

UNFOLDED

A PAPER ABOUT CARTONBOARD



NATURAL PRODUCTS
NATURALLY PACKED

N O . 1 / 2 0 1 9

BEARING AND SHARING RESPONSIBILITY



Dear Ladies and Gentlemen,
Dear business partners,

Many indicators are telling us that our industry is in transition:

Consumers are more and more concerned with making environmentally conscious decisions. A comprehensive consumer survey conducted by Pro Carton in late 2018 soundly confirms this trend: In all of the surveyed countries, environmental impact is an essential factor in purchasing decisions. Three quarters of all consumers in the seven largest countries in Europe support packaging materials and concepts that are demonstrably ecological.

Not only consumption habits are changing, the legislature is reacting as well in order to foster the use of sustainable packaging, and to accelerate the establishment of a functioning recycling economy for those packaging materials that are not being recycled: In late March 2019, the EU Parliament passed a guideline that includes a sweeping ban on single use plastics. It also prescribes ambitious recycling targets for all materials. In the future, these new requirements represent a central field of action for the entire value chain.

Be it due to increasing complexity of global legislation or based on new consumer expectations of sustainability – the need for ecologically sound solutions will continue to increase. What is needed are new concepts that allow packaging to fulfil its main function, and at the same time be proper recycleable. Solutions must be developed on a product basis to determine how contents can be optimally protected and be packaged in a resource-friendly manner. This requires close cooperation with the supply chain partners, in order to include all possible issues in the big picture.

Because cooperation facilitates innovation: A prime example is a new packaging design for avocados and mangos made of Excellent Top™ Kraft, which is replacing plastic trays in the produce sections of supermarkets. Fruits and vegetables are receiving lots of attention these days already, as this is an area where customers are justifiably critical of environmentally harmful packaging and would rather see renewable and recyclable materials. Our new recycled cartonboard quality UT Tray Black replaces plastic or Styrofoam trays and perfectly presents fruits and vegetables at the POS with its attractive black top side.

Dear Customers, may I now take a moment more of your time: After more than 35 years at MM Karton, a fresh stage of my life will unfold at the end of this coming June. Through your long cooperation in recent years and even decades with MM Karton you have offered your trust to us and me personally. Together, we have achieved a lot and I am certain that my successors will continue this path, both consistently and successfully with you. Thank you for all the good chats, discussions and exciting joint projects.

Wishing you every success

A handwritten signature in black ink, consisting of a large, sweeping loop at the top and a smaller, more complex scribble below it.

Franz Rappold
Member of the Board

3

EDITORIAL
FRANZ RAPPOLD



6

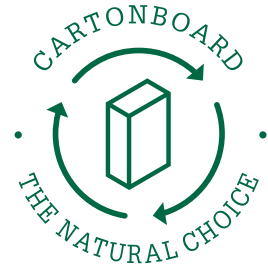
CONSUMERS DEMAND
SUSTAINABLE PACKAGING

8

EU CIRCULAR ECONOMY PACKAGE –
FROM LINEAR TO CIRCULAR

10

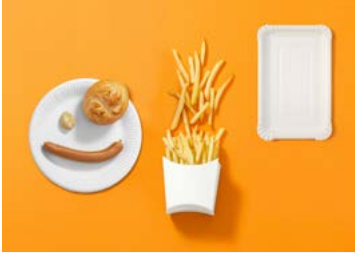
PAPER FIBRES CAN BE
RECYCLED NEARLY INDEFINITELY,
PROVEN BY A NEW SCIENTIFIC STUDY



12

RECYCLABILITY AND BIODEGRADABILITY –
THE MOST IMPORTANT STANDARDS
AT A GLANCE

1 3



TRIUMPH™ FREEZE GREASE:
SUSTAINABLE CARTONBOARD SOLUTION
FOR FOOD ON THE GO

1 4

UT TRAY BLACK
PRESENTS FRUITS AND
VEGETABLES SUSTAINABLY



1 6



CLEVERLY REDESIGNED PACKAGING
MADE OF EXCELLENT TOP™ KRAFT
REPLACES UNSUSTAINABLE PACKAGING

1 8

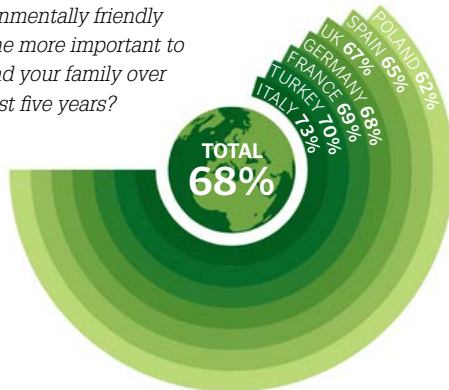
MMK digital:
CUSTOMER SURVEY REVEALS
HIGH LEVEL OF SATISFACTION

