

Technical Data Sheet

FluidSolids® Biocomposite FIRE

FluidSolids® Biocomposite FIRE is the “flame resistant grade” biocomposite developed in Switzerland by FluidSolids®. Produced from residuals and waste streams and fully home-compostable, it is an environmentally friendly raw material, suitable for a broad range of applications requiring ignition resistance.

Technical Data	Test Method	Unit	Value
Physical Properties			
Color	-	-	Black
Shrinkage (Specimen*)	FS-internal	%	0.8
Mass Density (Specimen*)	DIN 53479	g/cm ³	1.5
Bulk Density (Pellets)	DIN ISO 697	g/cm ³	0.7
Fire Resistance	UL 94	-	V-0
UV Resistance	ASTM D4674	-	good
Mechanical Properties*			
Elastic Modulus	DIN- EN ISO 527-1	N/mm ²	4800 ± 200
Flexural Modulus	EN ISO 178, method A	N/mm ²	5800 ± 200
Max tensile stress	ISO 527-1	N/mm ²	35.8 ± 0.9
Elongation at break in tension	ISO 527-1	%	0.8 ± 0.2
Impact strength	DIN EN ISO 179-1 Charpy	KJ/m ²	4.9 ± 0.5
Thermal Properties			
Heat deflection temperature (HDT)	DIN EN ISO 75-2	°C	58.2 ± 0.2
Chemical Resistance (Optic, Weight, and Dimension Changes)			
Resistance to ketones	IA. ASTM D 543-95	%	3 – 5; fair
Resistance to esters	IA. ASTM D 543-95	%	<1; very good
Resistance to ethanol	IA. ASTM D 543-95	%	3 – 5; fair
Resistance to alkanes	IA. ASTM D 543-95	%	<1; very good
Resistance to oils	IA. ASTM D 543-95	%	<1; very good
Resistance to ionic salts	IA. ASTM D 543-95	%	>5; poor
Resistance to strong bases	IA. ASTM D 543-95	%	>5; poor
Resistance to strong acids	IA. ASTM D 543-95	%	>5; poor
Microbiology			
Number of yeasts at 25°C	ISO 7954:1999	CFU/surface	<1,0x10 ¹ ; very good
Number of moulds at 25°C	ISO 7954:1999	CFU/surface	6,0x10 ¹ ; good
Aerobic colony count at 30°C	EN ISO 4833-1:2013-12	CFU/surface	2,4x10 ³ ; good

* measured on specimen produced according to DIN EN ISO 3167 and equilibrated in ventilated oven, 24h at 38°C.

Storage Recommendations

FluidSolids® Biocomposite FIRE pellets must be stored in the original sealed aluminum bags at a temperature between -10 °C and 40 °C for a maximum of 12 months. Bags open for processing need to be resealed if not completely used within 12 hours.

Processing

FluidSolids® Biocomposite FIRE is produced in pellet form and is processable in conventional injection molding machine. FluidSolids® Biocomposite FIRE is processed only by certified manufacturing partners. For further information please contact FluidSolids® technical support.



Typical FluidSolids® Biocomposite FIRE pellets

DISCLAIMER

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication.

However, this statement is limited to FluidSolids® Biocomposite FIRE as it leaves production. It is the customer's responsibility to verify compliance with applicable end product requirements under actual and foreseeable conditions of use.

FluidSolids® makes no warranties beyond the description contained herein. Nothing herein shall constitute a warranty of merchantability or fitness for a particular purpose. No liability can be assumed for the use of FluidSolids' products in conjunction with other materials. The information contained herein pertains solely to our material when not used in conjunction with third party materials.