

**Material Composition for SX-4417E Steering Sensor**

Sub-component	Material	% of Total Mass	Substance Name	CAS #	Substance Mass (grams)	Special Classification			
Housing	PBT	13.068%	PBT	26062-94-2	9.48E+00				
			Glass fiber	65997-17-3	4.18E+00				
			Misc. not to declare	N/A	2.79E-01				
Lid		8.115%	PBT	26062-94-2	5.89E+00				
			Glass fiber	65997-17-3	2.60E+00				
			Misc. not to declare	N/A	1.73E-01				
Concentrator		3.532%	Nickel	7440-02-0	1.81E+00				
			Silicon	7440-21-3	1.32E+00				
			Iron	7439-89-6	6.21E-01				
			Manganese	7439-96-5	1.88E-02				
			Carbon	7440-44-0	7.54E-04				
Position rotor	PBT	8.317%	PBT	26062-94-2	5.77E+00				
			Glass fiber	65997-17-3	2.66E+00				
			Antimony oxide	1309-64-4	4.44E-01				
Crown ring	Concentrator	14.527%	Nickel	7440-02-0	7.44E+00				
			Silicon	7440-21-3	5.43E+00				
			Iron	7439-89-6	2.55E+00				
			Manganese	7439-96-5	7.75E-02				
			Carbon	7440-44-0	3.10E-03				
Gear 34T	Delrin	1.314%	Polyoxymethylene	9002-81-7	1.40E+00				
Gear 36T	Delrin	1.219%	Polyoxymethylene	9002-81-7	1.30E+00				
Magnet	Magnetic Alloy	0.418%	Iron	7439-89-6	2.26E-01				
			Nickel	7440-02-0	2.14E-01				
			Chromium	7440-74-3	4.46E-04				
			Manganese	7439-96-5	3.57E-03				
			Silicon	7440-21-3	1.34E-03				
			Carbon	7440-44-0	2.23E-04				
			Misc no to declare	N/A	2.23E-04				
Torque rotor	PPA	1.986%	Poliphosphoric acids	8017-16-1	2.01E+00				
			Phosphoric acid	7664-38-2	1.06E-01				
			Glass Fibre	1.069%	Quartz (SiO2)	14808-60-7	1.14E+00		
Yoke	Yoke	11.322%	Iron	7439-89-6	1.18E+01				
			Misc. not to declare	N/A	2.42E-01				
Magnet ring	Magnet	6.645%	Neodymium	7440-00-8	2.13E+00				
			Iron	7439-89-6	4.82E+00				
			Boron	7440-42-8	1.42E-01				
Torque Rotor Hog Ring	Steel	1.134%	Iron	7439-89-6	6.52E-01				
			Carbon	7440-44-0	1.82E-01				
			Chromium	7440-47-3	2.18E-01				
			Manganese	7439-95-5	2.42E-02				
			Nickel	7440-02-0	1.21E-01				
			Phosphorus	7223-14-0	5.45E-04				
			Silicon	7440-21-3	1.21E-02				
			Sulphur	7704-34-9	3.63E-04				
			Misc. not to declare	N/A	2.23E-04				
Position Rotor Hog Ring	Steel	1.200%	Iron	7439-89-6	6.90E-01				
			Carbon	7440-44-0	1.92E-01				
			Chromium	7440-47-3	2.30E-01				
			Manganese	7439-95-5	2.56E-02				
			Nickel	7440-02-0	1.28E-01				
			Phosphorus	7223-14-0	5.76E-04				
			Silicon	7440-21-3	1.28E-02				
			Sulphur	7704-34-9	3.84E-04				
			Misc. not to declare	N/A	2.23E-04				
Lubricant		0.047%	Additives, not to declare	N/A	5.00E-02				
Wire harness	wire	10.700%	Copper	7440-50-8	5.18E+00				
			Tin	7440-34-5	5.25E-01				
			PVC	9002-86-2	5.71E+00				
	Tubing		1.374%	Polyethylene	9002-88-4	1.47E+00			
	Connector		2.606%	Polypropylene	106565-43-9	2.78E+00			
	Terminal pin		2.383%	Copper	7440-40-8	2.31E+00			
Torque PCB assembly	PCB material	0.018%	Glass fiber	65997-17-3	1.20E-02				
			Epoxy resins	24969-06-0	5.18E-03				
			Copper	7440-50-8	6.10E-04				
			Nickel	7440-02-0	1.69E-04				
			Gold	7440-57-5	7.00E-05				
			Misc. no to declare	N/A	9.50E-04				
			Hall sensor		0.167%	Copper	7440-50-8	6.76E-02	
			Phenol, 4,4' bis polymer	26265-08-7	1.10E-01				
			Capacitor		0.037%	Barium Titanate	12047-27-7	3.15E-02	
			Nickel	7440-02-0	7.30E-03				
	Copper	7440-50-8	7.04E-04						
	Tin	7440-31-5	5.40E-04						
	Solder paste		0.081%	Tin	7440-31-5	6.88E-02			
	Silver	7440-22-4	2.84E-03						
	Cooper	7440-50-8	5.16E-04						
	Rosin	65997-05-9	4.73E-03						
	Polyglycol ether	9038-95-3	4.30E-03						
	Further additives, no to declare	N/A	4.82E-03						
Position PCB	PCB material	7.599%	Glass fiber	65997-17-3	5.14E+00				
			Epoxy resin - FRP	24969-06-0	2.20E+00				
			Copper	7440-50-8	2.59E-01				
			Nickel	7440-02-0	7.29E-02				
			Gold	7440-57-5	3.24E-02				
			Misc. no to declare	N/A	4.05E-01				
			Programmable hall sensor		0.167%	Copper	7440-50-8	6.76E-02	
			Phenol, 4,4' bis polymer	26265-08-7	1.10E-01				
			Capacitor		0.037%	Barium Titanate	12047-27-7	3.15E-02	
			Nickel	7440-02-0	7.30E-03				
	Copper	7440-50-8	7.04E-04						
	Tin	7440-31-5	5.40E-04						
	Chip inductor		0.012%	Barium Titanate	12047-27-7	1.05E-02			
	Nickel	7440-02-0	2.44E-03						
	Copper	7440-50-8	2.40E-04						
	Tin	7440-31-5	1.80E-05						
	Resistor chip		0.006%	Alumina	1344-28-1	5.50E-03			
	Tin	7440-31-5	5.00E-04						
	Capacitor ceramic		0.037%	Barium Titanate	12047-27-7	3.15E-02			
	Nickel	7440-02-0	7.30E-03						
	Copper	7440-50-8	7.04E-04						
	Tin	7440-31-5	5.40E-04						
	Microprocessor		0.159%	Copper	7440-50-8	6.46E-02			
Phenol, 4,4' bis polymer	26265-08-7	1.05E-01							
Solder paste		0.081%	Tin	7440-31-5	6.88E-02				
Silver	7440-22-4	2.84E-03							
Cooper	7440-50-8	5.16E-04							
Rosin	65997-05-9	4.73E-03							
Polyglycol ether	9038-95-3	4.30E-03							
Further additives, no to declare	N/A	4.82E-03							
Flex cable	Flex cable	0.577%	Copper	7440-50-8	2.80E-01				
			Tin	7440-31-5	2.83E-02				
			Basic Polymer PVC	N/A	3.08E-01				
Barcode label	Polyester label	0.045%	Polyethylene terechthalate	25038-59-9	4.78E-02				
<b>Total Mass</b>					<b>106.70</b>	<b>grams</b>			