CONSUMERS DEMAND SUSTAINABLE PACKAGING

A product range that is aligned with customer expectations is a must. Today more than ever. A comprehensive study by Pro Carton in the seven largest European countries shows how the issue of sustainability and therefore packaging materials impacts buying decisions.

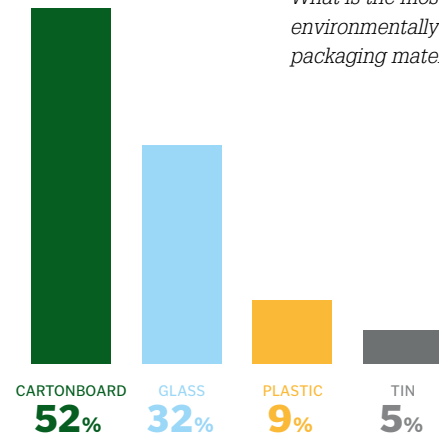
ENVIRONMENTAL CONSCIOUSNESS RISEN SHARPLY

To what extent has being environmentally friendly become more important to you and your family over the past five years?



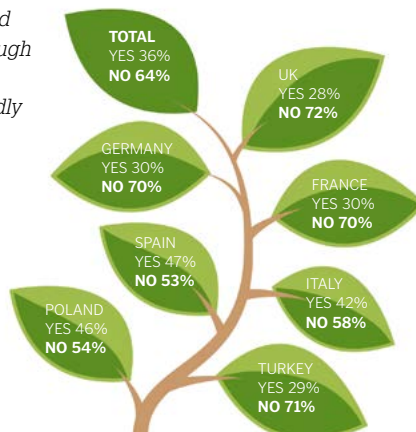
CONSUMERS PERCEIVE CARTONBOARD AS THE MOST ENVIRONMENTALLY FRIENDLY SOLUTION

What is the most environmentally friendly packaging material?



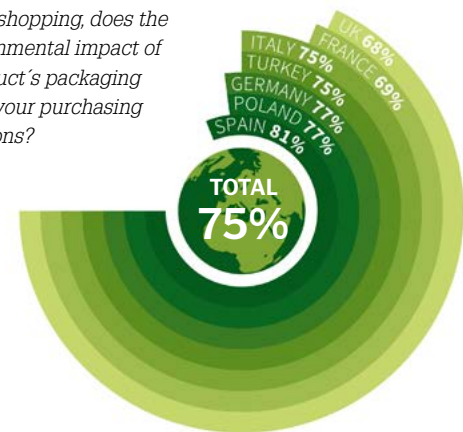
COMPANIES ARE REACTING, BUT NOT ENOUGH FROM THE CUSTOMERS' POINT OF VIEW

Are retailers and brand companies doing enough to introduce more environmentally friendly packaging?



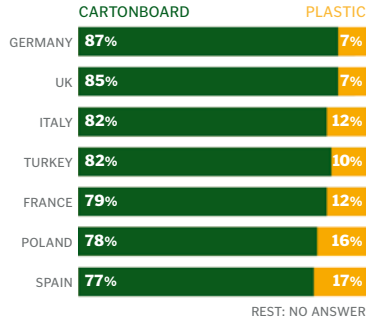
SUSTAINABILITY OF PACKAGING IMPACTS BUYING DECISIONS

When shopping, does the environmental impact of a product's packaging affect your purchasing decisions?



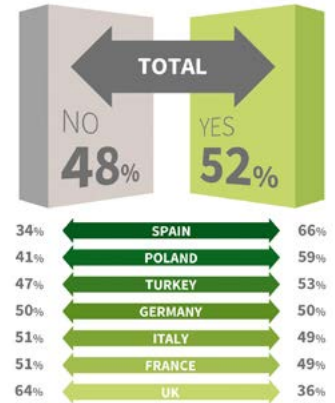
CONSUMERS REACH FOR THE CARTONBOARD PACKAGING FOR THE SAME PRODUCT

If the same product was packaged in two different types of packaging – plastic and cartonboard – which would you choose?



