



Sustainable Solutions Line Card

MATERIAL  
SOLUTIONS  
TO BUILD  
**A BETTER  
LIFE**



# Helping Our Customers Achieve Sustainability Goals

By collaborating with suppliers focused on sustainability, we help our customers achieve their sustainability goals, such as lowering carbon emissions, reducing waste, combatting the plastic waste problem, increasing the use of renewable resources, and more!



## Our Suppliers



# Our Sustainable Solutions Fall Into 3 Categories

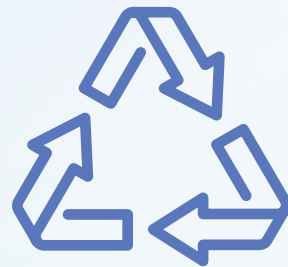


## Bio-Polymers

Created from bio-derived,  
renewable sources  
(beginning of life)

and/or

Biodegradable or Compostable  
(end of life)



## Recycled Content

Post-Industrial Recyclate (PIR)  
(production surplus)

or

Post-Consumer Recyclate (PCR)  
(after consumer use)



## Efficient Consumption

Improves manufacturing capabilities,  
enhances recyclability, provides  
lightweighting, and more!



# Bio-Polymers

are bio-derived and/or biodegradable/compostable

## Bio-Derived: Beginning of Life

- Bio-derived, also known as bio-based, materials are formulated at least in part from renewable sources, such as canola, corn, straw, wood, sugarcane and wheat
- Sustainable Impact
  - Improve resource efficiency
  - Decrease dependence on fossil fuel-based materials
  - Lower carbon emissions
  - Reduce waste

Material	Supplier	Trade Name	Sustainable Benefit
Acetal (POM)	Delrin	Delrin® RA	95-100% bio-derived content (ISCC PLUS required)
Cellulosics	Eastman	Tenite™	Bio-derived content
LCP	Celanese	Vectra® ECO-B, Zenite® ECO-B	≤60% bio-circular content (ISCC PLUS required)
PA12	Evonik	Vestamid® eCO	Produced with green energy and bio-circular feedstock
PA610, PA1010	Celanese	Zytel® RS	≤100% bio-derived content
PA610, PA1010	Evonik	Vestamid® Terra	62-100% bio-derived content
PAPACM12	Evonik	Trogamid® eCO	Produced with green energy and bio-circular feedstock
PBT	Celanese	Celanex® ECO-B, Crastin® ECO-B	≤40% bio-circular content (ISCC PLUS required)
PC	Covestro	Makrolon®* RE CQ	≤ 89% bio-circular attributed content using mass balance (ISCC PLUS required)
PC+ABS	Covestro	Bayblend®* RE CQ	40% - 80% bio-circular attributed content using mass balance (ISCC PLUS required)
PC+PET	Covestro	Makroblend®* RE CQ	30% - 50% bio-circular attributed content using mass balance (ISCC PLUS required)
PHA	Danimer Scientific	Nodax® PHA	100% bio-derived content, biodegradable
PLA	Danimer Scientific	Danimer Scientific PLA	100% bio-derived content, compostable
POM	Celanese	Celcon® ECO-B, Hostaform® ECO-B	≤97% bio-circular content (ISCC PLUS required)
PP (LFRT)	Celanese	Celstran® ECO-B	30% bio-circular content (ISCC PLUS required)
TPC	Celanese	Hytrel® ECO-B	Up to 73% bio-circular content (ISCC PLUS required)
TPC	Celanese	Hytrel® RS	Up to 73% bio-derived content (ISCC PLUS required)
TPE	Avient	reSound™ OM	35-50% bio-derived content
TPO	Geon Performance	GEON® RESILIENCE® BIO	5-17% bio-derived content
UHMW-PE	Celanese	GUR® ECO-B	>99% bio-circular content (ISCC PLUS required)

\* Makrolon®, Bayblend®, and Makroblend® are registered trademarks of the Covestro Group

## Biodegradable/Compostable: End of Life

- Biodegradable materials decompose in a natural environment
- Compostable materials can be broken down in an industrial composting facility or a home compost environment
- Sustainable Impact
  - Contribute to combatting the plastic waste problem
  - Require less energy to manufacture than traditional materials

Material	Supplier	Trade Name	Sustainable Benefit
Additive Masterbatch	Avient	CESA™ BIO	Enhance the properties of biodegradable/compostable polymers such as PLA, PHA, PHBV, PBS, and PBAT
Color Masterbatch	Avient	OnColor™ BIO	Color biodegradable/compostable polymers such as PLA, PHA, PHBV, PBS, and PBAT
PBAT, PBS	AFC Ecoplastics	AFC Ecoplastics	Compostable
PHA	Danimer Scientific	Nodax® PHA	100% bio-derived content, biodegradable
PLA	Danimer Scientific	Danimer Scientific PLA	100% bio-derived content, compostable

\*Requires ISCC+ certification to maintain mass balance credits



# Recycled Content

Our sustainable solutions portfolio consists of a variety of recycled content materials, containing Post-Consumer Recycled Content (PCR) and Post-Industrial Recycled Content (PIR).

