



Polymer compounds master-batch & wax, & tailored compounding engineering services & Testing



The material portfolio

15 grades. Product profiles, comparison and technical support.

GRADE	MATERIAL / APPLICATION	PAGE
PC-LF1	LDPE / film and lamination	03
PC-HF1	HDPE / film and lamination	04
PC-LF2	LDPE / film and lamination	05
PC-HI1	HDPE / injection molding and coating	06
PC-PG20	20% glass-fiber PP / extrusion	07
PC-HR1	HDPE / rotational molding and extrusion	08
PC-SI1	GPPS / injection molding and extrusion	09
PC-MB40	Black masterbatch / PE carrier	10
PC-WF	Polyethylene wax / white flake	11
PC-WP	Polyethylene wax / white powder	12
PC-AI1	Recycled ABS / injection molding	13
PC-PI1	Recycled PP copolymer / injection molding	14
PC-PCC80	PP + calcium carbonate / raffia, cast film and fiber	15
PC-LLC82	LLDPE + calcium carbonate / blown film	16
PC-HCC82	HDPE + calcium carbonate / film and blow molding	17

Range comparison 18

Technical services 19

Lab testing and compound reverse engineering

LDPE COMPOUND

PC-LF1

Films, blending & lamination

Low-density polyethylene compound for film, blending and lamination applications. The supplier describes high stiffness; selection should consider the complete film structure and processing conditions.



Supplied shared pellet photograph: PC-LF1 / PC-LF2 / PC-HF1. Protective-film application is illustrative.

APPEARANCE

Natural

FORM

Pellet

PROCESSING

Film

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	0.92	g/cm ³	ASTM D792
MFR (190°C / 2.16 kg)	1.7 ± 0.2	g/10 min	ASTM D1238
Tensile strength at yield (23°C / 50 mm/min)	11	MPa	ASTM D638
Tensile elongation at yield	25.5	%	ASTM D638
Notched Izod impact (23°C)	NB	kJ/m ²	ASTM D256

APPLICATION & QUALIFICATION

Evaluate for film blends and lamination structures. Confirm stiffness, sealing behavior, appearance and finished-film performance in the intended process before production.

NB follows the source notation. Additional injection-processing entries in the source require confirmation before use. Values are supplier-reported typical data.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

HDPE COMPOUND

PC-HF1

Films, blending & lamination

High-density polyethylene compound for film, blending and lamination. The supplier describes high stiffness for applications where film handling and mechanical performance are important.



Supplied shared pellet photograph: PC-LF1 / PC-LF2 / PC-HF1. Film-bag application is illustrative.

APPEARANCE

Natural

FORM

Pellet

PROCESSING

Film

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	0.945	g/cm ³	ASTM D792
MFR (190°C / 2.16 kg)	0.3-0.6	g/10 min	ASTM D1238
Tensile strength at yield (23°C / 50 mm/min)	21	MPa	ASTM D638
Tensile elongation at yield	11.5	%	ASTM D638
Notched Izod impact (23°C)	NB	kJ/m ²	ASTM D256

APPLICATION & QUALIFICATION

Consider for film bags and polyethylene film blends. Evaluate processing stability, stiffness, tear resistance and sealing properties in the customer's actual film formulation.

NB follows the source notation. Values are supplier-reported typical data; suitability depends on film structure and end use.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

LDPE COMPOUND

PC-LF2

Films, blending & lamination

Low-density polyethylene compound for film, blending and lamination applications. A second LDPE option within the portfolio, to be selected against the intended formulation and processing window.



Supplied shared pellet photograph: PC-LF1 / PC-LF2 / PC-HF1. Film and lamination rolls are illustrative.

APPEARANCE

Natural

FORM

Pellet

PROCESSING

Film

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	0.922	g/cm ³	ASTM D792
MFR (190°C / 2.16 kg)	1.5 ± 0.2	g/10 min	ASTM D1238
Tensile strength at yield (23°C / 50 mm/min)	13*	MPa	ASTM D638
Tensile elongation at yield	110*	%	ASTM D638
Notched Izod impact (23°C)	NB	kJ/m ²	ASTM D256

APPLICATION & QUALIFICATION

Evaluate in film and lamination rolls, including blended structures. Compare tensile behavior, sealing, appearance and processing performance with the customer's existing formulation.

