TECHNICAL DATA

	Material	Form deviation	Diameter tolerance	Hardness Vickers	Density g/cm³	Surface finish Ra
Ruby Ball	Synthetic Ruby Al_2O_3 Monocrystalline	<0.2µm	± 0.2µm	1800	3.9	0.01µm
Ceramic Ball	Alumina Al_2O_3 ceramic polykrystalline	<0.2µm	± 0.2µm	1650	3.9	0.1µm
Cylinder Steel	Stainless steel	<2µm	10µm	250	7.9	0.4µm
Cylinder Ruby	Synthetic ruby Al_2O_3 Monocrystalline	<1µm	±1µm	1800	3.9	0.05µm
Cylinder TC	Polykrystalline WC+TaC+Co	<1µm	±1µm	1550	15.0	0.2µm
Ball discs Ceramic	Polykrystalline Al_2O_3	<0.2µm	± 0.2µm	1650	3.9	0.1µm
Ball discs Steel	Stainless steel	<3µm	± 3µm	250	7.9	0.4µm
Disc styli hardened	Hardened steel	<2µm	± 2µm	720	7.9	0.2µm
Styli shafts steel Extensions steel	Stainless steel	–	–	–	7.9	–
Styli shafts Ceramic Extensions Ceramic	Alumina Al_2O_3 ceramic Polykrystalline	–	–	–	3.9	–
Styli shafts Carbon Extensions Carbon	Carbon fiber	–	–	–	1.5	–
Styli shafts TC	Tungsten Carbide WC+TaC+Co	–	–	–	15.0	–
Extensions Alu 7075	Aluminium 7075 High strength Alu	Hard-coat anodized with PTFE			2.8	–

Used Material for styli and accessories

Material	Advantage	Disadvantage
Stainless steel	● Standard material for most applications ● Body and shaft in one piece ● Cost-efficient	● Small bending strength for very small shaft diameter
Tungsten Carbide	● High bending strength even for small shaft diameters. ● Optimal proportions between shaft and ball diameter	● Higher weight for large styli.
Ceramic	● High bending strength at very low weight ● Can be used for long styli	● Danger of breakage for small shaft diameter
Carbon fiber	● Extremely low weight ● High bending strength for long components with large cross-section.	● Small bending strength for small cross-section
Aluminium 7075 (Alu 7075)	● Low weight with very high strength ● Wear-protected surface due to hard-coated anodizing with PTFE.	● Danger of breakage for very small cross-section

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