

## rPP Film – target specification

**rPP Film** is a high quality PP-rich recycle from household all-colors post-consumer flexible packaging waste that has been processed in a Quality Recycling Process (QRP). It is the target fraction of the additional sorting of DKR-323. QRP includes additional sorting, hot washing with detergents, extrusion with homogenization and degassing as well as double melt filtration and de-odourization.

This **target specification** is based on values, obtained during the extensive trial period on QRP under CEFLEX. All mentioned thresholds were met during these trials. Separate certificates of analysis (CoA) of materials resulting from these trials are available. These CoA contain some additional measurements, which have been omitted here because they are challenging to translate to objective target values (e.g. independent of sample sizes).

PROPERTY		UNIT	TARGET VALUE	COMMENTS	TEST METHOD
GENERAL					
Name		-	rPP Film		
Composition		wt%	PP > 80, PE < 10, other < 15	Other= other than PE or PP	DSC-based (must be properly baselined)
APPEARANCE					
Shape		-	Granules		
PHYSICAL					
Melt Flow Index (MFI)		g/10 min	4-8	2.16 kg, 230 °C	ISO 1133
Density		g/cm³	0.880-0.900		ISO 1183
Ash content		wt%	< 3	after TGA - 600°C	ISO 11358
MECHANICAL – unoriented cast film*					
Modulus	MD	MPa	150-250	1 mm/min	ISO 527
Tensile strength	MD	MPa	> 40	50 mm/min	ISO 527
Strain at break	MD	%	> 500	50 mm/min	ISO 527
MECHANICAL – blown film**					
Modulus	MD	MPa	200-300	1 mm/min	ISO 527
Tensile strength	MD	MPa	> 30	50 mm/min	ISO 527
Strain at break	MD	%	> 600	50 mm/min	ISO 527
Dart drop resistance		g/μm	> 2.5		ASTM D1709
OTHER					
Bulk density		g/cm³	> 0.55		EN 15344

\* Cast film advised with single screw extruder, L/D min 20, chilled rolls, die temperature max 220 °C. Thickness= 40 μm. Die cut samples type 5A for tensile test.

\*\* Film blowing advised with single screw extruder, L/D min 20. BUR min 2.5, die temperature max 230 °C. Thickness= 60-65 μm. Die cut samples type 5A for tensile test.

After prolonged storage or for the manufacture of sensitive products, drying of the material prior to processing is recommended.