

## Typical Properties of M-VERA® Injection Moulding Grades

	Unit	M-VERA® GP1005 (B0001) <sup>a</sup>	M-VERA® GP1012 (B0065) <sup>a</sup>	M-VERA® GP1014 (B0057) <sup>a</sup>	M-VERA® GP1015 (B0071)	M-VERA® GP1018 (B0085) <sup>a</sup>	M-VERA® GP1025 (B0147) <sup>a</sup>	M-VERA® GP1037 (B0193)	AKROMID® S3 8 natural (4881)
Food contact approval EU 10/2011	-	√ <sup>k</sup>	√	√ <sup>k</sup>	√	√	√	√	√
Certificate	-	-	OK biodegrad- able SOIL; OK compost HOME	OK biodegrad- able SOIL; OK compost HOME <sup>b</sup>	OK compost INDUSTRIAL	OK compost INDUSTRIAL	OK compost INDUSTRIAL <sup>b</sup>	OK biodegrad- able SOIL <sup>b</sup>	n.a. <sup>l</sup>
Renewable content in the polymer	%	~50	~100	~100	~70	~100	~100	>50 <sup>m</sup>	~60
Density	g/cm <sup>3</sup>	1.44	1.26	1.43	1.40	1.28	1.49	1.3	1.08
MVR (190/2.16)	cm <sup>3</sup> /10 min	12	1.8 <sup>e</sup>	6 <sup>e</sup>	10	12	11	2–5	n.a.
Tensile modulus <sup>f</sup>	MPa	950	2,000	3,500	4,900	4,500	8,950	280	2,300
Tensile strength <sup>f</sup>	MPa	25	16	25	43	40	68	8	65
Tensile stress <sup>f</sup>	MPa	30	16	25	43	45	-	8	-
Elongation at yield <sup>f</sup>	%	-	3	2	1.8	2	-	-	5
Elongation at break <sup>f</sup>	%	-	6	2.2	4	2	1.2	315	>75
Charpy notched impact strength <sup>g</sup>	kJ/m <sup>2</sup>	3	4	2	4	3	2.4	no break	4
HDT/B (ISO 75/B)	°C	-	104	113	50–115 <sup>h</sup>	55–105 <sup>h</sup>	-	-	55
Flammability (UL 94/0.8 mm)	Class	-	-	-	-	-	-	-	-

<sup>a</sup> product in development, preliminary data   <sup>b</sup> certification in progress   <sup>c</sup> (160/2.16)   <sup>d</sup> according ISO 527-1/-2   <sup>e</sup> ISO 179-1/1eA   <sup>f</sup> depending on mould temperature and annealing process afterwards   <sup>g</sup> for durable applications  
<sup>k</sup> food contact limitations, for more informations please contact BIO-FED   <sup>m</sup> biobased carbon content   n.a. = not applicable

The aforementioned information 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 and to be protected against direct sun light not longer than 3 months. For keeping product properties, the recommended maximum temperature of 30 °C and the maximum humidity of 50 % shall not be exceeded. Products made of M-VERA® grades have to be stored under same conditions. All M-VERA® products can be colored with AF-Eco® biomasterbatches 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.



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03/2021

