

PA/ABS blends
for multiple opportunities

Main applications



Automotive



Sport



Industrial



Electrical & Electronics

Automotive

Properties like low density, good surface appearance, high impact energy absorption and chemical resistance make Radilon® Mixloy suitable for automotive uses, for example, centre fascia panels, air vent grilles, air vent housing frames, seat trim, steering column covers, overhead consoles, motorcycle fairings, cupholders, DVD player covers, loudspeaker grilles and ski hatch openings.



Sport

PA/ABS blends offer properties like low water absorption, low density and the right compromise between stiffness and toughness. They are widely used in the production of consumer goods and components for sports equipment such as snowboards, surfboards and safety shoe toe caps.



Industrial goods and E&E markets

In these sectors our PA/ABS blends can offer reduced shrinkage, low water absorption and low density. For this reason, some of our Radilon® Mixloy proposals could replace PC and PC/ABS grades and could be used for end applications such as industrial plug's locker rings and electronic equipment housing.



Main characteristics

The innovative technology of **polymer blends** developed by RadiciGroup High Performance Polymers allows to produce a very **stable mixture** of PA and ABS compounds that not only combines the **precious properties** of the individual components but also mitigates their drawbacks.

Mechanical Performances

Radilon® Mixloy product line offers a good trade off between toughness and stiffness and it is ideal for applications such as automotive interior instrument panels, motorcycle body panels, garden tools.

Excellent surface appearance

Radilon® Mixloy PA/ABS products do not need to be painted. With their special matt surface appearance and high scratch resistance, they can be used to produce parts without an additional expensive painting process.

High gloss PA610/ABS is designed for glossy parts and offers good scratch resistance and colour stability.

Dimensional stability

PA6/ABS and PA610/ABS provide the advantage of low water absorption and reduced shrinkage. Hence, they are ideal for applications requiring dimensional stability. Typical examples are in the consumer goods sector and FDM 3D printing technology.

Low density

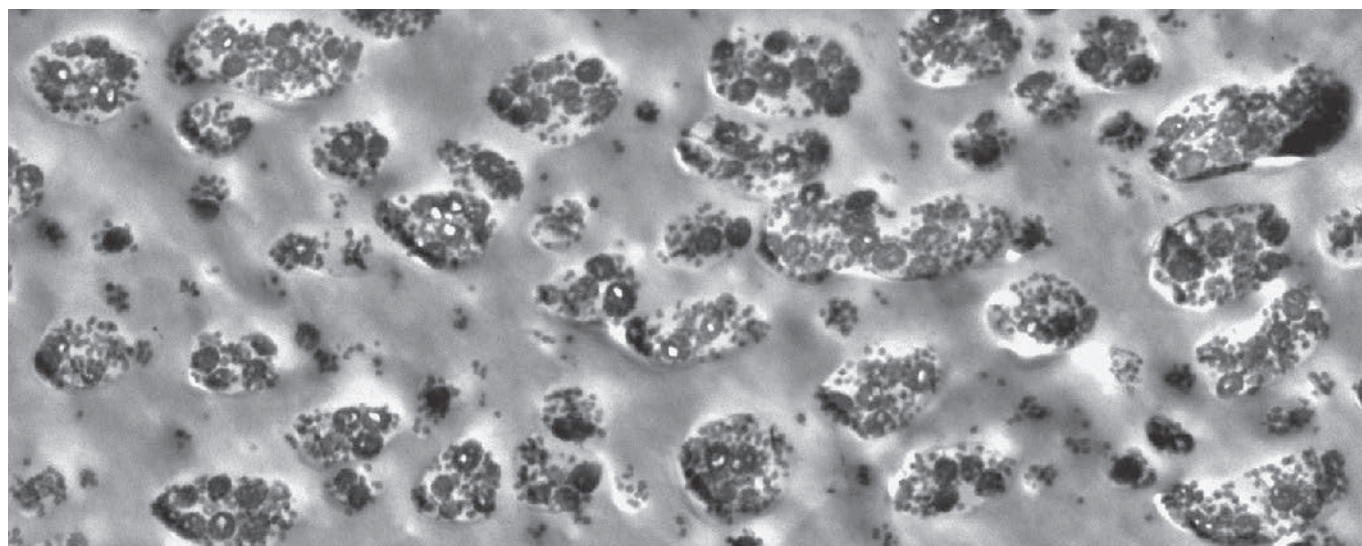
PA/ABS materials are characterized by low density, which translates into lightweight parts and economic benefits.

