

## MATERIAL COMPARISON

Version date: 13.06.2022

Version: 1.5

**Table 1: Technical Properties**

	SULAPAC MATERIAL								
	Premium	Premium Flex 40	Universal	Universal Flex 30		Universal Flex 35	Solid	Barrier	Flow
				High Flow	Low Flow				
<b>Technology</b> (Injection Molding / Extrusion)	IM	IM	IM	IM		IM	IM	IM	EX
<b>MFI</b> (190°C/2.16 kg)	N.A	N.A	15 g/10 min	12 g/10 min	2 g/10 min	7-6 g/10min	3-6 g/10 min	12 g/10 min	1 g/10 min
<b>Flexural Strain</b> (%)	2.0	2.2	1.5	2.6	3.0	2.6	1.3	1.14	-
<b>Tensile modulus</b> (GPa)	5.5	4.3	5.0	3.0	2.8	3.5	7 - 8	7	2.3
<b>Tensile strain at break</b> (%)	1.2	1.4	1.5	2.9	3.3	2.7	1.2	1.3	9
<b>HDT-B</b> (Heat deflection temperature)	56°C	56°C	55°C	54°C		54°C	130°C	-	54°C
<b>Charpy impact strength</b> (kJ/m <sup>2</sup> )	6-7	8	7-9	12	16	14	19	8.7	-
<b>Material Density</b> (g/cm <sup>3</sup> )	1.27	1.27	1.27	1.27		1.27	1.38	1.49	0.72
<b>Shrinkage</b> (%)			0.1...0.2	0.3...0.4		0.3	<0.5	1.0	
<b>Mold Temperature</b>	20 - 40°C	20 - 40°C	20 - 40°C	20 - 40°C		20 - 40°C	>100°C	60 - 70°C	-
<b>Wood chip size</b>	Large	Large	Small	Small		Small	None	None	Fine
<b>Object thickness recommendation, min.</b>	2mm	2mm	0.6 – 1mm	0.6 – 1mm		0.6mm	0.5mm	0.5mm	0.3mm

**Table 2: Material Features**

		SULAPAC MATERIAL								
		Premium	Premium Flex 40	Universal	Universal Flex 30		Universal Flex 35	Solid	Barrier	Flow v1.7
					High Flow	Low Flow				
KEY CLAIMS	No permanent Microplastics	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Safe for People and planet	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Sustainably sourced	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mass producible	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Industrially compostable	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Bio-based %	100%	87%	100%	79%	78%	94%	100%	98%	72%

**Table 3: Material Certificates**

		SULAPAC MATERIAL								
		Premium	Premium Flex 40	Universal	Universal Flex 30		Universal Flex 35	Solid	Barrier	Flow v1.7
					High Flow	Low Flow				
INDUSTRIAL COMPOSTABILITY	<b>SEEDLING</b> EN13432 / ASTM D6400					✓ EN13432 ASTM D6400				
	<b>BPI</b> ASTM D6400	✓	PENDING Q2/2022	✓	✓		✓	PENDING Q4/2022	PENDING Q2/2022	✓ APPROVED Q2/2022
BIODEBASED %	<b>BIO PREFERRED</b> ASTM D6866	100%	87%	100%	79%	78%	94%	100%	98%	72%
WOOD	<b>FSC Mix</b> <u>INS-COC-100087</u>	✓	✓							

**Table 4: Suitability for Applications**

	SULAPAC MATERIAL								
	Premium	Premium Flex 40	Universal	Universal Flex 30		Universal Flex 35	Solid	Barrier	Flow
				High Flow	Low Flow				
<b>Cosmetics packaging</b>	X	X	X			X		X	
<b>Color Cosmetics</b>			X						X
<b>Supplement packaging</b>	X		X			X		X	
<b>Luxury packaging</b>	X	X	X			X			
<b>Kitchen Ware</b>							X		
<b>Straw</b>									X
<b>Cutlery</b>			X	X					
<b>Object thickness recommendation, min</b>	2mm	2mm	0,6 - 1mm	0,6 – 1mm		0,6mm	0,5mm	0,5mm	0,3mm