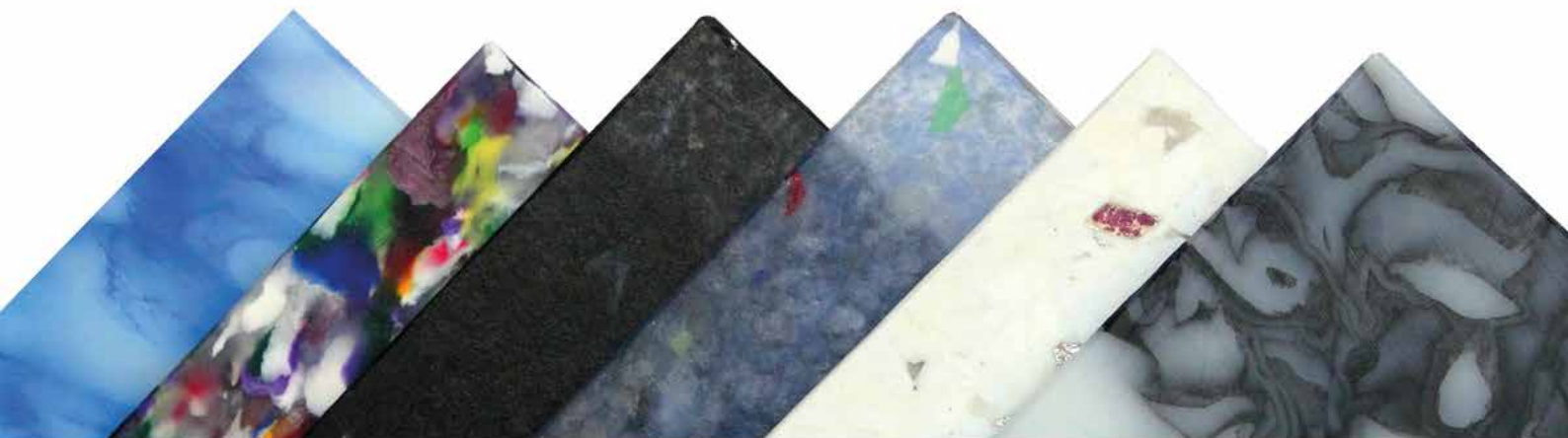


# Smile Plastics

Datasheet



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## Datasheet

Every smile plastics panel is a unique material and is made by hand selected recycled plastics. Although sorted into specific types it can not be guaranteed that each panel is only made of one type of recycled plastics and could be a mixture of different recycled plastics. These different combinations of recycled plastics will greatly affect material properties so the data sheets are only indicative of what our recycled materials may actually perform like.

These data sheets can provide guidelines for how to use Smile Plastics materials but are only indications and may not represent the actual material being used in the products.

**No guarantees or warranties can be given or are implied in respect of these guidelines.**



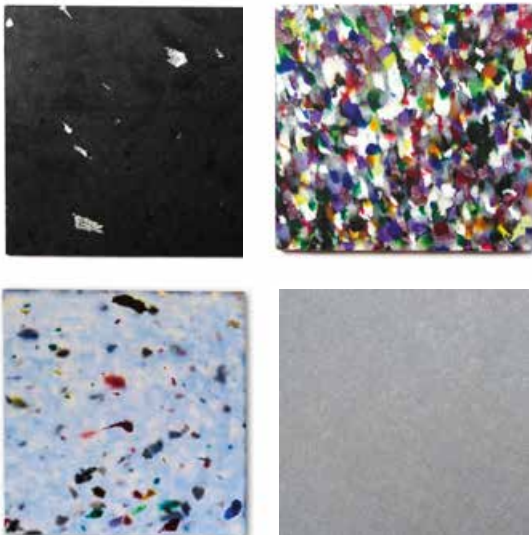
## Alba

Made from waste yoghurt pots

## HIPS

	Unit	Base	Capping
<b>Physical</b>			
Density	g/cm <sup>3</sup>	1,05	1,05
<b>Mechanical</b>			
Izod Impact Strength (notched)	J/m	85	85
Flexural Strength	MPa	35	35
Tensile Strength	MPa	20	20
Falling Dart Impact Strength	J	12	12
<b>Thermal</b>			
Vicat Softening Temperature	°C	95	92
Heat Deflection Temperature	°C	81	76
Flammability Rating **		UL94HB	UL94HB
Thermal Coefficient of expansion	m/m-K	80 x 10 <sup>-6</sup>	