Easy processing

PA/ABS products' high fluidity and wider processing window make for easier processing. Therefore, our products can cut tooling and processing costs and reduce warpage and post-mould shrinkage in final parts.

Heat resistance

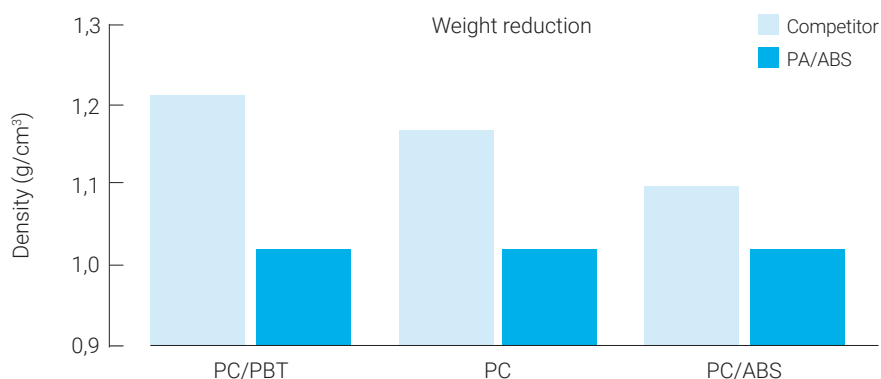
Radilon® Mixloy products provide high heat resistance, excellent stress-cracking resistance and superior chemical resistance.



TEM analysis image of PA/ABS blends: it shows the good distribution of ABS phase in PA matrix.

Weight reduction

PA/ABS blends have a remarkably low density compared to polycarbonate and its alloys. Their low weight allows for the development of highly economical solutions.



Chemical resistance

Thanks to their chemical structure, PA/ABS blends exhibit excellent chemical resistance to various substances.

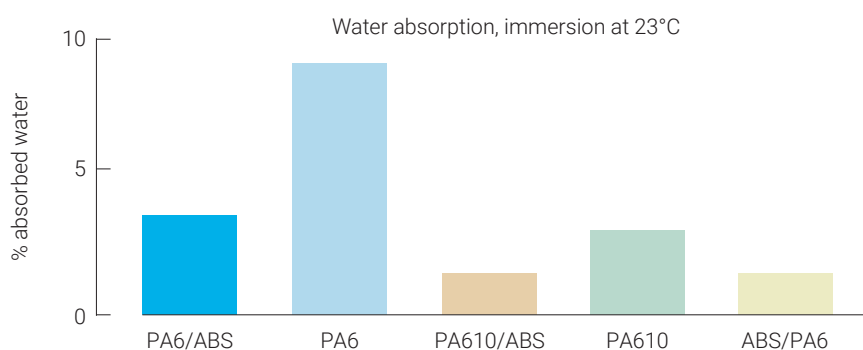
Chemicals	PA/ABS	ABS	PC	PC/ABS
Oils	++	–	–	–
Gasoline and diesel fuel	++	–	–	–
Detergents	++	0	0	–
Brake fluids	++	–	–	–
Cooling liquids	++	0	0	0
Halogenated compounds	+	–	0	–
Hydrocarbons and aromatics	+	–	–	–
Ethers	+	0	–	–
Esters	+	0	–	–

++ Very good + Good 0 Fair – Poor

Low water absorption

Water uptake at saturation of PA6/ABS is only a third of the value for PA6 and similar to PA610.

Water uptake at saturation of PA610/ABS is even lower and similar to ABS/PA.