PCR is waste generated after a material is used by a consumer.

PIR is production surplus, or waste generated from the original manufacturing process.

Incorporating recycled content in new products reduces waste, yields lower carbon emissions, decreases reliance on percentage of fossil fuel-based materials, and contributes to the circular economy.

Material	Supplier	Trade Name	PCR/PIR	Sustainable Benefit
ABS	INEOS Styrolution	Terluran® ECO	PCR	50% and 70%
ABS	Veolia	Veolia REEF	PCR	100%
Color Masterbatch	Avient	Rejoin™ PCR	PCR	Uses PCR as carrier resin allowing parts with up to 100% PCR
HDPE	Birch Plastics	Plasteon	PCR	98-100%
HDPE	Dow	Revoloop	PCR	25%
HDPE	LyondellBasell	Circulen Recover	PCR	25-90%
HDPE	Veolia	Veolia REEF	PCR	100%
HIPS	Veolia	Veolia REEF	PCR	100%
LDPE	Dow	Revoloop	PCR	70%
LDPE	Veolia	Veolia REEF	PCR	100%
LLDPE	Dow	Revoloop	PCR	70%
LLDPE	LyondellBasell	Circulen Recover	PCR	30%
PA6 (Long Fiber Composites)	Avient	Complet™ REC	PCR	50%
PBT/PET	Celanese	Celanex® ECO-R	PCR	25%
PC	Covestro	Makrolon®* R CQ	PCR/PIR	25% - 50%
PC	Veolia	Veolia REEF	PCR	100%
PC+ABS	Covestro	Bayblend® *R CQ	PCR/PIR	25% - 50%
PC+PET	Covestro	Makroblend®* R CQ	PCR/PIR	30% - 75%
PET	Celanese	Rynite® ECO-R	PCR	30% (ISCC PLUS required)
PET (Filled)	Celanese	Rynite® ECO-R	PCR	≤100%
PP	Invista	Invista™	PCR	30%
PP	LyondellBasell	CirculenRecover	PCR	25-30%
PP	PureCycle	PureFive™	PCR	90%
PP	Veolia	Veolia REEF	PCR	100%
PP (Filled)	RheTech	RheComp®	PCR	≤100% PP resin
TPE	Avient	reSound™ R	PCR	25%
TPV	Celanese	Santoprene® ECO-R	PCR	15-45%



# Recycled Content

## Ocean Bound Plastic (OBP) Content

Material	Supplier	Trade Name	Recycle Type	Recycled Content
HDPE	Birch Plastics	Plasteon	OBP	30%
TPE	Avient	reSound™ R	OBP	25%
PA6	Celanese	Zytel® PA Ocean ECO-R	OBP	30%

## Post-Industrial Recycled (PIR) Content

Material	Supplier	Trade Name	Recycle Type	Recycled Content
Flexible PVC	Westlake Dimex	Westlake Dimex	PIR/PCR	66% PIR/7% PCR
PA6 (Long Fiber Composites)	Avient	Complet™ REC	PIR	25-50%
PA6, PA66, PA610, PA612	Nylene	Nylene® E Series	PIR	≥25%
PA6, PA66	Celanese	Zytel® PA ECO-R	PIR	30%
PA6, PA66 (Filled)	Celanese	Minlon® PA ECO-R	PIR	30%
PA6, PA66 (FR)	Celanese	Frianyl® PA ECO-R	PIR	30%
PA66	Avient	Nymax ND	PIR	20-100%
PA66	Celanese	Zytel® PA ECO-R	PIR	30% (ISCC PLUS required)
PC	Covestro	Makrolon®* R CQ	PCR/PIR	25% - 50%
PC+ABS	Covestro	Bayblend® *R CQ	PCR/PIR	25% - 50%
PC+PET	Covestro	Makroblend®* R CQ	PCR/PIR	30% - 75%
PP	Birch Plastics	Plasteon	PIR	99-100%
PP (Filled)	Geon Performance Solutions	GEON® RESILIENCE® R	PIR	≤35%
PP (Filled)	RheTech	RheVision®	PIR	10-50% Bio-circular fillers ≤100% PP resin
PP (Filled)	RheTech	RheComp®	PIR	≤100% PP resin
PP (Filled)	Celanese	Tecnoprene® ECO-R	PIR	30%
TPE	Avient	reSound™ R	PIR	25-40%
TPO	Westlake Dimex	Westlake Dimex	PIR	88%
TPU (Long Fiber Composites)	Avient	Complet™ REC	PIR	15-45%
TPV	Westlake Dimex	Westlake Dimex	PIR	84%