*Source entries are "13 ≤" and "110 ≤"; the intended limit direction requires confirmation. NB follows the source notation. Typical supplier data.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

HDPE COMPOUND

PC-HI1

Injection molding & extrusion coating

High-density polyethylene compound for injection molding and extrusion coating. The supplier describes high stiffness, with selection based on the geometry, appearance and performance of the intended article.



Representative natural pellets; not a PC-HI1 sample. Molded pails and closures are illustrative.

APPEARANCE

Natural

FORM

Pellet

PROCESSING

Injection / coating

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	0.952	g/cm ³	ASTM D792
MFR (190°C / 2.16 kg)	18 ± 1	g/10 min	ASTM D1238
Tensile strength at yield (23°C / 50 mm/min)	23	MPa	ASTM D638
Tensile elongation at yield	9.0	%	ASTM D638
Notched Izod impact (23°C)	5.0	kJ/m ²	ASTM D256

APPLICATION & QUALIFICATION

Potential uses include molded pails, closures and selected extrusion-coating structures. Confirm flow, shrinkage, impact performance and the finished article through customer trials.

The pellet image is representative and is not a PC-HI1 sample. Typical supplier data; molded articles shown do not establish application approval.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

GLASS-FIBER PP

PC-PG20

Reinforced polypropylene for extrusion

Random copolymer polypropylene reinforced with 20% glass fiber for extrusion. The supplier describes impact resistance and dimensional stability for automotive, appliance and utility components.



Supplied PC-PG20 material photograph. Extruded-component application is illustrative.

APPEARANCE

Natural

REINFORCEMENT

20% glass fiber

PROCESSING

Extrusion

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	1.09	g/cm ³	ASTM D792
MFR (230°C / 2.16 kg)	0.3	g/10 min	ASTM D1238
Molding shrinkage, in flow	0.5	%	ASTM D955
Molding shrinkage, cross flow	0.9	%	ASTM D955
Tensile strength at yield (23°C / 5 mm/min)	48*	MPa	ASTM D638
Tensile elongation at yield	5.9	%	ASTM D638
Notched Izod impact (23°C)	25*	kJ/m ²	ASTM D256
Shore D hardness (15 sec / 23°C)	67	-	ASTM D2240
Melting point (10°C/min heating rate)	170	°C	ASTM D3418

APPLICATION & QUALIFICATION

Evaluate for reinforced extrusion profiles and technical components. Assess stiffness, dimensional stability and thermal behavior together with impact strength, fiber orientation, shrinkage and surface finish in the intended geometry.

*Source entries are "48 ≤" and "25 ≤"; the intended limit direction requires confirmation. Reinforcement and dimensional performance must be checked in the finished part.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

HDPE COMPOUND

PC-HR1

Rotational molding & extrusion

High-density polyethylene compound described by the supplier as white, UV resistant and impact resistant. Intended for rotational molding and extrusion of industrial, appliance and utility articles.



Supplied as PC-HR1: blue powder; TDS states white. Identity/color variant remains to be confirmed. Utility articles are illustrative.

COLOR, SOURCE TDS

White

PHYSICAL FORM

Not stated

PROCESSING

Rotomolding / extrusion

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
MFI (190°C / 2.16 kg)	4 ± 1	g/10 min	ASTM D1238
Density	0.95 ± 0.02	g/cm ³	ISO 1183
Moisture	Max 0.2	%	Confirm
Tensile strength at yield	14	MPa	ASTM D638
Elongation at break	850	%	ASTM D638
Notched impact strength*	17	kJ/m ²	Confirm

APPLICATION & QUALIFICATION

Evaluate for rotationally molded and extruded utility products. Confirm sample identity, powder characteristics where relevant, impact performance, surface finish and any required UV behavior before approval.

PACKAGING & STORAGE

25 kg bags on 1,250 kg shrink-wrapped pallets. Store cool and dry below 30°C, protected from rain and direct sunlight, for no longer than 6 months.