PA/ABS Grades

	Product Name	Product Description	Main Characteristics
Unfilled Radilon® Mixloy Grades	Radilon® Mixloy S HSA30 100 NT General purpose PA6/ABS	Injection moulding grade, natural colour.	Suitable for parts requiring good dimensional stability and low warpage.
	Radilon® Mixloy S HSA20T 100 NT Impact modified PA6/ABS	Injection moulding grade, impact modified.	Suitable for parts requiring high impact resistance and improved flexibility.
	Radilon® Mixloy S 32HSA20K 100 NT PA6/ABS extrusion grade	Medium viscosity extrusion grade, heat stabilized.	Suitable for parts requiring high dimensional stability. Also suitable for FDM 3D printing.
	Radilon® Mixloy S HSA20T 3051 BK Impact modified PA6/ABS	Injection moulding grade, impact modified. Black colour.	Suitable for parts requiring high impact resistance and improved flexibility.
	Radilon® Mixloy S HSA20UK General purpose PA6/ABS	Injection moulding grade. UV stabilized, available in different colours (i.e. 283 WT - 3005 BK)	Suitable for parts requiring good dimensional stability and excellent surface aspect.
	Radilon® Mixloy S HSA20 3054 BK General purpose PA6/ABS	Injection moulding grade, black colour.	Suitable for parts requiring good dimensional stability and excellent surface aspect.
Mineral Filled Radilon® Mixloy Grades	Radilon® Mixloy D HSA20UK 3010 BK High gloss PA610/ABS	Partially bio-based, UV stabilized, deep black colour.	Suitable for parts requiring superior dimensional stability, intended to resist to light exposure. Very low moisture absorption and excellent aesthetic surface aspect.
	Radilon® Mixloy S CPA100K 100 NT Mineral-filled PA6/ABS	10% mineral-filled injection moulding grade heat stabilized.	Suitable for parts requiring good dimensional stability and low warpage. Improved impact resistance and good properties retention after moisture absorption.
	Radilon® Mixloy S 32CPA100 100 NT High viscosity mineral-filled PA6	High viscosity 10% mineral-filled injection moulding grade, heat stabilized.	Suitable for parts requiring improved stiffness, along with improved impact resistance. Good property retention after moisture absorption.
	Radilon® Mixloy D CPA100K 100 NT Mineral-filled PA610/ABS	Partially bio-based, 10% mineral-filled injection moulding grade, heat stabilized.	Suitable for parts requiring good dimensional stability and low warpage. Improved impact resistance and very good properties retention after moisture absorption.
Glass Reinforced Radilon® Mixloy Grades	Radilon® Mixloy D 32CPA100 100 NT High viscosity mineral-filled PA610/ABS	Partially bio-based, high viscosity 10% mineral-filled injection moulding grade, heat stabilized.	Suitable for parts requiring good dimensional stability and low warpage. Improved impact resistance and very good properties retention after moisture absorption.
	Radilon® Mixloy S RVA80 100 NT PA6/ABS GF8	8% glass-fibre injection moulding grade.	Suitable for parts requiring improved stiffness. Excellent aesthetic surface aspect.
	Radilon® Mixloy S RVA80TK 100 NT High impact PA6/ABS GF8	Toughened 8% glass-fibre injection moulding grade, heat stabilized.	Suitable for parts requiring improved stiffness, along with improved impact resistance. Excellent aesthetic surface aspect.
	Radilon® Mixloy S RVA150K 100 NT PA6/ABS GF15	15% glass-fibre injection moulding grade, heat stabilized.	Suitable for parts requiring improved stiffness. Excellent aesthetic surface aspect.
	Radilon® Mixloy D RVA150K 100 NT PA610/ABS GF15	Partially bio-based, 15% glass-fibre injection moulding grade, heat stabilized.	Suitable for parts requiring improved stiffness and very low moisture absorption. Excellent aesthetic surface aspect.

RadiciGroup. Inside your world.

RadiciGroup is among the world leaders in the manufacture of chemical intermediates, polyamide polymers and high-performance engineering polymers, including recycled and bio-based solutions. RadiciGroup products are the result of our outstanding chemical expertise and vertically integrated polyamide production chain and have been developed for use in a variety of industries, such as automotive, electrical and electronics, consumer and industrial goods, water management, transportation, household appliances and sport. At the core of the Group's strategy is our strong focus on innovation, quality and customer satisfaction – always in alignment with our ESG principles.

Sustainability

Every day at RadiciGroup, we work to make circularity our business model. We optimize the use of materials while fine-tuning our processes, designing out waste and promoting recyclability from the earliest product design phases. We are always looking for low-impact solutions in terms of natural resources and energy. We rely on certified management systems for Quality, Health and Safety, Environment and Energy to keep our companies in line with the highest sustainability standards. Since 2004, the Group has released its Sustainability Report every year.



RADICI NOVACIPS SpA (Headquarters)
Via Bedeschi, 20 - IT - 24040 Chignolo d'Isola (BG)
Tel. +39 035 4991311 - Fax +39 035 4994386
www.radicigroup.com
info.plastics@radicigroup.com

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