



Product News

Soft Random Heterophasic PP

NEW: SB330CF

Keep Discovering

 **BOREALIS**

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BACKGROUND

Polypropylene (PP) families can be divided into homopolymer PP (only propylene is polymerized), random PP (in one phase, propylene and some ethylene is polymerized, leading to improved optical performance), block or heterophasic copolymers (propylene and some ethylene is polymerized in separated phases, leading to improved impact performance), and random heterophasic copolymers (a combination of random and heterophasic PP). The latter can be manufactured as flexible products with low flex-modulus while retaining high thermal stability.

CHALLENGE

Until now, there have been limited options in the market for higher flexibility (lower flex-modulus) random heterophasic PP's. Such soft materials are used in a large variety of applications, e.g. TPO (thermoplastic olefin) compounds for flexible membranes for roofing, waterproofing and automotive applications. Depending on the specific application, the softness of the PP needs to be adapted to a level suitable for the end use. Often, very soft polymer modifiers like polyolefin plastomers and elastomers are blended with PP to achieve the required level of softness for these applications. The stiffer the PP used, the more polymer modifier needs to be used.

SOLUTION

The range of soft random heterophasic PP from Borealis helps you tailor the flexibility of your TPO more effectively. Compared to conventional PP materials, our new SB330CF with a flex modulus of only 330 MPa, needs less polymer modifier to reach flex-modulus values required for flexible membranes. Borealis soft PP's – and in particular SB330CF – are excellent starting materials for TPO compounds aimed at roofing, waterproofing and automotive membranes – but not limited to these applications! The possibility of easily modifying these materials in your own mixing process and with your own recipes allows you to tailor them freely to your needs.

BENEFITS

- Broad portfolio of softer PP's ranging from flex-modulus 600 to 330 MPa and MFR from 0,8 to 7 g/10min (230 °C/2,16 kg)
- Enables benchmark TPO production for automotive and construction industries
- Outstanding low temperature behaviour combined with high heat resistance
- Excellent starting resins for flexible TPO compounds for flexible membranes
- Provides customers with an alternative option when sourcing soft PP

Product name	MFR (230 °C/2.16 kg) [g/10 min]	Tensile modulus [MPa]	Charpy NIS @ 23 °C [kJ/m ²]	Melting point [°C]	Additives*	Features
SA233CF	0,8	600	58	140	AO	Good softness, outstanding mechanical properties
SD233CF	7,0	600	10	142	AO/CR	Good softness, excellent heat seal properties
Bormed™ SC820CF	3,9	550	12	141	AO	Good softness and optical properties
Bormed™ SC876CF	3,8	330	77	148	AO/CR	Superior softness with good optics and high toughness
SB330CF	1,5	330	80	149	AO	New copolymer with superior softness, excellent heat seal properties

* AO: Anti-Oxidant, CR: Controlled Rheology

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 energy, fuels & feedstock and chemicals & materials 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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