Gregor Spengler, secretary of Aerobal.

For some special applications aluminium-aerosol cans coated with powder have already been used. Besides the environmental benefit which stems from avoiding volatile organic compound emissions, from energy savings and from the reclaiming and reusing excess coating in the production, this

technology provided several benefits for manufacturers of aluminium cans and their customers such as more focused application, reduced operating costs and improved coating performance, the association said.

According to Aerobal demand in Europe, North America and parts of South America (for example Argentina) is currently very high. And there are no signs that the situation is going to change in conceivable time.

Moreover the aluminium aerosol industry focuses on fast-growing markets such as Russia, Asia and some South American countries. Especially in Asia branded companies have launched advertising campaigns to make the deodorant from the can more popular. Today the per capita consumption in this regions lies partly under one can per person per year. In Europe and North America however, the consumption amounts to approximately ten cans per person per year.

Aluminium aerosol cans are expected to disproportionately benefit from a growing cosmetics market in these growth regions. Approximately 80 % of the world aluminium aerosol production is sold to the cosmetics industry. □

Core: suppliers do not offer any guarantee for repeated use

(EU) – Rising costs and corresponding deliberations to reduce these often leads to measures which in turn have consequences that are often underestimated. In the case of the core industry, this applies to the potential repeated use of hard paper tubes, said the European Core and Tube Association (ECTA), Frankfurt am Main, after their annual conference.

The ECTA pointed out that cores were collected by printers, processed and sent back to the paper mills where they were used again. There were various processing options ranging from the simple removal of rest paper to sawing off the ends already bearing clamp markings or the so-called "joining", ie, sticking used cores together. In this case it was even reportedly possible to attach a new cover sheet.

However, this procedure did hold dangers

for the individual, because hard paper tubes are specifically and individually designed and customised applications. They are produced in order to fulfil specific customer demands. This alone meant that, for instance, sticking together various core pieces resulted in a "non-homogeneous" core whose behaviour when being applied was impossible to determine, said the ECTA. Variations of the inside diameter, board qualities and glues are only a few examples that list the diversity of potential variations.

However, the repeated use of individual cores was also considered dangerous since cores in their application were subject to extreme workloads, for instance, the dynamic load exerted by the roll weight or the amplitude ensuing within the framework of unrolling at high speeds, ie, deformation of the roll

and occurring vibration. Apart from these workload-related incalculabilities there was another important fact: cores are subject to a progressive deterioration of stability, stiffness and geometry every time they are used, either for the first time or repeatedly. Moreover, it was also essential that nobody is capable of providing a definite and reliable statement on how many times an individual tube had already been used.

The ECTA consists of 71 members from 14 European countries and represents over 80% of the European core industry. 95% of the core produced are employed in the industrial sector for machines engaged in the roll up of paper, films, threads, textiles and many other materials.

ECTA chairman, Jörg Elfes, said at the annual conference that the ECTA would continue to intensify contacts to European institutions in order to gain more ground for the sector's standpoint among European institutions and especially in the area of waste policy. □