



Custom Solutions, **Solid Partnerships**

TECHNICAL
COMPOUNDS

Masterbatch

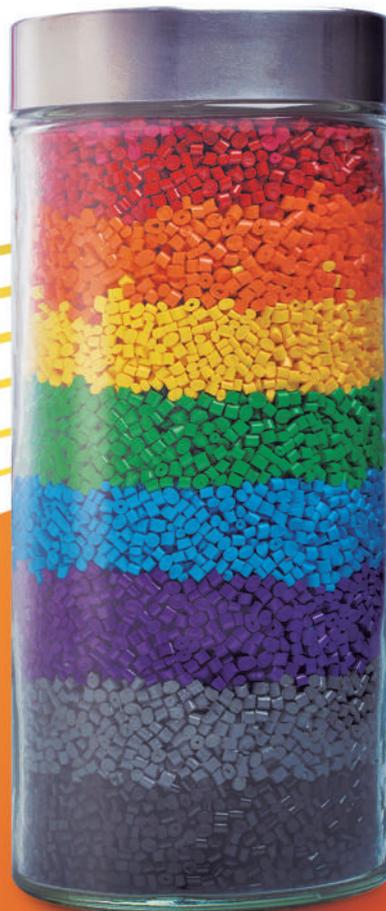
It is a concentrated mixture of pigments or additives for different technical requirements from customers.

This resin is used to manufacture plastics, rubbers and other materials in order to provide specific color properties or characteristics, which allows manufacturers to add specific properties to their products by reducing additional processing steps.

It also allows precise control over the amount of additive used, resulting in consistent product performance.

Advantages:

- Use of powdered pigments is eliminated
- Opaque and clear resins are colored
- Content of fillers or additives
- Delamination
- Ideal for different resin types





Thermoplastic Elastomers (TPE)



Thermoplastic Elastomers (TPE)

The perfect combination of elasticity and processability

Styrenic based thermoplastic elastomers (S-TPE), designed for generic and soft-touch applications, where the use of specialized or engineering rubbers is not justified, covering practically the entire Shore A hardness range.

Our thermoplastic elastomers are capable of being processed by injection, over-molding and



even extrusion and thermoforming, covering a wide range of technical applications as well as promotional and entertainment items.

Resiprene® products are available in opaque and transparent versions making their use even more versatile.

Product range

Opaque

Grade	Density g/cm ³	Shore A Hardness	Tensile Elongation @ Break	Applications
Resiprene® 1030	1.06	30	1900 %	- Soft-touch parts
Resiprene® 1045	1.01	45	2300 %	- Anti-slipping
Resiprene® 1060	1.11	60	1200 %	- Seals and gaskets
Resiprene® 1075	1.11	75	1800 %	- Shock and vibration absorption
Resiprene® 1090	1.01	90	1100 %	- Hand tools - Impact modifier

Transparent

Grade	Density g/cm ³	Shore A Hardness	Tensile Elongation @ Break	Applications
Resiprene® 6020	0.89	20	2800 %	- Elastic bands - Anti-slipping
Resiprene® 6035	0.90	35	1600 %	- Impact modifier



Compatibilizers



Compatibilizers

The science of blending polymers



RESALLOY® is a family of polystyrene resins containing reagent maleic, epoxy, or acid groups whose main function is to make styrene resins (HIPS, ABS, GPPS and SAN) compatible with other materials, such as EOVB, polyesters, minerals, starch and natural fibers.

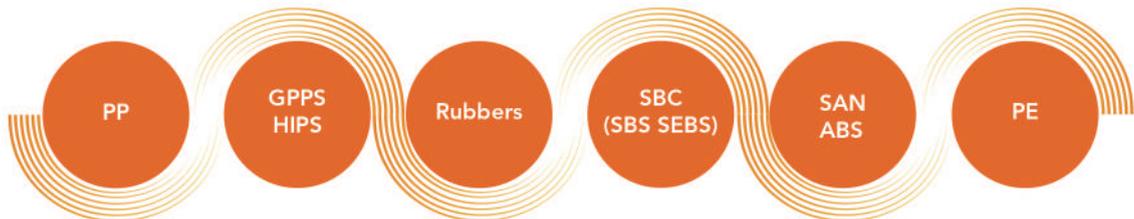
Which polymer systems can be made compatible or their adhesion improved by using RESALLOY®? Discover new possibilities.

