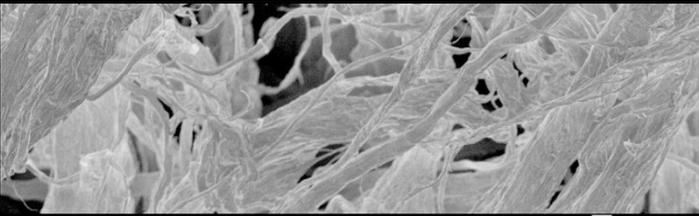


# SHORT STUFF®

## HIGHLY FIBRILLATED HDPE TECHNICAL DATA SHEET

Grade	ESS5F	ESS50F*	ESS2F	ESS20F*	E380F	E505F*	E620F	E780F	E990F	AU690F	
<b>Average Length</b> Expressed in millimeters (mm)	~0.1	~0.1	~0.6	~0.6	~0.5	~0.6	~0.65	~0.9	~1.0	~0.75	
<b>Average Diameter</b> Expressed in microns	5	5	5	5	15	15	15	25	20	-	
<b>Surface Area (m<sup>2</sup>/gm)</b> Measured by gas absorption	12	12	12	12	8	8	8	8	8	-	
* Treated for improved dispersion in water based systems											
<b>Packaging</b>	Packaged in multi-walled kraft bags.										
<b>Lbs per Bag</b>	15	15	15	15	15	15	15	10	10	15	
<b>Bags per Pallet</b>	50	50	50	50	50	50	50	75	75	50	
<b>Melting Point</b>	~135°C / ~275°F									~125°C / ~257°F	
<b>Specific Gravity (g/cm<sup>3</sup>)</b>	0.96									0.92-0.93	
<b>Dispersibility</b>	Dispersible in water or solvent based systems. Refer to mixing instructions for appropriate methods of dispersion.										
<b>Dosing</b>	Typical dosage ranges from 0.5 to 1.0% by total formula weight for most applications; suggested starting formulations are available upon request.										
<b>Bulking Value</b>	Metric	1.04~1.10 litres/kg -- .91~.96 kgs/litre				<b>Mixing Instructions:</b> 			<b>Starting Formulations:</b> 		
	English	0.1250~0.1319 gallons/lb -- 7.580~7.997 lbs/gallon									
<b>CAS Number</b>	9002-88-4										
<b>Plasticity, Appearance, and Odor</b>	Soft, flexible fibrils; white and fluffy with no odor.										
<b>Moisture Content</b>	Less than 2% residual moisture as packaged.										
<b>Moisture Absorption</b>	Does not absorb moisture.										
<b>Effects of Bleaches and Solvents</b>	Swells in chlorinated hydrocarbons at room temperature; soluble at 71-77°C / 160-170°F.				 x 330 1.00kV LEI SEM WD 14.8mm						
<b>Effects of Acids and Alkalis</b>	Excellent resistance to acids and alkalis, with the exception of oxidizing agents.										
<b>Microbial Resistance</b>	Not attacked by mold or mildew. Does not promote microbial growth.										
<b>Durability</b>	Resists aging and abrasion.										
<b>Shelf Life</b>	Up to and exceeding 5 years in appropriate storage conditions.										
<b>Storage Recommendations</b>	The product should be protected from extreme elements and kept dry while in storage. Avoid storing with heavy weight stacked or placed on top of the bags, which will cause the product to compact. Storage with or next to chlorine or chlorinated products is not recommended.										

The above information is provided to describe typical values and does not constitute a product specification. MiniFIBERS warrants that for each Product sold, such Product will meet the standard specifications provided for that Product and will be of a quality consistent with the standard specifications. This is the sole warranty given with respect to the Product, and is given expressly in lieu of any other warranties, expressed or implied, including without limitation any implied or general warranty of merchantability or of fitness for a particular purpose. It is expressly understood that any technical advice or assistance that may be provided by MiniFIBERS is rendered without compensation, and MiniFIBERS assumes no obligation or liability for such advice or assistance given, or for results obtained.