CONSUMERS SWITCH BRANDS AND PRODUCTS

Have you ever switched products or brands because you had concerns about the packaging?



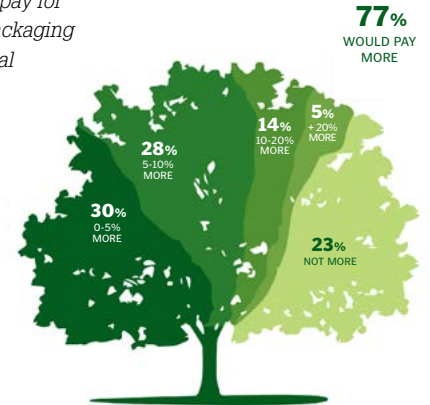
CONSUMERS WOULD SWITCH RETAILERS

Would you prefer a supermarket or retailer who proactively encourages suppliers to switch to more environmentally friendly packaging?



CONSUMERS ARE WILLING TO PAY MORE

How much more would you be willing to pay for a product if its packaging had less ecological impact?



CONSUMERS WANT TO BE INFORMED

Should the government or brand companies introduce information on the packaging itself that shows how environmentally friendly a packaging solution is?



The message is clear:

Consumers

- ▶ will switch brands, products, and retailers.
- ▶ want information on the packaging.
- ▶ want action – now!

Brand companies and retailers have to act and take a stand: for the environment and for their continued business success.

EU CIRCULAR ECONOMY PACKAGE – FROM LINEAR TO CIRCULAR

Yesterday's model of a linear economy system is succeeded by tomorrow's economically and ecologically necessary system of a circular economy – the EU Parliament is now making the circular economy a legal requirement and thereby paving the way toward more sustainable packaging. Apart from significantly more stringent recycling requirements for packaging, the new legislation also includes a restriction or ban of single use plastic products.

With the Circular Economy Package, the EU aims to reduce waste to a minimum on the one hand, in order to prevent further plastic pollution in the world's oceans. On the other hand, the directive is designed to keep raw materials and the associated added value within the Union, thereby strengthening global competitiveness. Until now, European plastic waste was often exported to Asia. As a result, valuable resources were lost, as were jobs, and control over what really happens to the plastic waste.

In order to achieve the goals of the circular economy, the EU relies on three principles:

- 1. Re-using and recycling**
- 2. Market bans and restrictions**
- 3. Producer pays**

1. Re-using and recycling

The new EU directive sets ambitious recycling targets for all packaging materials:

By **2025**, 65 % of all packaging must be recycled, for paper and cartonboard the quota is 75 %.

By **2030**, at least 70 % of all packaging and 85 % of all cartonboard packaging material must be recycled.

Fibre-based packaging is a showcase model and perfect example of a functioning circular economy: According to Eurostat¹, Europe already recycles 85 % of fibre-based packaging. In some countries – such as Portugal (70 %) and Poland (74 %) – there is still room for improvement.

2. Market bans and restrictions

In March 2019, the European Parliament and the member states agreed to issue a restriction on single use plastic products: By

2021 at the latest, products made of single use plastics for which more sustainable alternatives are already available – such as plastic plates or cutlery, Styrofoam (Polystyrol) packaging for foods and beverages, straws, balloon stems and cotton swabs – must be replaced with more environmentally friendly items. The use of plastic food packages for take-away and fast food products (e.g. burger packaging) and plastic beverage cups is to be reduced significantly, and those items are to be replaced with more environmentally friendly packaging. However, a binding quantitative target for this reduction was not yet established.

