Questions to consider:

- What kind of mechanical stress do you expect?
- What kind of thermal stress do you expect?
- What kind of chemical stress do you expect?
- What electrostatic characteristics do you need?
- Should the brush body have your trademark on it?
- What colour do you want, assuming the material permits a choice?

Body materials		Thermal characteristics										Chemical resistance						Remarks
Thermoplastics	**Abbreviation DIN 7728**	Density (DIN 53479)	Melting point	Thermal conductivity	Specific thermal conductivity	Coefficient of elongation[2]	Working temperature, short-term[1]	Working temperature, continuous[1]	Water absorption under norm. climatic cond. 23°C	Water absorption when used in water at 23 °C	Fire resistance as per UL 94	Mineral lubricating oils and grease	Benzine	Trichloroethylene	Tetrachloro-carbon	Acids	Alkalis	
Polyamides		$\frac{g}{cm^3}$	°C	$\frac{W}{K \cdot m}$	$\frac{J}{g \cdot K}$	$\frac{10^{-5}}{°K}$	°C	°C	%	%				at 20 °C				
Polyamide 6 (Polyamide B)	PA 6	1.12	220	0.233	1.675	7 to 8	140 to 180	-20 to 100	2.5 to 3	8.5 to 10	94HB	+	+	⊕	+	⊕[6]	+	Particularly tough, high abrasion resistance, minimal static electricity
Polyamide 6.6	PA 6.6	1.14	260	0.231	1.675	7 to10	170 to 200	-25 to 120	2.5 to 3	7.5 to 9	94V-2	+	+	⊕	+	⊕[6]	+	Very high strength and rigidity, dimensionally stable, low thermal expansion
Polyamide 6.10	PA6.10	1.08	218	0.233	1.675	8 to10	140 to 180	-30 to 100	1.2 to 1.6	3 to 4	94HB	+	+	⊕	+	⊕[6]	+	Tough, abrasion resistant, lower moisture absorption than 1
Polyamide 6 with 25% glass fibre	PA 6 GF	1.30	220	0.23	1.5	2 to 3	200	-40 to 120	1.5 to 2.3	7.1	94HB[3]	+	+	+	+	⊕[6]	⊕	Very high strength and rigidity, dimensionally stable, low thermal expansion
Polyacetals																		
Polyoxymethylene (homopolymerisate)	POM	1.42	175	0.233	1.465	11 to 13	140	-50 to 100	0.25	0.8	94HB	+	+[4]	⊕	+	⊕	⊕	High strength, impact resistant, minimal cold flow
Polyethylenes																		
HD-Polyethylene	HDPE	0.96	129 to 135	0.43	1.86	16 to 20	100	-50 to 90	< 0.1	< 0.1	94HB	+	+	⊕	–	+	+	High resistance to chemicals, low cost
Polypropylenes																		
Polypropylene	PP	0.92	165	0.221	1.68	12 to 16	130	-20 to 90	< 0.1	< 0.1	94HB	⊕	–	⊕	–	+	+	Good resistance to chemicals, low relative density, little impact resistance below -5 °C
Polypropylene with up to 30 % glass fibre	PP GF	1.05	164 to 167	0.25	1.47	6 to 17	140	-10 to 110	0	< 0.2	94HB	+	+	–	–	+	+	Average rigidity and hardness, good resistance to chemicals, minimal distortion
Styrene-polymerisates																		
Acrylonitrile butadiene-styrene copolymer	ABS	1.0 to 1.2	220 to 260	0.174	1.142	8 to 10	95 to 100	-35 to 95	0.2	0.5 to 1.0	94HB	+	+	–	–	+	+	Good combination of rigidity, hardness and durability
Other																		
Polyvinyl chloride	PVC	1.2 to 1.44	170 to 210	0.16	1.05	8	80	0 to 50	0.3	< 0.1	94V-0	+	+	–	–	+	+	Good resistance to chemicals, high strength, low cost
Thermoplastic elastomer	TPE/TPV	0.95	155	0.16	2.545	18.5/ 10 to 5	150	-40 to 120	1,1	< 0.1	94HB	⊕	+	–	–	+	+	Large temperature range, high-quality material, good chemical resistance
Simopur	PVC CAW	0.55	73	0.07	0,85	8	60	0 to 60	0	0	94V-0	⊕	⊕	–	–	⊕	⊕	Extremely light, 0 % water absorption, low-cost alternative for large brush panels
Tecaform	POM-C/ EL	1.45	172	0.27	1,4	11	140	-60 to 100	0.3	0.5	94HB	+	+	–	–	○	○	Electrically conductive, high strength, good resistance to organic solvents

1 Empirical data for finished parts subject to little stress and depending on the type and nature of the effects of heat short term: up to a few hours; continuous: months to years

2 Applicable in the range of approx. 20 °C to 100 °C

3 Also possible in 94V-0 and 94V-2 settings

4 Allow for possible diffusion

5 Relatively resistant to existing acids

6 Not resistant to acid solutions of pH < 5

\+ resistant – not resistant ⊕ relatively resistant ○ soluble

Date: 2015. Subject to alterations and corrections.
No responsibility is accepted for the correctness of this information.

The information given in this table is for guidance only. The data are known to be affected by processing conditions, modifications, additives to materials and environmental influences. They have been compiled on the basis of current experience and do not constitute any obligation.