



UP-CYCLING WITH recoBATCH

in-house production of masterbatch, up to 50 % CaCO_3 possible, lower raw material cost, increased output, excellent melt homogeneity, improved barrier properties, advantageous investment costs



recoBATCH



Powder dosing unit with special design to avoid bridging.



Separate powder and recycling material dosing ensures a constant ratio.



Same quality in the final product with lower production costs.



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Up-cycling of production scrap by adding calcium carbonate (CaCO₃) powder in the recycling process on the Starlinger recoSTAR universal recycling line. Various properties are improved during extrusion, while raw material costs for tape production and calcium carbonate masterbatch are reduced.

Advantages of recoBATCH production

- In-house production of masterbatch in “one step” during the recycling process
- No lumping of CaCO₃ batch as possible agglomerate formations are filtered out by the continuous melt filter
- Better pellet quality
- Perfect dosing position and mixing properties

Advantages for tape production

- Controlled quality
- Perfect physical properties of final tape
- Lower raw material cost
- Knowledge about input materials reduces wear risks

Advantages for the end product (film)

- Potential for material savings (down-gauging)
- Higher stiffness and puncture resistance, increased tear strength
- Improved barrier properties
- Improved printing properties → less ink required

Comparison tape quality with calcium carbonate masterbatch versus 50 % recoBATCH

80 % virgin resin + 20 % CaCO₃ masterbatch

Nominal denier	Nominal tape width [mm]	Application	Foreign MC	Staco MC	Machine type	Customer Staco	Manufacturer	Date	Technician		
820.0	3.00	Test	[]	[X]	starEX 1500 ES/E120T	Starlinger Austria	Starlinger Austria	9.10.08	SZA		
Components											
Type	Name	Material Nr.	Manufacturer	Polymer/color	[%]	MFI	Bulk density [g/l]				
R	Mosten	TB 003	CZECH	PP	79.00	3.00	0.00				
A	Calcium carbonate	WPT 1371	OESWPT	natural	20.00	1.00	0.00				
A	Maxithene	HP 1139-60	GAB	white	1.00	0.00	986.00				
Test results											
	Tape width [mm]	Tape thickness [μ]	Linear density [tex]	Tenacity [cN/dtex]	Linear density [denier]	Tenacity [g/den]	Elongation fmax [%]	Elongation break [%]	Emod [N/mm ²]	Residual shrink [%]	Profiled
Mean values	3.50	35.50	101.80	4.27	917.00	4.84	23.12	0.00		8.05	[]

60 % virgin resin + 40 % recoBATCH (+ 20 % CaCO₃)

Nominal denier	Nominal tape width [mm]	Application	Foreign MC	Staco MC	Machine type	Customer Staco	Manufacturer	Date	Technician		
820.0	3.00	Test	[]	[X]	starEX 1500 ES/E120T	Starlinger Austria	Starlinger Austria	3.11.08	SZA		
Components											
Type	Name	Material Nr.	Manufacturer	Polymer/color	[%]	MFI	Bulk density [g/l]				
R	Mosten	TB 003	CZECH	PP	60.00	3.00	0.00				
A	Calcium carbonate	recoBATCH 50%	unistrap	natural	40.00	0.00	0.00				
Test results											
	Tape width [mm]	Tape thickness [μ]	Linear density [tex]	Tenacity [cN/dtex]	Linear density [denier]	Tenacity [g/den]	Elongation fmax [%]	Elongation break [%]	Emod [N/mm ²]	Residual shrink [%]	Profiled
Mean values	3.49	37.75	99.03	4.07	891.30	4.61	22.24	0.00		9.94	[]

Extruder size	CaCO ₃ share	Output recoSTAR universal for raffia	Output including recoBATCH*
recoSTAR universal 65	50%	120-170 kg/h	150 kg/h
recoSTAR universal 85	35%	220-280 kg/h	250 kg/h
recoSTAR universal 105	35%	280-440 kg/h	400 kg/h
recoSTAR universal 125	30%	480-640 kg/h	580 kg/h
recoSTAR universal 165	25%	650-1000 kg/h	900 kg/h

* guaranteed with OMYAFILM® 704-OM/Triton T20T

All data depending on design!

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