3. Producer pays

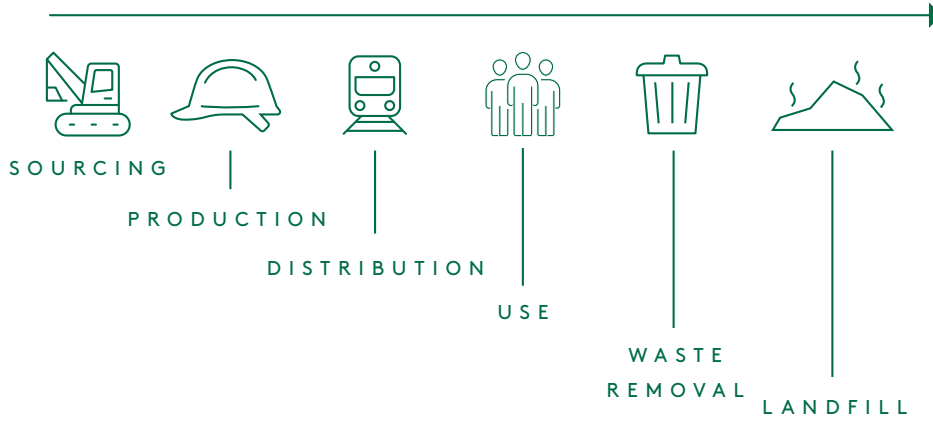
As part of extended manufacturer responsibility, producers of products affected by the directive have to share the costs for clean-up, waste management, and awareness campaigns. Furthermore, single use products with a certain plastics content (e.g. wet wipes, hygiene pads, beverage cups) have to be marked to point out their negative environmental impact.

The new legal requirements represent enormous challenges for the packaging and brand product industry. All participants in the value chain are called upon to do whatever they can to balance ecology and economy.

EU DIRECTIVE ON PACKAGING WASTE	2025	2030
Recycling targets – all packaging	65%	70%
Paper and cartonboard	75%	85%
Plastic	50%	55%
Glass	70%	75%
Metal packaging	70%	80%

¹Eurostat, Recycling rates for packaging waste, 2016.

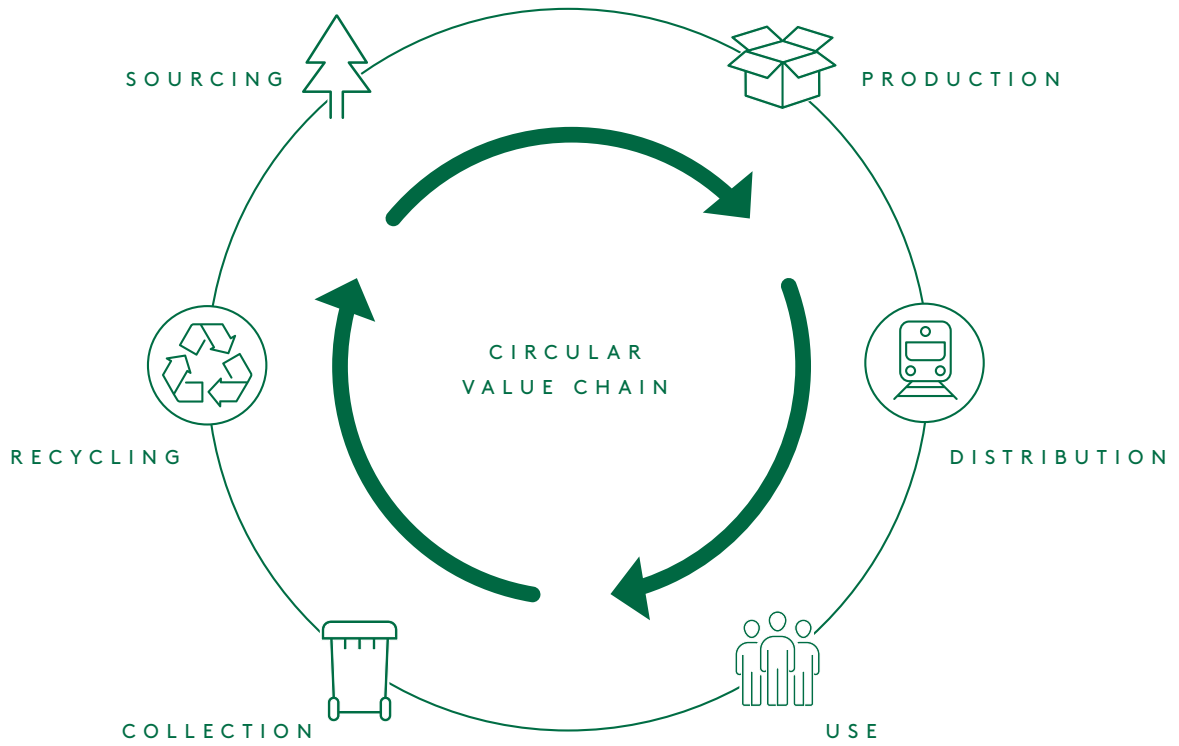
1



1

THE OLD LINEAR SYSTEM IS OBSOLETE.