Not recommended for outdoor applications as the material may yellow/destabilise with exposure to UV

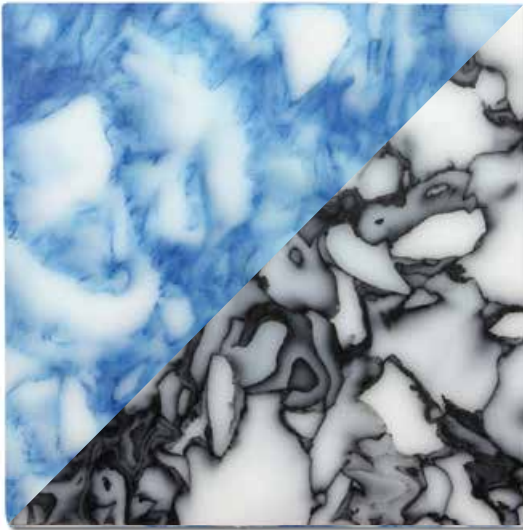


## Charcoal / Kaleido Ocean / Grey Mist

Made from plastic packaging

## PET/PETCOPOLYESTER

	Unit	
<b>Physical</b>		
Density	g/cm <sup>3</sup>	1,27
<b>Mechanical</b>		
Izod Impact Strength	kJ/m <sup>2</sup>	7
Flexural Strength	MPa	55,3
Tensile Strength (yield)	MPa	37,1
Tensile Strength (break)	MPa	18,2
Tensile Modulus of Elasticity	MPa	1540
<b>Thermal</b>		
Max. service temperature	°C	65
Vicat Softening Temperature (10N)	°C	83
Vicat Softening Temperature (50N)	°C	79
Heat Deflection Temperature A (1.8 MPa)	°C	68
Heat Deflection Temperature B (0.45 MPa)	°C	72
Flammability Rating**		UL94HB UL94HB



### Blue/Black Dapple

Made from chopping boards and plastic packaging

### HDPE (PE300)

	Unit	
<b>Physical</b>		
Density	g/cm <sup>3</sup>	0,95
Water absorption at saturation in water of 23°C	%	<0,1
Water absorption at saturation in air of 23°C / 50% R.H.	%	<0,1
<b>Mechanical</b>		
Tensile strength at yield and break	MPa	17
Tensile modulus of elasticity	MPa	700
Compression test (1% strain after 1,000 hrs)	MPa	3
Charpy impact strength – Unnotched	kJ/m <sup>2</sup>	No break
Charpy impact strength – notched	kJ/m <sup>2</sup>	No break
Ball indentation hardness	N/mm <sup>2</sup>	48
Shore hardness D	D	62
<b>Thermal</b>		
Melting temperature (DSC, 10°C/min)	°C	130
Thermal conductivity at 23°C	W/m-K	0,4
Heat Deflection Temperture A (1.8 MPa)	°C	44
Heat Deflection Temperture B (0.45 MPa)	°C	75
Coefficient of linear thermal expansion (23 & 100°C)	m/m-K	150 x 10 <sup>-6</sup>
Max allowable service temperature in air:		
For short periods	°C	90
Continuously	°C	80
Min service temperature	°C	-60
Flammability Rating**	UL94HB	UL94HB
<b>Electrical</b>		
Electrical strength	kV/mm	45
Volume resistivity	Ω cm	>10 <sup>14</sup>
Surface resistivity	Ohm	>10 <sup>12</sup>
Dissipation factor tan Δ at 1 MHz		0.0002

\*\* Flammability Rating: Where better ratings are required we are able to make up custom materials from wastestreams that have naturally higher ratings

# Smile Plastics

Reimagined Materials,  
Designed to Inspire

[www.smile-plastics.com](http://www.smile-plastics.com)