

Physical characteristics of man-made and natural fibres

Type of fibre	Code	Density	Moisture adsorption 65% r.H. 20°C	Melting temperature	Glass transition temperature (dry)	Chemical resistance + = resistant o = relatively resistant - = unresistant			
		[g/cm ³]	[%]	[°C]	[°C]	Acids	Alkalis	Organicsolvents	Hydrolysis
Cotton	CO	1.50-1.54	7-11	decomp. (400°C)	-	-	o	+	+
Wool	WO	1.32	15-17	decomp.	-	o	-	+	+
Glass fibre	GF	2.4 -2.6	0	-	850-950	o	o	+	+
Carbon	CF	1.9 -2.18	0	decomp. (2500°C)	-	+	+	+	+
Viscose	CV	1.52	7-14	decomp. (175-205°C)	-	-	o	+	+
Polyamide 4.6	PA 4.6	1.18	4.5-5.0	290	80	o	o	o	o
Polyamide 6	PA 6	1.14	3.5-4.5	215-220	80	-	+	o	o
Polyamide 6.6	PA 6.6	1.14	3.5-4.5	255-260	90	-	+	o	o
Polyamide 6.10	PA 6.10	1.08	2	216	50	o	o	+	o
Polyethylene	PE	0.95	0	125-135	-3.5	+	+	o	+
Polypropylene	PP	0.91	0	160-175	-10	+	+	o	+
Polyphenylene-sulfide	PPS	1.38	0.2	295	90	+	+	+	+
Polyether-ether-ketone	PEEK	1.3	0.15	335	143	+	+	+	+
Aramide	AR	1.38-1.44	3-7	decomp (370 - 550°C)	280-300	o	o	+	o
Polyester	PET	1.38	0.2-0.5	250-260	90	+	-	o	-
Polyethylene-naphthalate	PEN	1.36	0.2	268	123	+	o	+	o
Polybutylene-terephthalate	PBT	1.30-1.34	0.4	221-225	30	o	-	o	-
Polyvinylene-alcohol	PVAL	1.25-1.30	3.5-5.0	decomp. (240-250°C)	75 - 130	+	+	o	-
Poly-vinylidene-difluoride	PVDF	1.77	0.03	175	-40	+	+	+	+