2

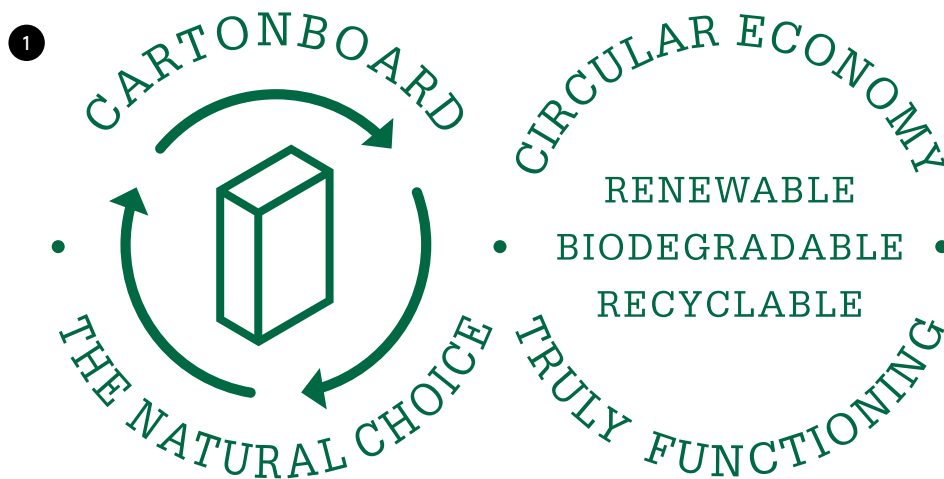


2

A CIRCULAR, SUSTAINABLE RECYCLING MODEL IS THE GOAL.

PAPER FIBRES CAN BE RECYCLED NEARLY INDEFINITELY, PROVEN BY A NEW SCIENTIFIC STUDY

One more reason to choose cartonboard as a packaging material: According to the latest research findings, paper fibres can be recycled virtually indefinitely. The use of recovered paper is therefore even more of enormous ecological benefit.



1

ACCORDING TO THE LATEST RESEARCH
FINDINGS, A FIBRE CAN BE RECYCLED
NEARLY INDEFINITELY.

Up to 7 times. This has been the unanimous answer to the question of how many times paper fibres can be recycled. According to the literature on this subject, the reason for this limited number of cycles – apart from declining quality and loss of stiffness – has been the shortening of fibres with every new recycling level. The fibres, it is said, lose the ability to combine into a “sheet”, and fibres that are too short are ultimately washed out from the production process.

TU Darmstadt disproves the myth

Recent examinations¹ on the fibre life cycle of primary and secondary fibres conducted by TU Darmstadt, one of Germany’s leading technical universities, have now disproved this limited life cycle.

The well-known, simplified statement that cartonboard fibres can be recycled up to 7 times does not cover the whole issue. It is based on mass balances, i.e. on the fact that mass is lost because not all paper products can be returned to material recycling. Fibre and fine materials mass is lost during every processing cycle. The precise number of cycles of fibre material that is technologically possible can only be determined in lab tests, as recovered paper always contains a mix of fibres of different and unknown age.

TU Darmstadt therefore conducted multiple recycling tests in a laboratory setting: Even after **25 recycling cycles**, scientists could not detect any significant change in fibre length and stability properties. Under real-life conditions, the challenge is to separate non-cartonboard contamination and impurities while minimising fibre loss.

Environmental protection

Recycling is indispensable for a sustainable packaging industry. The cycle is completed, increasing the life cycle of wood within the entire value chain many times over. Keeping fibres in the cycle for as long as possible protects the environment, as the raw material is used to the optimum extent. The potential of recovered paper has thus long been underestimated. Recovered paper is an even more valuable resource than previously assumed. It is born again and again.

EXPERIMENT SETUP

The raw material used in the multiple recycling trials was a mix of containerboard (20 % virgin fibre, 80 % recycled fibre), as is used by the German corrugated board industry.

