

## Sustainable Packaging News Awards 2023

### Category of award:

#### Recyclable Packaging Innovation

Innovations in packaging design or materials which help the final product to be recycled.

### Product:

Fully Recyclable Mono-Polymer Reclose-able Easy to Carry 3D Bag with Strong Handle by UFlex for Peacock 10 kg Rice Pack by EBRO Foods

### Description of the innovation:

This packaging made from homogenous layers of polymer is fully recyclable under PE recycling category #4. Enhanced aesthetics, reclosability, 3-dimensional D-cut handle for easy carriage are its additional features.



Fig.1: Product Picture

Owing to high consumption of rice across the world, need for an upgraded packaging format for rice packaging has always been a matter of consideration for brands as well as for the packaging manufacturers. Though the conventional rice packaging that comprised of different layers of polymers and served the brands with desired attributes but recycling them was a very complex task as it required separation of layers before recycling, thereby resulting in high cost of recycling and making it a tedious process. Hence the need for a packaging structure that delivered same attributes with environment friendliness was much needed.

This development by UFlex for packaging of 10kg Peacock Extra Long basmati rice (by S&B Herba foods) allows easy recycling of rice bags while delivering elevated user convenience. The development involves amalgamation of layers of PE, followed by printing through Rotogravure printing process. The material used in its development **complies with IS:14534:2016** test guidelines for recyclability of plastic material and is fully recyclable under **mono-polymer PE recyclable category no '4'**. Besides being mono-material, these bags can be run on existing filling lines on which regular multi-layered bags are run, thus saving from the need to install an additional filling line.


To stay competitive in the fiercely competitive business environment, brands look to deliver more value and virtue in each of their offerings. The newly developed packaging format is made of homogenous layers of polymer that helps brand step closer to their sustainability goals. Its structure provides strength to the pack to allow large quantity of rice and makes it easy to be carried by the end consumer with its three-dimensional D-cut handle. Use of Rotogravure printing opens possibilities of uncompromised matte and gloss printing for brands to print their story for the consumers. A bottom gusset at the base allows stand-ability to help position differently on the retail shelves. The bag has a wide sealing temperature window that maintains the temperature during long transit and allows shopper to see through the pack from the side gusset that helps form an instant connect with the packed contents. A laser scoring feature adds convenience of opening on the bag, a feature that was long desired when conventional rice packs ruled the market. Use of adhesive lamination process enhances the overall shelf appeal on the retail shelves.

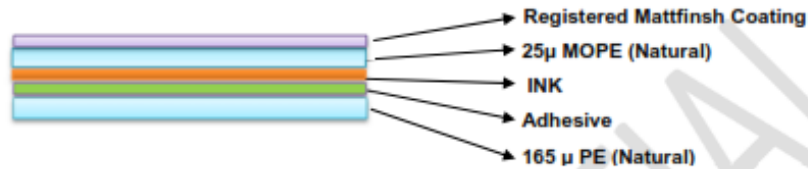
Despite the mono-material structure, the bag successfully meets the expectations of brands and consumers with enhanced barrier properties, enhanced shelf appeal and adds to user convenience. The packaging includes a front side slider and a zipper that allows the convenience of easy opening and re-closeability to the consumers. To restrict malpractices during transit, **a safety membrane has also been provided as a tamper proof feature** after opening of the slider zipper. Laser scoring on the front of the pack allows easy opening of the bag with a pull open strip. The product had been tested for 6 drop tests after filling to ensure that no damage happens to the pack during transit.

This mono-material format concept for rice packaging application is gaining popularity owing to the benefits it gives to brands, convenience it offers to consumers along with a sense of use of responsible packaging and all of this without leaving any detrimental impact on the environment throughout its entire lifecycle.



Fig. 2: Product Picture

	<b>Uflex Limited</b>
	<b>Packaging Division, Noida</b>
<b>Technical Data Sheet</b>	
<b>Job Name</b>	<b>Mono Polymer Recyclable 10 KG 3D POUCH</b>
<b>Multilayer Laminate Pouch suitable for Rice Packing applications.</b>	



Sr. No.	Properties	Method	Unit	Value
<b>General</b>				
1	Grammage	ASTM D 4321	Gm/m <sup>2</sup>	180.3 ± 5 %
2	Thickness	ASTM D 374	µ	195.0 ± 10 %
<b>Barrier</b>				
1	WVTR	ASTM F1249	gm /m <sup>2</sup> / day (90% RH & 37.8 °C)	5.0 Max.
2	OTR	ASTM D 3985	cc / m <sup>2</sup> /day (0% RH & 23 °C)	2500 Max.
<b>Surface</b>				
1	COF kinetic Inner – Inner	ASTM D1894	-	0.20 - 0.40
2	COF Static Outer – Outer	ASTM D1894	-	0.20 - 0.40
<b>Mechanical/Thermal</b>				
1	Bond Strength (1st pass)	ASTM F904	GF/25mm	300 Min.
1	Bond Strength (Final Pass )			450 Min.
2	Seal Strength (130°C, 30 PSI & 1 Sec Dwell Time)	ASTM F88-99	KGF/25mm	6.0 Min.
<b>Dimension</b>				
1	Pouch Height	Uflex Method	mm	570 ± 5
2	Pouch Width	Uflex Method	mm	280 ± 3
3	Pouch Gusset - Side	Uflex Method	mm	110 ± 5
4	Pouch Gusset - Bottom	Uflex Method	mm	110 ± 5

**\*\* Remarks:** This Pouch is Recyclable & can be recycled through a conventional recycling process Where normal LDPE based materials are processed.

Fig. 3: Technical data sheet