

Material declaration for EN12-HS22F20

No content here is banned per E.U. RoHS. Average mass of these EN12 encoders is 2.5 grams each
Weights above one milligram rounded to the nearest mg. Values less than 1 mg given in scientific notation.

Sub-component	Material	% of Total Mass	Substance Name	CAS #	Substance Weight (grams)	Special Classification
Shaft	PC	22.92%	Polycarbonate	25971-63-5	0.5730	
Shaft base	PC	6.88%	Polycarbonate	25971-63-5	0.1720	
Switch base	PBT blend	12.60%	PBT polymer	30965-26-5	0.1103	Halogenated epoxy, contains BPA Antimony fire retardant
			Brominated epoxy resin	68928-70-1	0.0788	
			Antimony oxide	1309-64-4	0.0315	
			Glass fiber	65997-17-3	0.0945	
Frame	Steel	34.12%	C	231-153-3	0.0017	
			Mn	231-105-1	0.0017	
			P	231-768-7	3.41E-04	
			S	231-722-6	3.41E-04	
			Si	231-130-8	0.0026	
			Al	231-072-3	3.75E-04	
			Fe	231-096-4	0.8460	
Spring plate	POM	1.13%	Acetal polymer	unknown	0.0277	
			Stabilizer	unknown	5.65E-04	
Switch base	Brass	0.957%	Cu	7440-50-8	0.0220	
			Zn	7440-66-6	0.0019	
			Ag	506-64-9	0.0030	
Slider	Phosphor bronze	1.04%	Cu	7440-50-8	0.0238	RoHS exempt, Pb in Cu
			Sn	7440-31-5	0.0021	
			Zn	7440-66-6	5.20E-05	
			Pb	7439-92-1	3.00E-06	
			Fe	7439-89-6	1.00E-05	
			P	7723-14-0	1.30E-05	
			Ag plating	0.0001%	Ag	
Click	Phosphor bronze	4.98%	Cu	7440-50-8	0.1141	
			Sn	7440-31-5	0.0100	
			Zn	7440-66-6	2.49E-04	
			Pb	7439-92-1	1.20E-05	
			Fe	7439-89-6	5.00E-05	
			P	7723-14-0	6.20E-05	
Switch spring plate	Copper alloy	2.72%	Cu	7440-50-8	0.0021	
			Ti	7440-32-6	0.0659	
			Ag	506-64-9	3.00E-04	
Slider base	PBT blend	11.20%	PBT polymer	30965-26-5	0.0980	Halogenated epoxy, contains BPA Antimony fire retardant
			Brominated epoxy resin	68928-70-1	0.0700	
			Antimony oxide	1309-64-4	0.0280	
			Glass fiber	65997-17-3	0.0840	
Conductor	Phosphor bronze	1.00%	Cu	7440-50-8	0.0229	RoHS exempt, Pb in Cu
			Sn	7440-31-5	0.0020	
			Zn	7440-66-6	5.00E-05	
			Pb	7439-92-1	3.00E-06	
			Fe	7439-89-6	1.00E-05	
			P	7723-14-0	1.30E-05	
			Ag	506-64-9	0.0030	
Electric conduction oil	PAO lubricant	0.120%	Polyisobutylene	9003-27-4	5.40E-04	
			PAO	68037-01-4	0.0024	
			Fumed silica	68611-44-9	6.00E-05	
Axes oil	PAO lubricant	0.080%	Polyisobutylene	9003-27-4	0.0012	
			PAO	68037-01-4	7.00E-04	
			Fumed silica	68611-44-9	1.00E-04	