In the lab, the sheets were defibred and used again for sheet formation. The entire amount of test material used for the paper test was measured and used for the next defibring step – without adding primary fibres. After minimal initial loss of quality, no further significant changes in fibre length or fibre fraction proportions could be detected after as many as 25 rounds of recycling. In all relevant stability parameters, only minimal losses of 5 % to 12 % were recorded. Further research on multiple recycling will be conducted by the end of 2019.

¹Putz, Hans-Joachim / Schabel, Samuel: Der Mythos begrenzter Faserlebenszyklen. Über die Leistungsfähigkeit einer Papierfaser. (The myth of limited fibre life cycles. On the performance capability of paper fibres.) In: Wochenblatt für Papierfabrikation. 6/2018, S. 350-357

RECYCLABILITY AND BIODEGRADABILITY – THE MOST IMPORTANT STANDARDS AT A GLANCE

The cartonboard and paper industry has always been a pioneer for an ecologically circular economy. With the European Packaging Directive, the EN 13430 and EN 13432, the EU Parliament has already aligned the various measures taken by the member states in the area of packaging and packaging waste management back in 1994, intending to reduce the impact of packaging on the environment and to keep the domestic market functioning.

Recyclability – EN 13430

The EN 13430 defines the possibilities of materials recycling. A package must be designed in such a way that the raw materials used can be recycled by means of commonly used sorting systems or standard materials recovery systems. Packages that consist of several materials must be constructed so the consumer can separate them. Cartonboard is simply collected as recovered paper and turned back into cartonboard in a recycling plant.

Biodegradability – EN 13432

The EN 13432 describes requirements and processes regarding biodegradability. In addition to general biological degradability in laboratory tests, the aerobic degradability of the individual packaging materials must be proven in practice. The packaging components must not have any negative impact on the quality of the compost.

We had two independent external and state-approved institutes test our MMK cartonboard qualities for biodegradability. Both the Institut für Verpackungswesen (Austrian Packaging Institute) in Vienna and the Institut für Agrarbiotechnologie (Department of Agrobiotechnology) in Tulln confirm that our products are biodegradable in laboratory tests and in practical experiments at the industrial composting plant in Oberpullendorf.

All MMK cartonboard qualities – including our special qualities with barriers – consist of renewable raw materials and comply with the two standards of recyclability and biodegradability.

TRIUMPH™ FREEZE GREASE: SUSTAINABLE CARTONBOARD SOLUTION FOR FOOD ON THE GO

Whether party plates, trays for sausages, fries boxes or cake trays – the virgin fibre cartonboard Triumph™ Freeze Grease from the German Baiersbronn mill is tailor-made for supplying the growing fast food and food services segment with sustainable solutions without plastic laminates.

Optimum protection from grease stains

Packaging solutions in the fast food and food services segment all have the same requirement: To guarantee stability and prevent discoloration and annoying grease stains. Thanks to its combined moisture and grease barrier on the top side, Triumph™ Freeze Grease satisfies these requirements and is thus ideally suited for direct contact with dry and greasy foods.

Ecological, sustainable, exemplary

Triumph™ Freeze Grease is recyclable and biodegradable, so it is a sustainable alternative to plastic plates or Styrofoam as well as Polyethylene (PE) coatings. The grease barrier is fluo-

ride-free and no optical brightening agents (OBA) are used. This cartonboard quality from Baiersbronn is an important contribution to the “Single Use Plastic Strategy”, which aims to substitute single use plastic products which, according to the latest scientific findings, constitute half of the waste found in the oceans¹.

Triumph™ Freeze Grease is produced in the German MM Karton mill in Baiersbronn in the Black Forest. Thanks to its convenient location and the flexible production processes, the Baiersbronn mill can offer its customers in Central Europe excellent service and quick delivery.

①



①

TRIUMPH™ FREEZE GREASE WITH COMBINED MOISTURE AND
GREASE BARRIER PACKAGES AND PRESENTS FAST FOOD AND FOOD SERVICES
PRODUCTS SUSTAINABLY

¹European Parliament, Plastic in the ocean: Facts, impact and new EU regulations, 2018.