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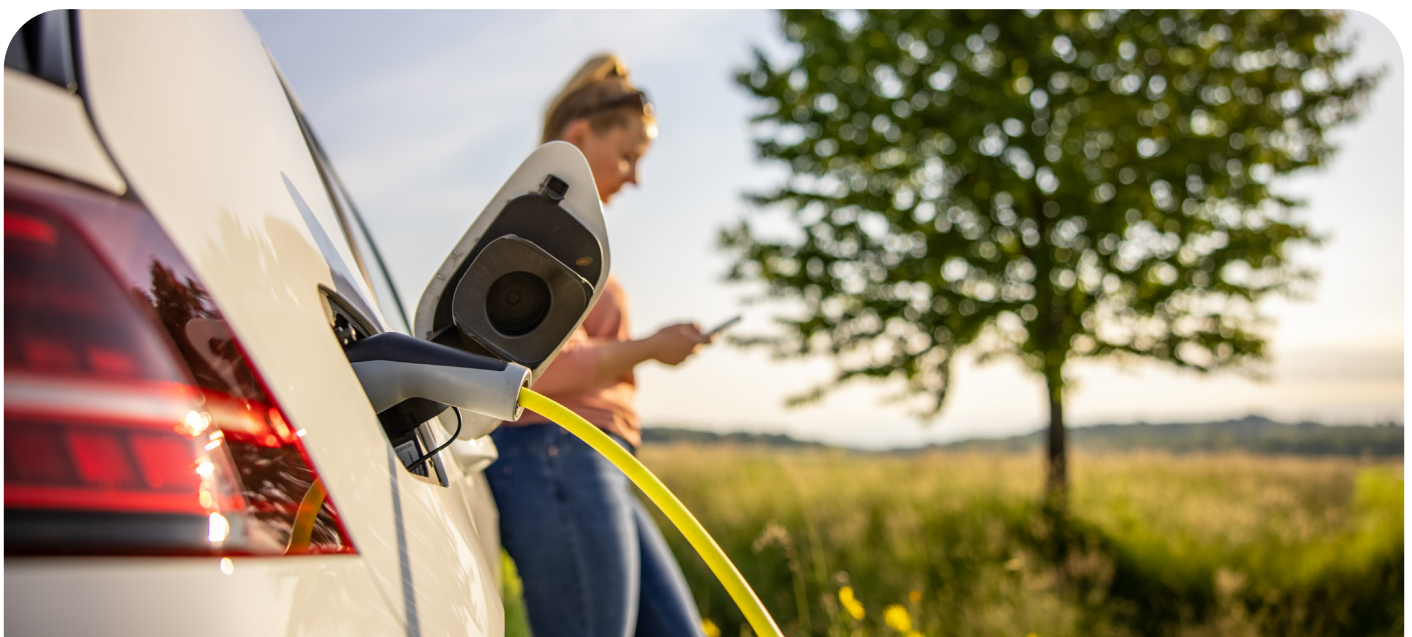


# Efficient Consumption

Our solutions that support efficient consumption provide various sustainable benefits, including:

- Reduced cycle times
- Lightweighting
- Increased recycle rates
- Reduced VOC emissions

Material	Supplier	Trade Name	Sustainable Benefit
Additive Masterbatch	Avient	Cesa™ Nox	Stabilizes recycled polyolefins during processing for improved quality
Color Masterbatch	Avient	OnColor™ IR	Makes dark plastics IR detectable for improved sorting
Color Masterbatch	Avient	ColorMatrix™ Optica™	Improve PET color tone, reduce carbon emissions through improved bottle blowing efficiencies, and enable increased amounts of PCR
Compatibilizer	Dow	RETAIN™	Enable recycling of film with EVOH or PA as barrier layer
Flexible PVC	Geon Performance Solutions	GEON® Non-Phthalate	Eliminate phthalates in risk-adverse applications
Foaming Agent	Avient	Hydrocerol™	Reduce part weight without compromising mechanical properties
Long Fiber Composites	Avient	Complet™	Lighter weight alternative to steel (~80% lighter) and aluminum (~50% lighter)
PA12	Evonik	Vestamid® eCO Vestamid® RFP	Produced with green energy and biocircular feedstock Produced with green energy
PAPACM12	Evonik	Trogamid® eCO	Produced with green energy and biocircular feedstock
Specialty Formulations	Avient	Gravi-Tech™	Eliminate lead in risk-adverse applications
TPE	Avient	reSound™ R	≤ 0 CO2 ekg/kg
TPE	Avient	reSound™ R	≤ 0 CO2 ekg/kg



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