The supplied blue powder conflicts with the white TDS; confirm sample identity/color variant. *The source pairs Charpy with ASTM D256; impact type and method require confirmation. Moisture method also requires confirmation.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

GPPS COMPOUND

PC-SI1

Crystal light blue / molding & extrusion

Crystal light blue compound based on general purpose polystyrene, intended for injection molding and extrusion. The supplier describes transparency, strength and easy flow for appliance and industrial utility products.



Supplied PC-SI1 material photograph. Clear rigid-plastic products are illustrative; no medical approval is implied.

COLOR

Crystal light blue

PHYSICAL FORM

Not stated

PROCESSING

Injection / extrusion

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
MFI (200°C / 5 kg)	13 ± 2	g/10 min	ASTM D1238
Density	1.04 ± 0.02	g/cm ³	ISO 1183
Moisture	Max 0.2	%	Confirm
Tensile strength at break	44	MPa	ASTM D638
Elongation at break	2	%	ASTM D638
Flexural modulus	2900	MPa	ASTM D790

APPLICATION & QUALIFICATION

Evaluate for transparent rigid-plastic parts and appliance or industrial components. Verify clarity, tint, flow, stiffness and dimensional performance on the finished article.

PACKAGING & STORAGE

25 kg bags on 1,250 kg shrink-wrapped pallets. Store cool and dry below 30°C, protected from rain and direct sunlight, for no longer than 6 months.

Moisture method requires confirmation. The source provides no medical approval or biocompatibility evidence. Values are supplier-reported typical data.

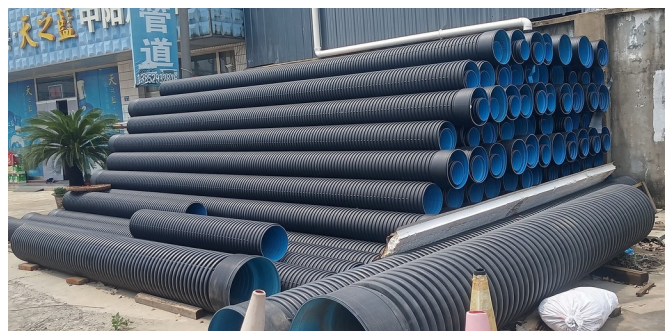
Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

BLACK MASTERBATCH

PC-MB40

40% carbon black / polyethylene carrier

Black masterbatch containing carbon black in a polyethylene carrier. The supplier describes dispersion, opacity, light and heat stability, gloss and tint strength for suitable polyethylene formulations.



Supplied PC-MB40 material photograph. Black plastic pipe application is illustrative, not evidence of pressure-pipe qualification.

COLOR

Black

CARRIER

Polyethylene

ACTIVE INGREDIENT

Carbon black

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
MFI (190°C / 21.6 kg)	20 ± 5	g/10 min	ASTM D1238
MFI (190°C / 10 kg)	6 ± 1	g/10 min	ASTM D1238
MFI (190°C / 5 kg)	0.8 ± 0.2	g/10 min	ASTM D1238
Density	1.13	g/cm ³	ISO 1183
Moisture	Max 0.2	%	Confirm
Carbon black content	40 ± 2	%	ASTM D4218

APPLICATION & QUALIFICATION

For evaluation in drip irrigation, tape, tube, geomembranes and pressure-pipe compounds. Validate let-down ratio, carbon black dispersion, stabilization and finished-product performance for each application.

PACKAGING & STORAGE

25 kg bags on 1,250 kg shrink-wrapped pallets. Store dry below 30°C, protected from rain and direct sunlight, for no longer than 12 months.

Moisture method requires confirmation. Carbon black content alone does not establish pressure-pipe suitability; the final compound and pipe require application qualification.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

POLYETHYLENE WAX

PC-WF

White flake

Low-molecular-weight polyethylene wax. The supplier describes thermal stability, chemical resistance, lubricity and compatibility with many polymers, for use as a formulation and processing additive.



Supplied PC-WF material photograph: white flake. Application imagery is illustrative.