RESALLOY® allows the creation of a wide range of new products for various industries and markets, and thus generates new business opportunities.

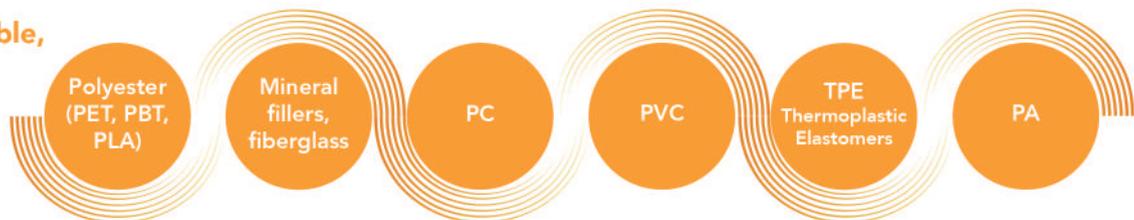
With RESALLOY® compatibilizers, many possibilities are open for developing new material.

Grade	Application (examples)
RESALLOY® 109	PET-GPPS, PBT-HIPS ABS-PET ABS-Fiberglass
RESALLOY® ep-114	Chain extender for PET
RESALLOY® 165	PET-ABS PET-HIPS PET-PP
RESALLOY® 265	ABS-CaCO ₃ ABS-PC PA-SEBS or PA-PP
RESALLOY® 285	ABS-PC ABS-PA

**Polymer A
(Compatible
Part)**



**Matrix to be
made compatible,
mineral fillers**



Light Diffusers

Resins with technical properties that are suitable for any application requiring a homogeneous light. A non-focused lighting is obtained and a great optical effect is provided, which prevents user's vision from being damaged.

We are the only Mexican company with this technology.

Advantages:

- Versatile resin use according to the application (PS or CET SMMA)
- High percentage of transmittance even with high haze (Opacity)
- Excellent MB dispersion in the carrier resin
- Removal of LED light hot spots
- Homogeneous light diffusion through the foil

This material is suitable for applications such as decorative and LED lights.

Due to its properties, it is also suitable for automobile dashboard lights, television screens and countless applications in the construction, electrical-electronic and advertising markets, among others.

Properties

Physical Application ratio	3%*
Application Resin	PS

*Depending on sheet thickness.



FEATURES

- Light-diffusion additive concentrate designed for extrusion processes
- Decreases LED light hot spots
- Uniform light diffusion
- GPPS-based

APPLICATIONS

- Light diffuser for LCD display backlight module
- Light diffuser for plastic covers with LED lights
- Light diffuser for LED light sheets

Flame Retardants (FR's)

Our Flame Retardants resins are a thermoplastic material designed to resist combustion and slow down the spread of fire. During their manufacture, flame retardant chemicals are added so that the resulting material has a greater combustion resistance without altering the mechanical and physical properties of polystyrene.

Flame retardant polystyrene resins have a wide application range, including the construction, home appliance and automotive industries. A variety of products such as insulation boards, electrical components, and electric-electronic parts are produced.

These resins may reduce the risk of fire and slow down the spread of flames. Therefore, they have become an essential component in fire safety applications. It is worth noting that they are not fully fireproof, hence they can still burn under extreme conditions.



Conductive Compounds

With friction, some applications of plastic materials can accumulate electrostatic charge. When released, this charge may either damage some electrical components or generate an arc that may start a fire.

RESIRENE® has developed materials to minimize electrostatic risks by channeling these currents inside parts and prevent spontaneous discharge conditions.

We offer a variety of compounds that may create static release or dissipate and conduct current in different thermoplastic resins, such as high-impact styrofoam, polypropylene and high-density polyethylene. They may be adapted for thermoforming processes or injection processes.

These materials are used in applications as: light switches and contacts, electronic cabinets, static-dissipating packaging, among others.

In addition to their electrical properties, their mechanical properties are adapted to work properly according to each application and their rheological properties allow for easy processing of injection, extrusion and thermoforming molding.