UT TRAY BLACK PRESENTS FRUITS AND VEGETABLES SUSTAINABLY

Our new cartonboard quality UT Tray Black from the Austrian Hirschwang mill offers with its black top side and brown reverse side food retailers an attractive, recyclable alternative to the currently used plastic or Styrofoam trays. Fruits and vegetables perfectly presented in UT Tray Black are inviting to consumers, who can feel good about their purchase for not just one but two reasons: fruits and vegetables are healthy for them, and cartonboard is healthy for the environment.

Products perfectly put into focus

Strong, environmentally-friendly packaging and trays are certainly an important factor for visual appeal, but especially with foods, they also fulfil a key function of protecting contents from spoilage and damage during transport and storage. Consumers are more likely to choose a product that promises intense indulgence thanks to expressive presentation. Particularly black trays are perfect for presenting the colourful fruit and vegetable in the stores' produce sections to their best possible advantage. The contrast of black cartonboard and red tomatoes or strawberries, green apples, yellow peppers, white mushrooms or vibrant oranges is a real eye-catcher at the point of sale.

Sustainable solution from the Hirschwang mill

UT Tray Black compels with its evenly black surface treatment. The fully sized recycled cartonboard has two essential advantages over a black printed cartonboard surface:

1. A **consistent colour gradient** on the surface is assured.
2. **No additional processing steps** are necessary.

The brown reverse side underscores the natural character of the packaged foods and can also be printed if required.

UT Tray Black is approved for direct food contact with whole fruits and vegetables, fresh or refrigerated, unpeeled. Fruits and vegetables release moisture, and are also generally washed prior to packaging. This is why form stability in humid conditions is very important. UT Tray Black satisfies this key requirement perfectly. Thanks to a special sizing, the cartonboard is extremely water resistant and thus maintains its stable form.

Especially products that focus on freshness, quality and fairness should be packaged sustainably and naturally. With the introduction of this innovative cartonboard quality, we make it possible to present fresh fruits and healthy vegetables in environmentally-friendly and sales-promoting trays and packaging.

If you want to print the brown reverse side, we deliver the cartonboard "upside down".



①

THE BLACK TOP SIDE OF UT TRAY BLACK IS IDEAL FOR PRESENTING COLOURFUL FRUITS AND VEGETABLES; THE BROWN REVERSE SIDE EXPRESSES NATURALNESS.

CLEVERLY REDESIGNED PACKAGING MADE OF EXCELLENT TOP™ KRAFT REPLACES UNSUSTAINABLE PACKAGING

Especially the packaging of fresh goods demands solutions that express the natural character and quality of the foods. Fruits and vegetables usually have a natural peel protecting them, and are often unnecessarily packaged in plastic. The fact that clever cartonboard packaging is the best alternative is demonstrated by the new design made of Excellent Top™ Kraft for mangos and avocados.

Organic goodness that extends all the way to the packaging

Mangos and avocados, for instance, are now presented on the Austrian market with an innovative, ecological packaging solution made of Excellent Top™ Kraft, our virgin fibre Kraft quality with an outstanding white surface and brown Kraft reverse side. The clever cartonboard construction is fully recyclable and completely replaces the original plastic package consisting of two plastic shells (deep-drawn shells).

Finding the balance between sustainability and product protection is particularly difficult when it comes to fruits and vegetables: The packaging is continuously exposed to moisture and temperature fluctuations, from the initial packing process all the way to presentation on the store shelf. Cartonboard packaging for this type of application must therefore guarantee

the greatest possible stability, tear resistance, and safety. At the same time, fruits like mangos and avocados are packed by hand, so the packaging must be both robust and quick to set up. Thanks to delivery as flat cut-outs rather than pre-formed plastic shells, the packaging material requires a fraction of the space during transport, which saves a lot of transport traffic. The new packaging of Excellent Top™ Kraft offers all of these properties and additionally presenting the freshness and character of fruits and vegetables.

Innovation through cooperation

This new application shows that brand manufacturers and retailers take their ecological responsibility very seriously and want to act in a customer-oriented as well as environmentally conscious manner. In light of tightening laws on single-use

plastics, they are turning more and more toward cartonboard as a sustainable and recyclable raw material. There are numerous elements that can and must already be considered during the development phase of a packaging system in order to guarantee effective collection and recycling. This requires the cooperation of all partners in the supply chain. Often, cooperation is what generates innovations that optimise packaging solutions in terms of functionality and eco-friendliness – in this case it was the close cooperation between the retailer and Mayr-Melnhof Karton.

