

## MATERIAL COMPARISON

29.06.2023 - Version 3.2

**Table 1: Technical Properties**

TECHNICAL PROPERTIES													
	Technology (Injection molding / Extrusion)	MFI 190°C/ 2.16 kg (g/10 min)	Flexural Strain (%)	Tensile modulus (GPa)	Tensile strain (%)	HDT-B Heat deflection temperature (°C)	Charpy impact strength (kJ/m <sup>2</sup> )	Material Density (g/cm <sup>3</sup> )	Shrinkage (%)	Mold Temperature (°C)	Minimum object thickness (recommendation) (mm)	Wood chip size	
SULAPAC MATERIALS	Premium	IM	N.A	2.0	5.5	1.2	56	6-7	1.27		20 - 40	2	Large
	Premium Flex 40	IM	N.A	2.2	4.3	1.4	56	8	1.27		20 - 40	2	Large
	Universal	IM	15	1.5	5.0	1.5	55	7-9	1.27	0.1...0.2	20 - 40	0.6 – 1	Small
	Universal Flex 30 HF	IM	12	2.6	3.0	2.9	54	12	1.27	0.3...0.4	20 - 40	0.6 – 1	Small
	Universal Flex 30 LF	IM	2	3.0	2.8	3.3	54	16	1.27	0.3...0.4	20 - 40	0.6 – 1	Small
	Universal Flex 35	IM	7-6	2.6	3.5	2.7	54	14	1.27	0.3	20 - 40	0.6	Small
	Solid	IM	3-6	1.3	7-8	1.2	130	19	1.38	<0.5	>100	0.5	None
	Luxe	IM	15	2.7	3.5	2	54	15	1,27	0.3...0.4	20 - 40	0.6 – 1	Fine
	Luxe Flex	IM	30	8	2.5	4	53	20	1,27	0.3...0.4	20 - 40	0.6 – 1	None
	Barrier	IM	12	1.1	7	1.3	TBD	8.7	1.49	1.0	60 – 70	0.5 – 1	None
	Flow 1.7	EX	1-4	5	2.3	11	54	34	1.26		-	0.15	Fine
	Flow 1.8	EX	1-4	4	2.1	10	54	34	1.26		-	0.5	Fine

**Table 2: Material Features**

		MATERIAL FEATURES					
		No Permanent Microplastics	Safe For People and The Planet	Sustainably Sourced	Mass Producidble	Industrially Compostable	Bio-Based %
SULAPAC MATERIALS	Premium	✓	✓	✓	✓	✓	100%
	Premium Flex 40	✓	✓	✓	✓	✓	87%
	Universal	✓	✓	✓	✓	✓	100%
	Universal Flex 30 HF	✓	✓	✓	✓	✓	79%
	Universal Flex 30 LF	✓	✓	✓	✓	✓	78%
	Universal Flex 35	✓	✓	✓	✓	✓	94%
	Solid	✓	✓	✓	✓	✓	100%
	Luxe	✓	✓	✓	✓	✓ *	87%
	Luxe Flex	✓	✓	✓	✓	✓ *	86%
	Barrier	✓	✓	✓	✓	✓	98%
	Flow 1.7	✓	✓	✓	✓	✓	72%
	Flow 1.8	✓	✓	✓	✓	✓	72%

\* Self-Declaration. Certificate in progress.

**Table 3: Material Certificates**

MATERIAL CERTIFICATES						
	Industrial Compostability			Bio-Based %	Wood	
	Self-Declaration	BPI ASTM D6400	Seedling EN 13432 / ASTM D6400	Bio Preferred ASTM D6866	FSC Mix <u>INS-COC-100087</u>	
SULAPAC MATERIALS	Premium	✓		100%	✓	
	Premium Flex 40	✓		87%	✓	
	Universal	✓		100%		
	Universal Flex 30 HF	✓	✓	79%		
	Universal Flex 30 LF		✓	78%		
	Universal Flex 35	✓		94%		
	Solid	✓		100%		
	Luxe	✓		87%		
	Luxe Flex	✓		86%		
	Barrier	✓		98%		
	Flow 1.7		✓	✓	72%	
	Flow 1.8		✓	✓	72%	

## Table 4: Verified Applications

		VERIFIED APPLICATIONS									
		Cosmetics Packaging	Color Cosmetics	Supplement Packaging	Luxury Packaging	Kitchen Ware	Straw	Cutlery	Thermo-forming*	3D Printing	Recommended Minimum Object Thickness (mm)
SULAPAC MATERIALS	Premium	✓		✓	✓						2
	Premium Flex 40	✓			✓						2
	Universal	✓	✓	✓	✓			✓			0,6 - 1
	Universal Flex 30 HF							✓			0,6 - 1
	Universal Flex 30 LF							✓			0,6 - 1
	Universal Flex 35	✓		✓	✓						0,6
	Solid	✓	✓		✓	✓					0,5
	Luxe	✓	✓		✓						0,6 – 1
	Luxe Flex	✓	✓		✓						0,6 – 1
	Barrier	✓**		✓**							0,5 – 1***
	Flow 1.7		✓				✓		✓	✓	0,15
	Flow 1.8		✓								0,5

\* Point of Sale Displays, Logistics Trays or similar.

\*\* Inner layer of a jar (2k jar or 4-part mold)

\*\*\* Minimum thickness of threads is 1mm – maximum thickness of inner layer is 2mm