These materials provide both electrical conductivity and retain the desirable properties of polymers. Their wide application range makes them a valuable material in the electronics and static control industries.

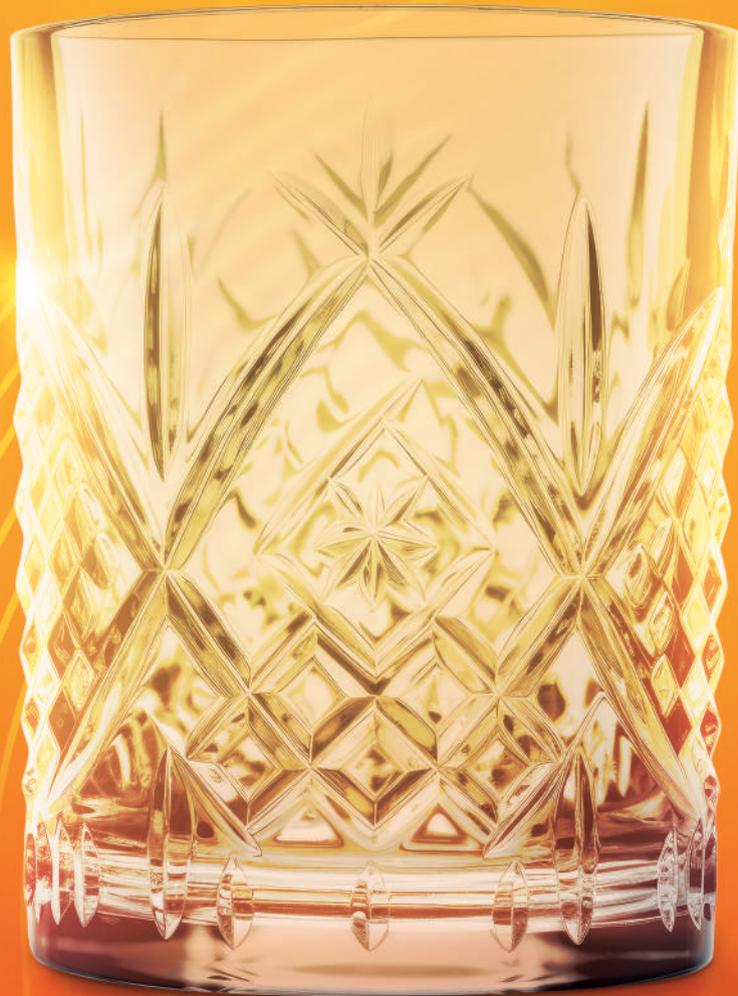
Benefits:

- Excellent dispersion (Low lump level)
- Excellent processability
- Competitive cost
- Elongation greater than 25%
- Regulatory compliance: Free of PBA, phthalates and heavy metals





Styrene Acrylic Copolymers (SMMA & MBS)



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Our SMMA copolymers are susceptible to be improved by incorporation of impact modifiers in order to obtain ductility and an improved impact resistance, while maintaining high transparency.

Based on application's quality and performance needs, the impact modifier incorporation can be done just by dry-blending or by compounding thus obtaining an acrylic-butadiene-styrene compound (MBS).

Applications and markets covered by Resirene's CET® product series range from household items, point-of-purchase displays, promotional items, to health care and medical.



IMPACT MODIFIED SMMA (MBS)

Grade	Melt Flow Index (200°C/5 kg) g/10 min	Break @ Elongation	Tensile strength @ Break	Light transmittance	Applications
CET® 230	6	60%	4.0 kpsi (28 MPa)	88%	- Household items
CET® 240	6	70%	3.6 kpsi (25 MPa)	87%	- Drinkware - Promotional items
CET® 250	7	160%	3.2 kpsi (22 MPa)	87%	- Tissue and soap dispensers
CET® 265	9	280%	3.0 kpsi (21 MPa)	87%	- Cosmetic packaging

SMMA/SBC BLENDS (DRY-BLEND)

Grade	Melt Flow Index (200°C/5 kg) g/10 min	Break @ Elongation	Tensile strength @ Break	Light transmittance	Applications
CET® 231 DB	5	10%	7.1 kpsi (49 MPa)	90%	- Cosmetic packaging
CET® 241 DB	6	36%	3.7 kpsi (26 MPa)	90%	- Household items
CET® 251 DB	7	43%	3.0 kpsi (23 MPa)	90%	- Drinkware

Sustainable Solutions



Biobased Resins



Biorene® is a new generation of so-called biobased polymers that incorporate biomass in their manufacture. Their development has allowed to create new bridges between the agricultural and chemical industries as part of a responsible management of Earth's resources.

