

## KRCPACK OFFERS SOLUTIONS FOR SUSTAINABILITY:

### MONO MATERIAL POUCHES

Having each their pros and cons, PP/PE and PET/PE are the most common structures for pouches. Several parameters are used to determine how to pick the right materials while designing the structure.

One of the biggest gaps in flexible packaging is complex structures. To begin with, mono materials (glass, aluminum etc.) are commonly used in rigid material packaging; however, when it comes to flexible packaging, several materials such as PET, OPP, CPP, PE, Paper, Aluminum and metalized or miscellaneous coated plastics are used together. For this reason, recycling is considered less efficient in flexible packaging. Recycled multi material is of only limited use including with lower-quality molding applications.



KrcPack offers mono material solutions -mono PE, mono PP or mono Polyolefin (PE, PP combination)- with roll suppliers for flexible packaging needs. The idea is designing the package by using only mono material. It provides more efficient recyclable opportunity and gets flexible packaging solutions to the next level. Once recyclable plastics are used, plastic industry packaging goes wider. The

materials that carry the labels on the left offer valuable end life usage in various areas. They can even be used in PE and PP film productions.

Cycle of sustainability occurs in the order of production, consumption, waste management and "from waste to resources processes". The weakest link of chain for flexible packaging is the evaluation of waste. Efficient methods should be developed. Ellen MacArthur, a record-breaking sailor, says that more plastic than fish will be found in the seas by 2050. One truck's-worth of plastic is dumped into the sea every minute, and the situation is getting worse. Regarding this, we must overcome the environmental issues about flexible packaging. Mono materials offer valuable end life usage areas after recycling.



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## European Commission 2030 Targets



All plastic packaging on the EU market will be recyclable by 2030 under plans to tackle plastic pollution published by the European Commission. Currently, less than 30% of the 25 million tons of plastic waste generated in Europe is collected for recycling.

The new EU-wide plastic strategy will transform the way products are designed, produced, used, and recycled in the EU. Too often the way plastics are made and discarded harm the environment and fail to capture the economic benefits of a more circular approach.

## Points to Consider

- Mono Polyolefin packages are widely spread in market. They can be observed especially for Vertical Form Fill Seal machines and various shapes such as pillow bags, gusseted bags, Stand-Up bags and recently stand-up pouches (SUP) applications. Krcpack provides services with mono Polyolefin solutions most especially doypack-like packaging filled with VFFS (Vertical Form Fill Seal) lines. Lately new technics are coming up for waste management and recycling procedures for Polyolefin materials. Although there are relatively limited end life usage areas compared to mono PE or mono PPs, still mono Polyolefin offers valuable end life options.
- Mono PP solutions are more common in the market than Mono PEs. There are several examples of that like single layer BOPP, BOPP-CPP, multi-layer BOPP laminates including even metallized, acrylic, PVdC or PVOH coated BOPPs. Since Mono PP solutions do not meet wide market needs, usage areas are limited.
- Mono PE have more potential applications in sectors such as frozen products, liquids, dry foods, and construction materials. Krcpack works on developing special PE/PE laminates by collaborating with worldwide leader manufacturers of extrudable plastics and roll manufacturers. Krcpack studies especially the specific conditions of packaging equipment to propose tailor made solutions that answer our partners' needs in relatively high thermal resistance required by applications like bags and pouches.

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- PE/PE laminates have less thermal resistance compared to PET/PE or OPP/PE which limit its possible applications. Krcpack works with plastic roll manufacturers on developing PE based foils with enhanced thermal resistance that would help widen the range of equipment able to use this kind of foils especially for VFFS lines that normally designed for PET or BOPP based laminated films. VFFS lines would be a better choice compared to horizontal or pouch lines for PE/PE solutions thanks to enable sealing in lower temperatures and their shorter parcour which requires film with less elongation.
- PET and BOPP films are oriented films with superior optical properties compared to PE films. This is why PET and BOPPs have better clarity and haze values and PE films are not likely to offer the same printing and visual quality.
- Last but not least, the best barrier option for flexible packaging is aluminum. When good barrier properties are expected from the packaging aluminum foil is often required. This contradicts with the concept of mono material packages and recyclability. Mono PE solutions don't meet barrier properties as much as aluminum. This has also to be considered when designing the structure of the packaging and looking for alternative recyclable and offer barrier properties.

## Conclusion

- We are collaborating with the leaders of the sector in providing rolls to develop and propose mono material structures with the best thermal, mechanical, optical and barrier properties to replace existing and proven multi-material structures. We, as KrcPack are ready to work with all customer needs in a field of Mono material structure. The user of the flexible material should be known that all marketing and producing mentality should be reviewed due to reasons above.

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