Typical properties of biodegradable M·VERA® injection moulding compounds

	Unit	M·VERA® GP1005 (B0001)[a]	M·VERA® GP1012 (B0254)[a]	M·VERA® GP1015 (B0071)	M·VERA® GP1025 (B0147)[a]	M·VERA® GP1041 (B0210)	M·VERA® GP1045 (B0217)
Food contact approval EU 10/2011	-	√[kc]	√[kc]	√[c]	√[c]	√[c]	√[kc]
Certificates	-	-	OK biodegrad-able SOIL; OK compost HOME	OK compost INDUSTRIAL	OK compost INDUSTRIAL	OK compost INDUSTRIAL	OK biodegrad-able SOIL; OK compost HOME
Renewable content in the polymer	%	>48	>98	>68	>98	>98	>98
Density	g/cm³	1.44	1.22	1.44	1.49	1.26	1.20
MVR (190 °C/2.16 kg)	cm³/10 min	12	9[e]	10	11	30	9[e]
Tensile modulus[f]	MPa	1,190	1,750	4,100	8,480	3,500	1.500
Tensile strength[f]	MPa	26	25	40	65	61	26
Yield strength[f]	MPa	26	25	41	n.d.	61	26
Elongation at yield[f]	%	7	3.7	2	n.d.	2.3	3
Elongation at break[f]	%	20	4	4.7	1.3	3.8	5.5
Charpy notched impact strength[g]	kJ/m²	3.2	2.2	3.5	2	1.8	2
Charpy impact strength[l]	kJ/m²	46	12	50	19	18	14
HDT/B (ISO 75/B)	°C	95	104	50–115[h]	50–115[h]	50–115[h]	98

[a] product in development, preliminary data [b] certfication in progress [c] available on request [e] (160/5) [f] according ISO 527-1/-2 [g] ISO 179-1/1eA [l] ISO 179-1/1eU [h] depending on mould temperature and annealing process afterwards
[k] food contact limitations, for more informations please contact BIO-FED

The information given here is only valid for M·VERA® grades in their original packaging, sold by BIO-FED® and/or its authorized partners. If M·VERA® grades are mixed in any capacity with foreign material, beside masterbatches recommended by BIO-FED®, BIO-FED® declines any further responsibility. M·VERA® grades shall be stored in dry, closed rooms in closed packaging in original state. For keeping the product properties, the material must be protected against direct sun and the temperature must not exceed 50 °C at any time during transport and storage. M·VERA® grades have a remaining shelf life of six (6) months at room temperature (23 °C) from the delivery date. We recommend that products made of M·VERA® grades shall be stored under same conditions. All M·VERA® products listed here can be colored with AF-Eco® masterbatches from AF-COLOR, also certified according to EN 13432. Please note that the use of AF-Eco® might influence the mechanical and/or optical properties of the final part.

BIO-FED
GREEN COMPOUNDS

BIO-FED
Member of the Feddersen Group

BioCampus Cologne · Nattermannallee 1
50829 Cologne · Germany
Phone: +49 221 88888 94-00
Fax: +49 221 88888 94-99
info@bio-fed.com · www.bio-fed.com

05/2024

M·VERA® product portfolio
Injection moulding

Typical properties of biomass-balanced M·BIOBASE® polypropylene compounds

	Unit	M·BIOBASE® PPH 032 nat	M·BIOBASE® PPC 035 nat	M·BIOBASE® PPH 120 nat	M·BIOBASE® PPH 500 nat
Food contact approval EU 10/2011	-	√[d]	√[d]	√[d]	√[d]
Certificates	-	ISCC PLUS	ISCC PLUS	ISCC PLUS	ISCC PLUS
Mass-balanced content/Allocation factor[a]	%	100	90	100	100
Density	g/cm³	0.905	0.905	0.905	0.905
MFR (230 °C/2.16 kg)	g/10 min	3.2	3.5	12	50
Tensile modulus[b]	MPa	1,700	1,350	1,550	1,650
Tensile strength at yield[b]	MPa	33	25	34	35
Elongation at yield[b]	%	7	6	9	9
Elongation at break[b]	%	27	110	330	47
Charpy notched impact strength +23 °C[c]	kJ/m²	6	15	3.5	2
Charpy notched impact strength -20 °C[c]	kJ/m²	n.a.	6.5	n.a.	n.a.
Suitable for	-	Extrusion, BOPP films	Injection moulding (e.g. luggage, bins, crates, technical parts)	Injection moulding (e.g. thin wall packaging)	Injection moulding (e.g. thin wall packaging and containers with excellent transparency)

[a] The allocation factor is the percentage of biomass allocated to the product (max. value: 100%) = percentage of replaced fossil based resources in the value chain. The allocation factor does not indicate how much biomass is actually in the product. It refers to the organic content (e.g. polymers) in the product. [b] ISO 527-1/-2 [c] ISO 179-1/1eA [d] available on request n.a. = not applicable

