



SUSTAINABLE PLASTIC SOLUTIONS

February 2022, Ashby de la Zouch

Introduction to GCR GROUP - overview

SUSTAINABLE
PLASTIC
SOLUTIONS



GCR Group is a European company with a worldwide presence, and is the leader in the development of high-quality and environmentally efficient compounds and mineral masterbatches for the plastics industry.

 **Industrial Compounds** based on post-industrial and petrochemical scraps –50,000mT/year (*growing capacity in the coming years)

 Ecological and recyclable **mineral masterbatches** – 425,000 mT/year (as from April 22)

 New generation of high quality **Compostable Masterbatches** with selected minerals.

 The patented technology is focused on the continuous improvement of plastics and its additives

FOUNDED IN



2001

HEADQUARTERS

La Bisbal del Penedès,
Tarragona (Spain)



PRODUCTION FACILITIES

+200
EMPLOYEES

500,000
ACTUAL CAPACITY mT

3
SITES

+50,000
STORAGE (m²)

April 1st 2022 – introduction of plastic tax

GOAL as plastic converter: introduce >30% recycled material.

Which Solutions offers GCR group?

- **Granic in combination with min. >30% rPO**
- **Ciclic at min. >30% in critical apps**
- **Granic as a sustainable alternative for packaging that does not fulfill the plastic tax**

requirement

- GRANIC in combination with min. >30% rPO

INSPIRED BY
NATURE

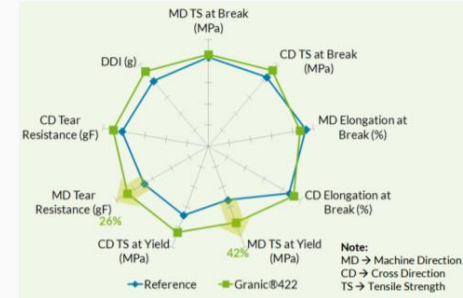


Granic helps to overcome following challenges when replacing virgin by recycled material

- Unstable process (bubble instability, humidity, ...)
- Loss of mechanical properties (stiffness, impact resistance,)

whilst also:

- Reducing carbon footprint
- Improving formulation cost
- Keeping your product 100%recycable



GRANIC in combination with min. >30% rPO

INSPIRED BY NATURE



New formulation replacing all the virgin material= Ciclic + Granic

ESTIMATION OF THE CARBON FOOT PRINT REDUCTION			
		REFERENCE	NEW SOLUTION
A	LLDPE	85%	
	White- Constant component	15%	15%
	Ciclic 12F		85%
B	LDPE	90%	
	Granic 422		20%
	White- Constant component	10%	10%
	Ciclic 15F		70%
C	LDPE		
	LLDPE	97%	
	Black- Constant component	3%	3%
	Ciclic 14T		97%



Product Carbon Footprint PAS 2050:2011

www.tuv.com ID 9105057179

0.360 kg CO₂ eq. per 1 kg of Granic 422



Management System PAS 2050:2011 0.120 kg CO₂ eq. for 1 kg of recycled Ciclic LDPE

www.tuv.com ID 9000000421

Total CFP reduction with 25/50/25 as structure: **92%**

LAYER	CFP reduction for each layer (approximative values)
A	93,1%
B	90,9%
C	93,1%

CO₂ emissions for the virgin polymers extracted from GaBi 4 database according to GWP (Global Warming Potential). Ciclic and Granic values obtained by Life Cycle Assessment (LCA) carried out by TÜV Rheinland.

Ciclic is a recycled material with PCR certification by:




- CICALIC at min. >30% in critical apps



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High quality recycled polyolefins as a sustainable solution to replace virgin polymer

- ✓ Polyethylene (PE) and Polypropylene (PP) from clean sources
- ✓ Only high quality post-industrial or post-consumer waste  EuCertPlast
- ✓ Only materials without contamination



Beyond high quality standards, we want our quality to be **CONSISTENT** to guarantee the **ENHANCED PROCESSABILITY** of our products

SUSTAINABILITY

QUALITY

CONSISTENCY

- CICLIC at min. >30% in critical apps

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Grey is the new green
Transparency not really necessary



RENEW AIR CUSHION

50% CICLIC PCR material



EuCertPlast

100% EuCertPlast certified PCR

- GRANIC as a sustainable alternative for packaging that does not fulfill the plastic tax requirement

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Carbon footprint and weight reduction

Ref. Film thickness 62microns

A: ULDPE + LDPE

B: 70% LLDPE C6 +20%MDPE+10%whiteMB

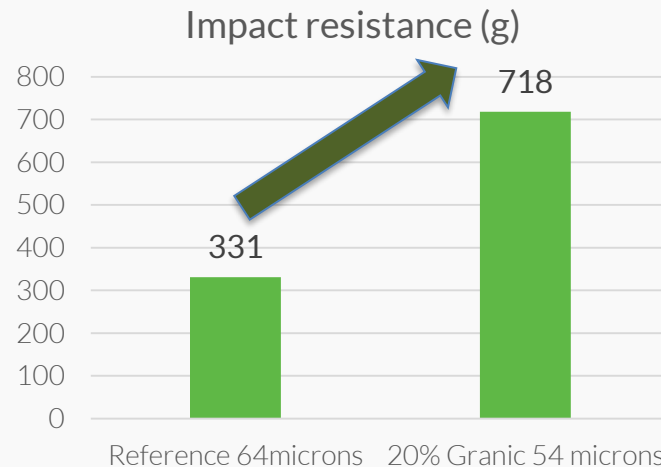


+ Granic 20% middle layer
replacing (10%LLDPE C6+10%MDPE)

A: ULDPE + LDPE

B: 60% LLDPE C6 +10%MDPE+20%Granic+10%whiteMB

Downgauging to 54microns film thickness



Conclusions

Impact resistance 2.2 times higher with - 16% downgauging -8%lightweighting

Cost reduction- replacement of C6 and MDPE

- GRANIC as a sustainable alternative for packaging that doesn't fulfill the plastic tax requirement

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Replacing **15%** of virgin PE for Granic®

The company's Granic range has also been used recently to improve flexible packaging. Segers & Balcaen has a longstanding partnership with GCR that is focused on improving the environmental footprint of its products. Following a life cycle assessment, carried out by GCR for all its Granic products, S&B has been able to reduce its CO₂ emissions by 12% on the raw material, as well as other environmental impacts. Granic also guarantees the high-quality standards S&B has for its products. The quality of the frozen food packaging improved thanks to the addition of 30% Granic and the technical experience of S&B. This resulted in a significant drop in improvement of up to 350g.



12% CO₂
eq. saving / Tn

which means...

206 Kg CO₂
eq. saving / Tn

equivalent to the consumption of...

7350 bulbs
during one hour



SUSTAINABLE SOLUTIONS OFFERED BY GCR GROUP

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- Granic in combination with min. >30% rPO
- Ciclic at min. >30% in critical apps
- Granic as a sustainable alternative for packaging that does not fulfill the plastic tax requirement



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THANK YOU FOR YOUR ATTENTION