APPEARANCE

White flake

PACKAGING

20 kg bag

MATERIAL STATUS

Commercial

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	0.92 ± 0.01	g/cm ³	Confirm
Viscosity, temperature not stated	5-30	cSt	Confirm
Melting point	100 ± 10	°C	ASTM D127
Flash point	Min 140	°C	ASTM D92
Needle penetration*	Max 2.5	mm	ASTM D1321
Volatile substances	Max 5	%	Confirm

APPLICATION & QUALIFICATION

Masterbatch and compounds; rubber and plastic processing; coatings, textiles, adhesives and packaging. Validate dosage, dispersion, lubrication and compatibility in the intended formulation.

Density and volatile-content methods require confirmation; viscosity temperature/method are unconfirmed. *Needle-penetration value/unit follow the source; confirm the reporting basis. Typical supplier data.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

POLYETHYLENE WAX

PC-WP

White powder

Low-molecular-weight polyethylene wax. The supplier describes thermal stability, chemical resistance, lubricity and compatibility with many polymers, for use as a formulation and processing additive.



Supplied PC-WP material photograph: white powder. Application imagery is illustrative.

APPEARANCE

White powder

PACKAGING

20 kg bag

MATERIAL STATUS

Commercial

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	0.92 ± 0.01	g/cm ³	Confirm
Viscosity, temperature not stated	5-30	cSt	Confirm
Melting point	100 ± 10	°C	ASTM D127
Flash point	Min 140	°C	ASTM D92
Needle penetration*	Max 2.5	mm	ASTM D1321
Volatile substances	Max 5	%	Confirm

APPLICATION & QUALIFICATION

Masterbatch and compounds; rubber and plastic processing; textiles, adhesives and packaging. Validate dosage, dispersion, lubrication and compatibility in the intended formulation.

Density and volatile-content methods require confirmation; viscosity temperature/method are unconfirmed. *Needle-penetration value/unit follow the source; confirm the reporting basis. Typical supplier data.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

RECYCLED ABS

PC-AI1

Recycled ABS / injection molding

Supplier-described recycled ABS compound for injection-molded technical parts. Selection should be based on approved samples and the customer's required balance of flow, stiffness, impact performance and appearance.



Supplied black-pellet photograph assigned to PC-AI1 and PC-PI1. ABS application imagery is illustrative.

COLOR

Black

FORM

Pellets

PROCESSING

Injection molding

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
MFR (220°C / 10 kg)	18-32	g/10 min	Supplier TDS
Tensile strength at yield	≥35	MPa	Supplier TDS
Flexural modulus	≥2300	MPa	Supplier TDS
Notched Izod impact (23°C)	9 ± 2	kJ/m ²	Supplier TDS

APPLICATION & QUALIFICATION

Evaluate for automotive, appliance, electrical, telecommunications and electronic parts after customer qualification. Verify the finished part's mechanical performance, dimensions, appearance and any application-specific requirements.

No exact recycled-content percentage or unlisted regulatory certification is claimed. Values are typical supplier-reported data, not guaranteed release specifications.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

RECYCLED PP COPOLYMER

PC-PI1

Recycled PP / injection molding

Supplier-described recycled polypropylene copolymer with no more than 10% filler of unspecified type. Intended for injection molding following confirmation of color, composition and processing behavior.



Supplied reference photograph assigned to PC-PI1 and PC-AI1; PC-PI1 color remains to confirm. PP applications are illustrative.

COLOR

To confirm

FORM

Pellets

PROCESSING

Injection molding

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	0.95-1.00	g/cm ³	Supplier TDS
Filler content, type not stated	≤10	%	Supplier TDS
MFR (230°C / 2.16 kg)	5-10	g/10 min	Supplier TDS
Tensile strength at yield	≥16	MPa	Supplier TDS
Flexural modulus	≥800	MPa	Supplier TDS
Notched Izod impact (23°C)	≥13	kJ/m ²	Supplier TDS

APPLICATION & QUALIFICATION

Evaluate for general injection-molded parts using an approved physical reference sample. Compare flow, stiffness, impact performance, shrinkage and surface finish in the customer's mold.