The information given here is only valid for M·BIOBASE® grades in their original packaging, sold by BIO-FED® and/or its authorized partners. If M·BIOBASE® grades are mixed in any capacity with foreign material, beside masterbatches recommended by BIO-FED®, BIO-FED® declines any further responsibility. M·BIOBASE® grades shall be stored in dry, closed rooms in closed packaging in original state. For keeping the product properties, the material must be protected against direct sun and the temperature must not exceed 50 °C at any time during transport and storage. M·BIOBASE® grades have a remaining shelf life of twelve (12) months at room temperature (23 °C) from the delivery date. We recommend that products made of M·BIOBASE® grades shall be stored under same conditions. All M·BIOBASE® products listed here can be colored with AF-CirColor® and AF-CirCarbon® masterbatches from AF-COLOR, certified according to the sustainability standard ISCC PLUS and/or REDcert². Furthermore AF-CirComplex® additive masterbatches are available. Please note that the use of masterbatches might influence the mechanical and/or optical properties of the final part.

BIO-FED
GREEN COMPOUNDS

BIO-FED
Member of the Feddersen Group

BioCampus Cologne · Nattermannallee 1
50829 Cologne · Germany
Phone: +49 221 88888 94-00
Fax: +49 221 88888 94-99
info@bio-fed.com · www.bio-fed.com

03/2024

M·BIOBASE® product portfolio
Biomass-balanced polypropylene

Typical properties of biomass-balanced filled M·BIOBASE® polypropylene compounds

	Unit	M·BIOBASE® PPH 050 GF30 nat	M·BIOBASE® PPH 080 WF20 nat	M·BIOBASE® PPH 130 WF30 nat	M·BIOBASE® PPH 230 WF20 nat
Food contact approval EU 10/2011	-	√[d]	-	-	-
Certificates	-	ISCC PLUS; REDcert²	ISCC PLUS; REDcert²	ISCC PLUS; REDcert²	ISCC PLUS; REDcert²
Mass-balanced content/Allocation factor[a]	%	96	80[e]	70[e]	80[e]
Filler	%	30 % glass fibre	20 % wood fibre	30 % wood fibre	20 % wood fibre
Bio-based content	%	0	20	30	20
Appearence	-	-	brownish, fibres visible	brownish, fibres visible	brownish, fibres visible
Density	g/cm³	1.12	0.968	1.006	0.956
MFR (230 °C/2.16 kg)	g/10 min	5	8	13	23
Tensile modulus[b]	MPa	7,350	3,040	3,570	2,670
Tensile strength at break[b]	MPa	95	39	39	28
Elongation at break[b]	%	3.2	4.3	3.2	5.2
Charpy notched impact strength +23 °C[c]	kJ/m²	14.5	2.7	2.5	2.2
Charpy unnotched impact strength +23 °C[c]	kJ/m²	58.5	17.4	13.9	13.6
Suitable for	-	Injection moulding (e.g. technical parts)	Injection moulding (e.g. consumer goods)	Injection moulding (e.g. consumer goods)	Injection moulding (e.g. consumer goods)

[a] The allocation factor is the percentage of biomass allocated to the product (max. value: 100%) = percentage of replaced fossil based resources in the value chain. The allocation factor does not indicate how much biomass is actually in the product. It refers to the organic content (e.g. polymers) in the product. [b] ISO 527-1/-2 [c] ISO 179-1/1eA [d] available on request [e] estimated value; exact value on request

The information given here is only valid for M·BIOBASE® grades in their original packaging, sold by BIO-FED® and/or its authorized partners. If M·BIOBASE® grades are mixed in any capacity with foreign material, beside master-batches recommended by BIO-FED®, BIO-FED® declines any further responsibility. M·BIOBASE® grades shall be stored in dry, closed rooms in closed packaging in original state. For keeping the product properties, the material must be protected against direct sun and the temperature must not exceed 50 °C at any time during transport and storage. M·BIOBASE® grades have a remaining shelf life of twelve (12) months at room temperature (23 °C) from the delivery date. We recommend that products made of M·BIOBASE® grades shall be stored under same conditions. All M·BIOBASE® products listed here can be colored with AF-CirColor® and AF-CirCarbon® masterbatches from AF-COLOR, certified according to the sustainability standard ISCC PLUS and/or REDcert². Furthermore AF-CirComplex® additive masterbatches are available. Please note that the use of masterbatches might influence the mechanical and/or optical properties of the final part.

BIO-FED
GREEN COMPOUNDS

BIO-FED
Member of the Feddersen Group

BioCampus Cologne · Nattermannallee 1
50829 Cologne · Germany
Phone: +49 221 88888 94-00
Fax: +49 221 88888 94-99
info@bio-fed.com · www.bio-fed.com

03/2024

M·BIOBASE® product portfolio
Biomass-balanced polypropylene