Borcycle™ MF1981SY

10% mineral filled PP compound with 80% Post Consumer Recycle (PCR) feedstock

Background Challenge

To accelerate the sustainability circular path, MF1981SY is an ideal sustainable candidate. With over 80% PCR feedstock, this eco-friendly grade significantly reduces the carbon footprint. Whether you are designing vacuum cleaners, small appliance accessories or something similar, MF1981SY is the right choice. The grade targets replacement of high impact mineral filled grades as well as block copolymer PPs.
Worried about dimensional stability? Fear not! It contains 10% mineral filler, ensuring low and uniform shrinkage. The limited filler loading ensures the material is still fully recyclable via weight separation techniques. The batch to batch consistency outmatches other PCR materials in the market.

Your Benefits

- High PCR content of <80% - leading to significant CO_2 reduction*
- Low density - ensures recyclability
- High flowability - allowing to mold highly complex parts
- Good esthetical performance - suitable for visible applications
- Excellent dimensional stability - for challenging part designs

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Material Requirements and Characteristics

Key Material Characteristics

- Stiffness combined with high impact behaviour matching block copolymer virgin grades
- 10% mineral filler leading to more uniform shrinkage behaviour
- Ideal flowability for injection molding
- Available in black color

Product Compliance

Properties	Compliance
REACH	✓
SVHC	✓
RoHS	✓

Key Technical Properties

Properties	BF970MO	MG160AI	MF1981SY	Unit	Method
Density	905	985	970	kg/m³	ISO1183
MFR (230 °C / 2.16 kg)	20	22	19	g/10 min	ISO1133
Tensile Modulus	1500	1900	1400	MPa	ISO 527-2
Tensile Strength	27	25	25	MPa	ISO 527-2
Charpy notched impact strength +23 °C	8	7	5	kJ/m²	ISO179 1eA
Isotropic Shrinkage	1.5-1.7	1.2-1.3	1.3-1.4	%	Internal Method

Values determined on standard injection molded specimens conditioned at 23 °C and 50 % relative humidity after at least 96 hours storage time.

Well-balanced Material Properties

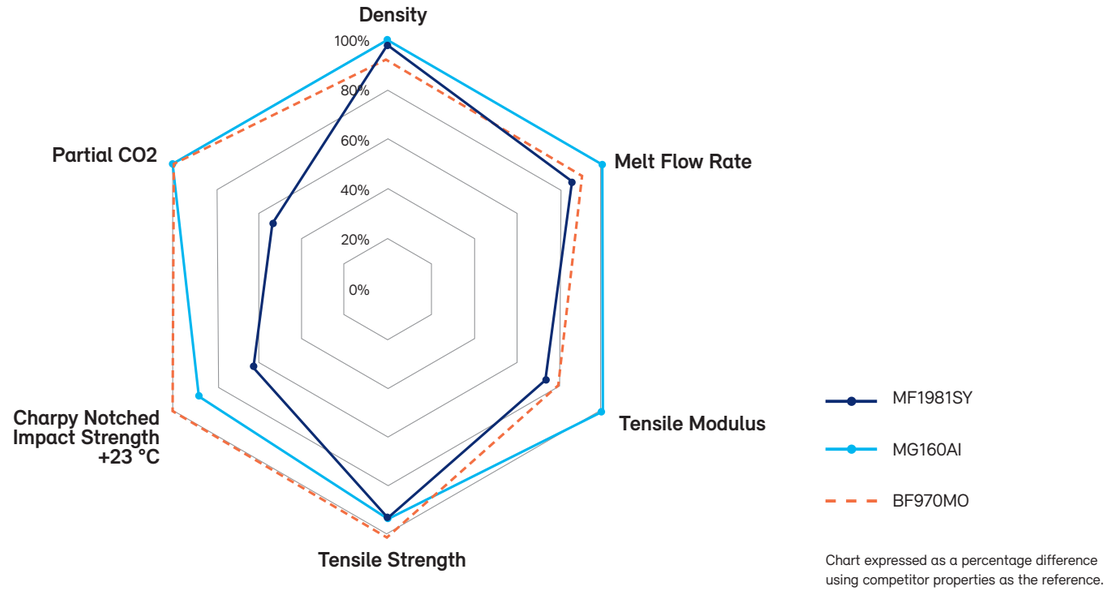

Chart expressed as a percentage difference using competitor properties as the reference.

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* **Disclaimer:** The result was estimated internally using the results from a life cycle assessment for Borealis' virgin fossil polyolefins, conducted in 2022 and a separate life cycle assessment for Borealis' PCR produced at Ecoplast/mtm conducted in 2021. A full life cycle analysis study, as well as other potential environmental impacts, was not conducted in this context. The result is estimated for the production of the pellet, and based on the assumed same functional performance between the conventional virgin solution and solution containing PCR. Other life cycle stages beyond the production of the pellets have not been considered.

About Borealis Borealis is one of the world's leading providers of advanced and sustainable polyolefin solutions. In Europe, Borealis is also an innovative leader in polyolefins recycling and a major producer of base chemicals. We leverage our polymer expertise and decades of experience to offer value-adding, innovative and circular material solutions for key industries such as consumer products, energy, healthcare, infrastructure and mobility.

With operations in over 120 countries and head offices in Vienna, Austria, Borealis employs around 6,000 people. In 2022, we generated a net profit of EUR 2.1 billion. OMV, the Austria-based international oil and gas company, owns 75 % of our shares. The Abu Dhabi National Oil Company (ADNOC), based in the United Arab Emirates (UAE), owns the remaining 25 %.

In re-inventing essentials for sustainable living, we build on our commitment to safety, our people, innovation and technology, and performance excellence. We are accelerating the transformation to a circular economy of polyolefins and expanding our geographical footprint to better serve our customers around the globe. Our operations are augmented by two important joint ventures: Borouge (with ADNOC, headquartered in the UAE); and Baystar™ (with TotalEnergies, based in the US).

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