Our goal is to work with consumer goods producers, retailers, and packaging producers to develop packaging concepts that are geared toward consistent recycling. Horst Bittermann,

Sales Director Enduse Management: *“A functioning recycling economy is an imperative demand of consumers. They need to know that their packaging will not wind up in the ocean, but will be recycled as a valuable resource and turned back into packaging. Now more than ever, the packaging is part of the image of any product – because they know they can buy it in “good conscience”. Consumers are also becoming increasingly critical, and they are voters and buyers at the same time; this is what policy makers have reacted to by means of regulations, and what retailers are responding to by replacing non-sustainable packaging solutions with ecologically valuable ones. Cartonboard satisfies all sustainability principles: renewable, recyclable and biodegradable.”*



① + ②

THE NEW PACKAGING
CONSTRUCTION OF EXCELLENT TOP™ KRAFT
COMPLETELY REPLACES THE ORIGINAL
PLASTIC PACKAGING.

MMK digital: CUSTOMER SURVEY REVEALS HIGH LEVEL OF SATISFACTION

Accelerating business processes and making them more efficient – a year ago, we launched our sales and service channel MMK digital, intending to use the potential of digitalisation to revolutionise the daily business activities of our customers in the packaging industry.

Have we kept that promise?

High satisfaction and recommendation rate

We decided that the one-year mark was a fitting occasion to analyse our customers' satisfaction with the new digital sales and service channel. We invited several hundred users of the platform to evaluate MMK digital in an online survey, and to give us their ideas for further development of the channel. Our focus was on the usability and efficiency of the platform and the smooth processing of business activities in daily operation. Overall, our customers were very satisfied and compared the usefulness and ease of use of the platform with that of well-known B2C platforms like Amazon or Zalando:

- 91 % rated MMK digital as easy to use.
- 90 % rated the platform as useful and convenient for their daily work.
- 86 % would recommend it to a colleague.

"Once active, they stay active." – Once users have discovered the benefits of MMK digital, they don't want to go without this innovative option for handling business processes. The survey respondents particularly emphasised:

- enormous time savings in daily work
- speed of transactions and instant feedback
- ease of use
- comprehensive overview including historical data
- quick access to real-time information

Continuous optimisation

The positive response we received is our motivation to continue to optimise MMK digital and thereby further improve our services. We take our customers' suggestions for improvement seriously and work on making our platform even more outstanding: As many customers requested, we are currently developing a special section for Stock Sales & Special Offers with special deals on sideruns and stocklots at particularly favourable conditions. The Statistics and Reporting area, where

users can interactively analyse transactions with MM Karton, will also be expanded by new functions.

"Thanks to direct customer feedback, we know which areas of MMK digital have already been met with a high level of customer satisfaction and where we may still find potential for extensions or optimisation. This is important to keep our digital products and services on the cutting edge of technology and usability for our customers. We continuously develop MMK digital for their benefit," says Christian Neumann, Head of Group Digital Business. If you have any suggestions for further improvement, we look forward to receiving your personal message (mmkdigital@mm-karton.com).

1


"MMK digital saves time. No more mail sending & no waiting for answers."

"Because finally everything is on 1 single site and very well organised and simple to use. Immediate feedback of delivery times."

"Simple to use for instant results. Fantastic tool for daily work."

1

THE POSITIVE FEEDBACK FROM OUR MMK digital CUSTOMERS PLEASES AND MOTIVATES US.

PUBLISHER AND OWNER
MAYR-MELNHOF KARTON GESELLSCHAFT M.B.H.
BRAHMSPLATZ 6
1041 VIENNA
AUSTRIA
WWW.MM-KARTON.COM

EDITOR
ELISABETH STOCKER
TEL: +43 1 50136 91342

CONTRIBUTORS
CHRISTINA HUBER
MARIE SCHMIDT

PICTURE CREDITS
MAYR-MELNHOF KARTON GMBH, PRO CARTON

GRAPHIC CONCEPT
STUDIO RIEBENBAUER

IF YOU WOULD LIKE TO UNSUBSCRIBE FROM UNFOLDED,
PLEASE CONTACT MARKETING@MM-KARTON.COM