

**Recycled.
 Degradable.
 Bio-based.**

**RR
 BD
 BB**

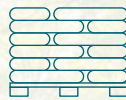


**THREE 100% RECYCLABLE PRODUCT LINES
 FOR YOUR SUSTAINABILITY GOALS**



manunature 

Reducing the carbon footprint
 for each loading scheme:



SCHEME A



SCHEME B



SCHEME C

**FREE
 STATS**

Free analysis tool to optimize your packaging costs.
 Phone +49 3461 7459-974, customer@manupackaging.com

RELIABLE QUALITY FOR SUSTAINABLE APPLICATIONS



By using our **Manunature® product portfolio**, you can not only ensure optimal transport safety, but also achieve your ESG/sustainability goals more effectively. Your packaging logistics will thus become an important factor in the success of your sustainability strategy.

manunature®RR

The high-quality and high-performance polyethylene stretch film **Manunature® RR** is 100% recyclable. It contains a minimum of 30% post-consumer recycled plastics and, depending on the intended use, up to 60% regenerated material in total.

This is for a true circular economy.

manunature®BD

Manunature® BD is 100% biodegradable and recyclable. The polymers break down into CO₂, water, and biomass through the biodegradation process, without creating microplastics. **Manunature® BD** is 100% usable and recyclable for 6/12 months after production date. Only after that, the decomposition process begins.

manunature®BB

Produced using renewable raw materials, **Manunature® BB** consists of 50/100% BIO-LLDPE, a by-product of the forestry industry and used oils for example. It's simply ingenious: For every kilogram of BIO-LLDPE used in the production of **Manunature® BB**, two kilograms of CO₂ are removed from the atmosphere.

¹Where does the regrind come from?

We are sourcing the post-commercial regrind (PCR) from recyclers certified by EUCertPlast. Manupackaging checks the quality of the PCR granules according to the high requirements of the incoming goods inspection in accordance with ISO 9001:2015 quality management.

²What does biodegradation process mean?

We're talking about biodegradability according to BSI PAS 9017:2020. The PE polymer is transformed into biocompatible wax. Biodegradation occurs in the soil by naturally occurring bacteria and fungi. Ecological impacts are determined through OECD tests.

³What do we mean by CO₂ balance?

For different applications, there are different products that are optimized towards CO₂ balance. If sustainability is important to you, then in addition to product selection, factors such as **circular economy, material consumption, and transportation routes** should also be considered.

	MANUNATURE®RR		MANUNATURE®BD		MANUNATURE®BB	
	RR30	RR60	12 Months product life cycle	6 Months product life cycle	50% Bio-LLDPE	100% Bio-LLDPE
PRODUCT						
VARIANT	RR30	RR60	12 Months product life cycle	6 Months product life cycle	50% Bio-LLDPE	100% Bio-LLDPE
FEATURES	30% of raw materials consist of PCR/PIR recycle ¹	60% of raw materials consist of PCR/PIR recycle ¹	Biodegradation process ² starts after 12 months (from delivery date)	Biodegradation process ² starts after 6 months (from delivery date)	Bio-LLDPE is made from waste products, e.g. from the timber industry, or used vegetable oils and is subject to ISCC certification .	
RAW MATERIALS	BIO-BASED (ISCC)				50%	100%
	POST-COMMERCIAL (PCR)	30%	30%			
	POST-INDUSTRIAL (PIR)		30%			
	LLDPE (PETROLEUM/GAS)*	70%	40%	100%	100%	50%
ECOLOGY	CARBON FOOTPRINT ³					
	BIODEGRADABLE					
	CIRCULAR ECONOMY					
PRICE CATEGORY	€€		€€€€		€€€	€€€€€
AS HAND ROLL		✓	✓	✓		
AS MACHINE ROLL	✓	✓	✓	✓	✓	✓
AS JUMBO	✓	✓				
AS STRETCH HOOD	✓	✓				
PRINTABLE	✓	✓	✓	✓	✓	✓
PRESTRETCH (%)**	150 - 275		175 - 325		250 - 400	
FOIL TRANSPARENCY	●●○		●●●		●●●	
OPT. UV PROTECTION	✓				✓	✓
*All LLDPE stretch films and LDPE stretch hoods are 100% recyclable .						

*Does not apply to stretch hoods.



CLOSE THE LOOP

Become our partner for true circular economy! You collect your used and unmixed film and give it back to us directly - we add it to the production process several times in order to use resources sustainably. Achieving more together!

Manupackaging Deutschland GmbH is certified according to:

