

Questions to consider:

- Should the bristles be soft, fairly hard or have a scratching effect?
- What type of mechanical requirements are to be expected?
- What are the thermal conditions to be expected?
- Which chemical considerations are to be expected?
- Do the bristles come into contact with moisture?
- Should the bristles conduct electricity?
- Should the bristles be fire resistant?

Bristles				Resistance to chemicals				Characteristics, uses
	Colours	Thermal resistance	Moisture absorption when used in water	aqueous alkalis	organic acids, diluted	mineral acids, diluted	organic solvents	
at 20°C								
Synthetic								
Polyamide 6 PA6	transp. black *	-20°C to +100°C	9.5%	+	+	-	○	Standard bristle material for brushes for the following purposes: cleaning, deflecting, conveying, protecting from moving parts such as apertures with centre spindle.
Polyamide 6 - flame retardant PA6/FH	black *	-20°C to +100°C	9.5%	+	+	-	○	Same characteristics as PA6 but with flame retardance. Flammability class UL 94 V-2.
Polyamide 6 - electrically conductive PA6/EL	black *	-20°C to +100°C	9.5%	+	+	-	○	Same characteristics as PA6 but electrically conductive.
Polyamide 6.6 PA6.6	transp. black *	-20°C to +120°C	8.5%	+	+	-	○	Same characteristics as PA6 but with higher operating temperature limit, slightly better abrasion resistance and lower water absorption. Used to apply liquids, clean abrasive materials, etc.
Polyamide 6.10 PA6.10	transp. black *	-20°C to +100°C	3.0%	+	+	-	○	The best of the PA bristles in terms of abrasion resistance and water absorption. Used for labelling, brushing functions in permanent contact with water (e.g. washing stations) and demanding situations generally.
Abrasive bristles, Base material PA6 or PA6.10	SIC- dark grey AL light grey	-20°C to +100°C	3.0% to 9.5%	+	+	-	○	Same characteristics as PA but incorporating grains of SIC or aluminium oxide to make abrasive bristles for the deburring of metals, plastics etc. Also for sanding wood, roughening surfaces. Also available with ceramic and diamond grains.
Polyester PBT	transp. *	-20°C to +100°C	0.3%	+	+	+	+	Value for money. Almost no water absorption, i.e., when immersed in liquid up to +60°C, excellent shape recovery. However, not as easily restraightened if bent. Inexpensive alternative to PA6.10
Polypropylene PP	transp. black *	-20°C ** to +80°C	0.0%	+	+	+	○	No water absorption, good resistance to chemicals, hence suitable for use in electroplating plants, in the open air, for sealing factory doors, etc. No resistance to buckling.
Pekalon	gold black	0°C to +190°C	0.6%	+	+	+	-	Fibre for high-temperature applications. Very low water absorption, good stiffness, elasticity and abrasion resistance.
Polyvinylchloride PVC	black *	0°C to +60°C	0.0%	○/+	○	○/-	-	Inexpensive alternative for simple applications. High elasticity, no water absorption. Buckles easily. Self-extinguishing.
Natural								
Mexico fibre	ivory (natural) black	+160°C	approx. 35%	○	○	○	○	Not subject to static electricity, used primarily for surface treatment of wood, for polishing metals and for sealing purposes at higher temperatures.
Horsehair	grey black yellowish	+150°C	approx. 35%	○	○	○	○	Only slightly subject to static electricity, excellent wiping, sealing and dusting effect. Used for sealing purposes (dry), applying liquids (excellent brushing effect) and dusting veneered or laminated wooden surfaces.
Goat hair	white black	+150°C	approx. 35%	○	○	○	○	Bristles only slightly subject to static charge, excellent wiping, sealing, and surface dusting properties. Used by the cosmetic industry.
Pig bristle	grey black yellowish	+150°C	approx. 35%	○	○	○	○	Only slightly subject to static charge, excellent wiping, sealing and dusting effect, similar uses to horsehair but stronger bristles.
Metal								
V2A wire 4301	bright metal	+400°C	none	+	+	+	+	Some adverse effects from chemicals (details on request). Used for sealing purposes in metal treatment plants, surface treatment of metals and hardwoods.
Cast steel wire	dark metal	+400°C	none	○	○	○	○	General sealing purposes at higher temperatures, deburring and cleaning of metal surfaces.
Phosphor-bronze wire	reddish metal	+170°C	none	○	○	○	○	General sealing purposes, good electrical conductivity, surface treatment of wood and metals.
Bronze wire								
Brass wire	yellowish metal	+170°C	none	○	○	○	○	General sealing purposes, treatment of wood and metals.

* special colours available on request + resistant - not resistant ○ relatively resistant
 ** short-term

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