Raw Material Types

		POLYAMIDE		POLYPROPYLENE	POLYESTER	ACRYLIC	
		NYLON 66	NYLON 11/12			COPOLYMER	HOMOPOLYMER
Continuous dry heat operation		94ºC	80ºC	94ºC	135ºC	120ºC	135ºC
Continuous moist heat operation		94ºC	80ºC	94ºC	94ºC	110ºC	125ºC
Max short term dry heat surge (short term)		121ºC	135ºC	107ºC	150ºC	120ºC	150ºC
Specific Density		1.14	1.02	0.9	1.38	1.16	1.17
Moisture regain (20ºC and 65% r. humidity)		4.0 - 4.5%	0.25%	0.1%	0.4%	1%	1%
Supports Combustion		YES	YES	YES	YES	NO	YES
Resistance	Biological (mildew, bacteria)	NO EFFECT	NO EFFECT	EXCELLENT	NO EFFECT	VERY GOOD	VERY GOOD
	Alkalis	GOOD	VERY GOOD	EXCELLENT	FAIR[2]	FAIR	FAIR
	Mineral Acids	POOR	FAIR	EXCELLENT	FAIR[2]	GOOD	VERY GOOD
	Organic Acids	POOR	FAIR	EXCELLENT	FAIR[2]	GOOD	EXCELLENT
	Oxidizing Agents	FAIR	FAIR	GOOD[1]	GOOD	GOOD	GOOD
	Organic Solvents	VERY GOOD	GOOD	EXCELLENT	GOOD	VERY GOOD	VERY GOOD

		POLYPHENLYENE SULPHIDE (PPS)	M-ARAMID	POLYIMIDE (P84)	FIBERGLASS	PTFE	CERAMIC
Continuous dry heat operation		190ºC	204ºC	240ºC	260ºC	260ºC	1150ºC
Continuous moist heat operation		190ºC	177ºC	195ºC	260ºC	260ºC	1150ºC
Max short term dry heat surge (short term)		232ºC	240ºC	260ºC	290ºC	290ºC[5]	1400ºC
Specific Density		1.38	1.38	1.41	2.54	2.3	2.7
Moisture regain (20ºC and 65% r. humidity)		0.6%	4.5%	3%	0%	0%	0%
Supports Combustion		NO	NO	NO	NO	NO	NO
Resistance	Biological (mildew, bacteria)	NO EFFECT	NO EFFECT	NO EFFECT	NO EFFECT	NO EFFECT	NO EFFECT
	Alkalis	EXCELLENT	GOOD	FAIR	FAIR	EXCELLENT	GOOD
	Mineral Acids	EXCELLENT	FAIR	VERY GOOD[4]	VERY GOOD	EXCELLENT	VERY GOOD
	organic acids	EXCELLENT	FAIR	VERY GOOD	VERY GOOD	EXCELLENT	VERY GOOD
	oxidizing agents	EXCELLENT[3]	POOR	VERY GOOD	EXCELLENT	EXCELLENT	EXCELLENT
	organic solvents	EXCELLENT	VERY GOOD	EXCELLENT	VERY GOOD	EXCELLENT	EXCELLENT

Note:

1. Polypropylene is attacked by UV light, and will dimensionally deform under unsupported load over 82ºC.
2. Polyester is OK between pH 2 to 10 if pH neutral wash employed.
3. PPS is attacked by strong oxidizing agents (O2, NOx, Br2) – the presence of which, lower its recommended operating temperature.
4. P84 is attacked by SO X in power station applications.
5. PTFE will elongate under load at elevated temperature.