

# ecovio<sup>®</sup> 60 IA1542

## Biodegradable, heat-stable and partly biobased compound for injection molding

® = ecovio<sup>®</sup> is a registered trademarks of BASF SE

### Product Description

ecovio<sup>®</sup> 60 IA1542 is a mineral-filled injection-molding grade for biodegradable packaging applications with food contact. BASF's ecovio<sup>®</sup> IA grade is resistant to higher temperatures than injection molding grades which are mainly based on PLA.

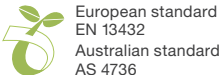


ecovio<sup>®</sup> 60 IA1542 exhibits the following properties:

- Semi-crystalline structure
- High strength and stiffness
- Good thermostability up to 220 °C in processing
- Good processability on conventional injection molding machines, e.g. for PP

Because of the moisture sensitivity during processing (approx. 200 °C) a maximum moisture content of below 1,000 ppm has to be assured prior to injection molding. ecovio<sup>®</sup> 60 IA1542 fulfills the requirements of the European standard DIN EN 13432 for compostable and biodegradable polymers up to 0.460 mm sheet thickness. The Biobased Carbon Content (BCC) of ecovio<sup>®</sup> 60 IA1542 is certified by TÜV Austria with 3 stars, meaning 60-80 % BCC.

## Certification of Compostability and Biobased Content

ecovio® 60 IA1542 fulfils the requirements of existing standards for compostable and biodegradable polymers. Available certifications:

	European standard EN 13432			American standard ASTM 6400		European standard EN 13432
	Australian standard AS 4736			ASTM D 6400 (USA)		ASTM D 6866 (biobased content)
Norm	EN 13432 (EU)		AS 4736 (AUS)	ASTM D 6400 (USA)	ASTM D 6866 (biobased content)	
Certification Body	DIN Certco	TÜV Austria	ABA	BPI	TÜV Austria	
Certification Number	7W0260	TA8011601510	10092	pending	B 16-387-A	

## Food Regulatory Status

ecovio® 60 IA1542 is one of the few biobased polymers which complies in its composition with the European food stuff legislation for food contact as well as with the regulations of the US food and drug administration for food packaging. A specific food law status is given in our specific certificates which are send on request via a local BASF representative or Plastics Safety (plastics.safety@basf.com). The converter or packer has to check the suitability of the article for the application.

## Form Supplied and Storage

ecovio® 60 IA1542 is supplied dry and ready to use in moisture-proof tight package in the form of cylindrical or flat pellets. Its bulk density is about 0.9 g/cm<sup>3</sup>. Standard packs are the special 25 kg bag. Subject to agreement other forms of packaging are also possible. All containers are tightly sealed and should be opened only immediately prior to processing ecovio® 60 IA1542 To ensure that the perfectly dry material delivered cannot absorb moisture from the air the containers must be stored in dry rooms and always carefully sealed again after portions of material have been withdrawn. ecovio® 60 IA1542 can be kept 12 months at 23 °C in the undamaged bags. Containers stored in cold rooms should be allowed to equilibrate to normal temperature (min. 20 °C) so that no condensation forms on the pellets.

## Quality Control

ecovio® 60 IA1542 is produced as a standard material in a continuous production process according to DIN EN ISO 9001. The melt volume rate, MVR, at 190 °C, 2.16 kg, according to ISO 1133 has been defined as specified parameter for quality control. A certificate of the MVR value can be provided with each lot number upon request. Other data given in our literature are typical values, which are not part of our product specification for ecovio® 60 IA1542.

## Applications

Injection-moldable products made from ecovio® IA benefit from an optimum balance of rigidity and toughness. ecovio® IA is very versatile in its range of application by injection molding. It also enables customers to produce biodegradable plastic components on conventional injection-molding machines. With our innovative ecovio® IA grade, it is possible not only to fill filigree thin-walled molds but also to achieve cycle times comparable with standard materials in the packaging industry. Furthermore, ecovio® 60 IA1542 exhibits a noticeably increased flowability relative to comparable biodegradable injection-molding grades.

### Typical Basic Material Properties of ecovio® 60 IA1542 at 23 °C

Property	Unit	Test Method	Values
Density Melt volume rate	kg/m <sup>3</sup>	ISO 1183	1380
	MVR (190 °C/2.16kg)	ISO 1133	17.0 [cm <sup>3</sup> /10 min]
E-modulus Strain at break (v = 50 mm/min)	MPa	ISO 527-2	2100
	%	ISO 527-2	8
Charpy (unnotched)	kJ/m <sup>2</sup>	179-2	120
HDT B (0.45 MPa)	°C	ISO 75-1/-2	93
<b>Drying:</b>			
Moisture uptake, max.	ppm	-	800
Moisture, to process	ppm	-	300-600
Drying temperature	°C	-	70
Drying time	h	-	6
<b>Processing:</b>			
Melt temperature range	°C	-	180-225
Melt temperature, ideal	°C	-	195
Tool temperature range	°C	-	10-40
Tool temperature, ideal	°C	-	30
Hot runner	°C	-	Max. 240
Residence time, max.	min.	-	2
<b>Machine settings:</b>			
Temperature flange (hopper)	°C	-	25
Barrel temperature 1 (feeding zone)	°C	-	180
Barrel temperature 2 (compression zone)	°C	-	185
Barrel temperature 3 (metering zone)	°C	-	190
Barrel temperature 4 (nozzle)	°C	-	195
<b>Shrinkage:</b>			
Processing shrinkage, parallel	%	ISO 2577, 294-4	0.4
Processing shrinkage, vertical	%	ISO 2577, 294-4	0.4
Processing shrinkage, test box, 1 mm	%	-	0.6

#### Note

The information submitted in this document is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance for a special purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed. (January 2022)