The supplied black photograph is a reference image, not a color specification. Confirm color and filler identity before sale. Typical supplier-reported values.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

PP / CALCIUM CARBONATE

PC-PCC80

PP + CaCO₃ / raffia, cast film & fiber

High-filled polypropylene carrier compound with supplier-reported nominal 80% calcium carbonate. Intended for controlled let-down in raffia, cast film and fiber formulations after process and application validation.



Supplied shared white-pellet reference: PC-PCC80 / PC-LLC82 / PC-HCC82. Raffia, film and fiber applications are illustrative.

COLOR

White

FORM

Pellets

CARRIER

PP

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	1.93	g/cm ³	Supplier TDS
Nominal CaCO ₃ content	80	%	Supplier-reported
Dispersion	Excellent	Qualitative	Supplier statement

APPLICATION & QUALIFICATION

Evaluate in PP raffia, thin cast film, multifilament yarn and fiber spinning. Match the carrier to the base resin and optimize mineral dosage against dispersion, stiffness, appearance and finished-product cost.

The nominal calcium carbonate content and "Excellent" dispersion are supplier statements; no independent validation is implied. Let-down ratio and final performance require customer trials.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

LLDPE / CALCIUM CARBONATE

PC-LLC82

LLDPE + CaCO₃ / film blowing

LLDPE carrier compound with nominal 82% calcium carbonate, as reported by the supplier. For blown-film formulations at a validated dosage and processing window.



Supplied shared white-pellet reference: PC-PCC80 / PC-LLC82 / PC-HCC82. Blown-film application is illustrative.

COLOR

White

FORM

Pellets

CARRIER

LLDPE

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	2.00	g/cm ³	Supplier TDS
Nominal CaCO ₃ content	82	%	Supplier-reported
Dispersion	Excellent	Qualitative	Supplier statement

APPLICATION & QUALIFICATION

Evaluate in blown-film formulations at an approved let-down ratio. Balance material cost against dispersion, film appearance and mechanical performance. Confirm bubble stability and the processing window in representative trials.

The nominal calcium carbonate content and "Excellent" dispersion are supplier statements; no independent validation is implied. Final film performance depends on formulation and processing.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

HDPE / CALCIUM CARBONATE

PC-HCC82

HDPE + CaCO₃ / film & blow molding

HDPE carrier compound with nominal 82% calcium carbonate, as reported by the supplier. For film and blow-molding formulations after process and performance validation.



Supplied shared white-pellet reference: PC-PCC80 / PC-LLC82 / PC-HCC82. Film and blow-molded applications are illustrative.

COLOR

White

FORM

Pellets

CARRIER

HDPE

PROPERTY / TEST CONDITIONS	VALUE	UNIT	METHOD / BASIS
Density	2.00	g/cm ³	Supplier TDS
Nominal CaCO ₃ content	82	%	Supplier-reported
Dispersion	Excellent	Qualitative	Supplier statement

APPLICATION & QUALIFICATION

Evaluate in film blowing, T-die cast film and blow molding. Match the HDPE carrier to the formulation and assess dimensional stability, surface finish and mechanical performance at the selected mineral dosage.

The nominal calcium carbonate content and "Excellent" dispersion are supplier statements; no independent validation is implied. End-use suitability requires formulation and process validation.

Supplier-reported typical data. Agree specifications, test conditions and application suitability before purchase.

Material selection

Compare the polymer and process first. Then agree the physical, mechanical, thermal and appearance targets for the finished product.

