DECLARED MATERIALS LIST		ORIGINATOR:	UK ATC
SPACECRAFT / PROJECT	Herschel	Doc. Number:	SPIRE-ATC-PRJ-710
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SYSTEM / EXPERIMENT	SPIRE	Issue/Rev:	0.2
SUB-SYSTEM:	BSM	Date:	24.Jun.01

BSM Material List ID	Component ID	Name & Type of Product, Form and Condition	Specification	Size Code	Processing Parameters	Outgassing SCC-Res. Data and Refer	OK to bake at 80°C?	Thermal & Vacuum stable?	OK at 4°K?	Manufacturer	Remarks, Approval Reference
1.	Structure, Jiggle frame, Interface shoe, baffle	Aluminium plate, cold rolled. bar	6082	TBD	T6 (TBC)	TBD	Y	Y	Y	TBD	
2.	Baffle	Aluminium Sheet, welded.	6082	TBD	T6 (TBC)	TBD	Y	Y	Y	TBD	
3.	Mirror	Aluminium	6061	TBD	-T651 or T6511	MSFC-HDBK-527F p88 Corrosion rating 'B'.	Y	Y	Y	TBD	Intermediate cycling per ATC Spec xxx to provide stability.
4.	Fasteners	stainless steel,	austenitic	N/A	TBD	TBD	Y	Y	Y	TBD	
5.	Locking inserts	stainless steel,	???	N/A	TBD	TBD	Y	Y	Y	TBD	
6.	Flex pivots	Inconel	718	N/A	TBD	TBD	Y	Y	TBC	TBD	Austenitic stainless an alternative.
7.	Flex pivot sleeves	stainless steel, aluminium or inconel TBD	TBD	TBD	TBD	TBD	Y	Y	Y	TBD	
8.	Sensor targets	Mild steel (Soft iron grade preferred – TBD	BS970 220M07	TBD	TBD	TBD	Y	Y	Y	TBD	Corrosion protection by thin layer of varnish, material ID 19
9.	Sensor mount, motor housing	Glass fibre epoxy	G-10CR Or G10/40 (TBC)	TBD	TBD	TBD	Y	Y	Y	TUFNOL	A cryogenic grade material consisting of 7628 fabric woven with continuous e-glass fiber in an amine-cure [i]

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10.	Potting compound/ Adhesive	Stycast	2850FT	N/A	with Catalyst 11	MAPTIS material 06451	Y	Y	TBC	TBD	Various grades in MAPTIS, MSFC-HDBK. Select correct one
11.	Adhesive, cable run	Eccobond	285	N/A	with catalyst 11	MAPTIS database material 05475	Y	Y	TBC	TBD	ATC practice is to use 286 - needs looking into. NB - LIMITED LIFE MATERIAL – needs procedure.
12.	Motor screening	Mu-metal, sheet 0.125mm thick	TBD	TBD	TBD	MSFC-HDBK-527F p181 (spec AMS 7701) Corrosion rating 'B'	TBC	TBC	TBC	Goodfellow	In MSFC HDBK as 'MAGNET HI-PERM-MUMETAL'.
13.	Harness - wire core	TBD	TBD	N/A	TBD	TBD	Y	Y	Y	TBD	Get space rated cable from RAL
14.	Harness - insulation	TBD	TBD	N/A	TBD	TBD	TBC	TBC	TBC	TBD	Get space rated cable from RAL
15.	Harness P-Clips	Brass	TBD	TBD	TBD	TBD	Y	Y	Y	TBD	
16.	Solder	Solder	TBD	N/A	TBD	TBD	Y	Y	Y	TBD	Space rated soldering certificate required
17.	Motor Core	NiFe Soft magnentics Laminated sheets	ULTRA PERM 250	TBD	TBD	TBD	Y (PACS)	Y (PACS)	Y (PACS)	TBD	
18.	Motor Winding	Aluminium, high purity	5N	TBD	TBD	TBD	Y (PACS)	Y (PACS)	Y (PACS)	California Fine Wires	

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19.	Motor insulation	Varnish?	TBD	N/A	TBD	TBD	Y (PACS)	Y (PACS)	Y (PACS)	TBD	
20.	Motor winding frames	Vespel	SP-1	TBD	TBD	TBD	Y	Y	Y	DuPont	
21.	Motor Permananet Magnet	NdFeB Permanent magnets	VACODYM 344	TBD	TBD	TBD	TBD	TBD	TBD	TBD	
22.	Finish	QMW Black	Mk2	N/A	TBD	TBD	TBD	TBD	TBD	TBD	or Nextel, or equivalent
23.	Unfinished aluminium parts - TBD	Finish - anodize	TBD	N/A	TBD	TBD	TBD	TBD	TBD	TBD	TBC if required
24.	Thermal end stops	Copper (TBD)	TBD	TBD	TBD	TBD	Y	Y	Y	TBD	
25.	Surface plating	Copper flashing, Nickel Plate (TBD), Gold plate	TBD	N/A	TBD	TBD	Y	Y	Y	TBD	

[i] Ref: "handbook of cryogenic engineering", J.G.Weisend. P101