Our biobased resins are produced by mixing **traditional plastics and starch:**

- Polystyrene (PS) + Starch
- Polypropylene (PP) + Starch
- Polyethylene (PE) + Starch

The **starch** comes from corn crops used for **industrial applications**. Some Biorene grades are certified as "OK-biobased" by TUV-Austria.



Biobased products:

Base-grade polystyrene

- Biorene HA-25 (It replaces GPPS for foaming)
- Biorene HA-40 (It replaces GPPS for injection)
- Biorene HF-40 (It replaces HIPS for injection or extrusion/thermoforming)

Base-grade polypropylene

- Biorene HI-40 (for injection)
- Biorene HP-40 (for extrusion/thermoforming)

Base-grade polyethylene

- Biorene HE-40 (for blown film)

Applications and Markets

> Disposable or single-use products: Cutlery, straws and bags. Thermoformed lids, plates and glasses. Foamed plates and trays

> Packaging and containers for ready-to-eator take-away food



Compostable Resins



Plastics made with compostable resins can biodegrade under controlled composting conditions, and are the only ones approved in countries where there are current prohibitions.

Compostable resins can be processed in standard equipment and they may totally replace traditional plastics. They are suitable for sheet extrusion, blown film, cast film, injection and blowing by using conventional equipment without having to make large investments.

Applications and Markets

One of the multiple markets where compostable resins play a role is flexible packaging.

Compostable-resin bags are a perfect alternative to current non-biodegradable products of fossil origin, as they offer all the positive features of traditional bags plus biodegradation and compostability.

These resins provide consumers with solutions for all their tableware and single-use plastic food containers (Plates, cutlery, cups, straws and chopsticks). They may be collected together with food scraps and managed through organic recycling.

Product portfolio



Opaque film

Biorene BF-20LC
Biorene BF-25LC
Biorene BF-40LC



Injection

Biorene IM-70A
Biorene IM-72 MS



Clear film

Biorene BF-05LR
Biorene BF-55LR
Biorene BF-85LR



Thermoforming

Biorene TF-72 M



Circular HIPS



Resirene and UBQ Materials became allies in order to **produce the first circular-grade high-impact polystyrene (HIPS) compound**, which makes it the most sustainable polystyrene on Earth.

- Collaboration with UBQ Materials
- Sole provider of HIPS UBQ®
- Significantly reduced environmental impact:

Carbon footprint (CO₂ kg equivalent)

HIPSt	5,500
UBQ™	-11,500

- **15% of UBQ cuts HIPS environmental impact in half**
- **HIPS with ≈ 30% of UBQ is NET-ZERO**

Grade	Flow (200°C/5.0 kg) g/10 min	Slotted Izod Impact (1/8 in – 3.175 mm)	Processability	Markets
9201	10	1.3 ft-lbf/in (6.8 kJ/m ²)	Injection molding	- Institutional consumption
9202	8.5	1.9 ft-lbf/in (9.9 kJ/m ²)	Injection molding	- Household items
9401	3.6	1.9 ft-lbf/in (9.9 kJ/m ²)	Extrusion Thermoforming	- Advertising items



Micropellet

Our **Polystyrene microgranule** was developed to diversify our product portfolio and generate applications according to market trends. It is intended for long-lasting applications such as technical compounds and color concentrates, as well as for the concrete fillers and lighteners market and for the construction industry.

Level	Flow (200°C/5 kg) g/10 min	Density g/cm ³	Particle Size (Granulometric Analysis)	Applications
MG 777-25	9	1.04	90% sieve retention 0.6 a 0.85	- Compounds
MG 770-18	9	1.04	90% sieve retention 16-18-20	- Vehicles for color concentrates - Lighteners and fillers for construction