GRADE	MATERIAL	DENSITY (g/cm ³)	MFR (g/10 min)	MFR CONDITION
PC-LF1	LDPE	0.92	1.7 ± 0.2	190°C / 2.16 kg
PC-HF1	HDPE	0.945	0.3-0.6	190°C / 2.16 kg
PC-LF2	LDPE	0.922	1.5 ± 0.2	190°C / 2.16 kg
PC-HI1	HDPE	0.952	18 ± 1	190°C / 2.16 kg
PC-PG20	PP + 20% glass fiber	1.09	0.3	230°C / 2.16 kg
PC-HR1	HDPE	0.95 ± 0.02	4 ± 1	190°C / 2.16 kg
PC-SI1	GPPS	1.04 ± 0.02	13 ± 2	200°C / 5 kg
PC-MB40	PE + carbon black	1.13	20 ± 5	190°C / 21.6 kg
PC-WF	PE wax / flake	0.92 ± 0.01*	Not reported	-
PC-WP	PE wax / powder	0.92 ± 0.01*	Not reported	-
PC-AI1	Recycled ABS	Not reported	18-32	220°C / 10 kg
PC-PI1	Recycled PP	0.95-1.00	5-10	230°C / 2.16 kg
PC-PCC80	PP + CaCO ₃	1.93	Not reported	-
PC-LLC82	LLDPE + CaCO ₃	2.00	Not reported	-
PC-HCC82	HDPE + CaCO ₃	2.00	Not reported	-

Reading the comparison

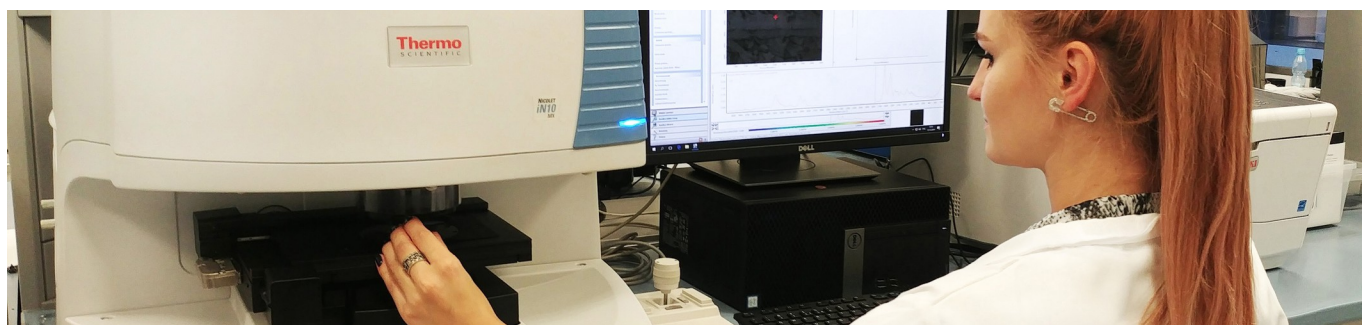
MFR is melt mass-flow rate. Values measured at different temperatures or loads are not directly comparable. PC-MB40 has two additional load conditions in its profile. *Wax density method requires confirmation.

From material to finished part

Match carrier compatibility and filler level to the intended process. Check stiffness and impact together with shrinkage, surface quality and thermal behavior. Confirm the formulation in a representative production trial.

Compounding engineering & laboratory testing

Material verification, performance investigations and benchmark compound development, built around your reference sample and application targets.



FTIR microscopy for plastic identification. Photo: Gabriela P. (GabaPy), CC BY 4.0.

LABORATORY TESTING

Physical and flow

Melt flow rate (MFR/MFI), density and moisture.

Mechanical

Tensile and flexural tests, Izod/Charpy impact, Shore A/D hardness.

Thermal

Differential scanning calorimetry (DSC), heat-deflection temperature (HDT) and Vicat softening.

Appearance

L*a*b* color, dispersion and scratch resistance.

Composition

FTIR identification, thermogravimetric analysis (TGA), ash, filler and carbon-black content.

COMPOUND REVERSE ENGINEERING

01 Sample and targets

Define the reference material, processing route and required part performance.

02 Material characterization

Screen polymer, filler, pigment and additive indicators.

03 Formulation development

Prepare benchmark formulations against the agreed targets.

04 Trials and optimization

Compare laboratory results and pilot-batch performance.

05 Production validation

Support processing trials and define the acceptance criteria.

Tests can be arranged through qualified independent laboratories using agreed methods and specimen preparation. Accreditation applies to each laboratory's current scope. Reverse engineering targets measurable performance; exact reproduction of proprietary formulations is not guaranteed.

Technical context: supplied Presentation en.pdf, pp. 4, 15, 18, 21-22 and 26-30. Grade values remain based on the individual TDS.

POLYCOMPOUNDER

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