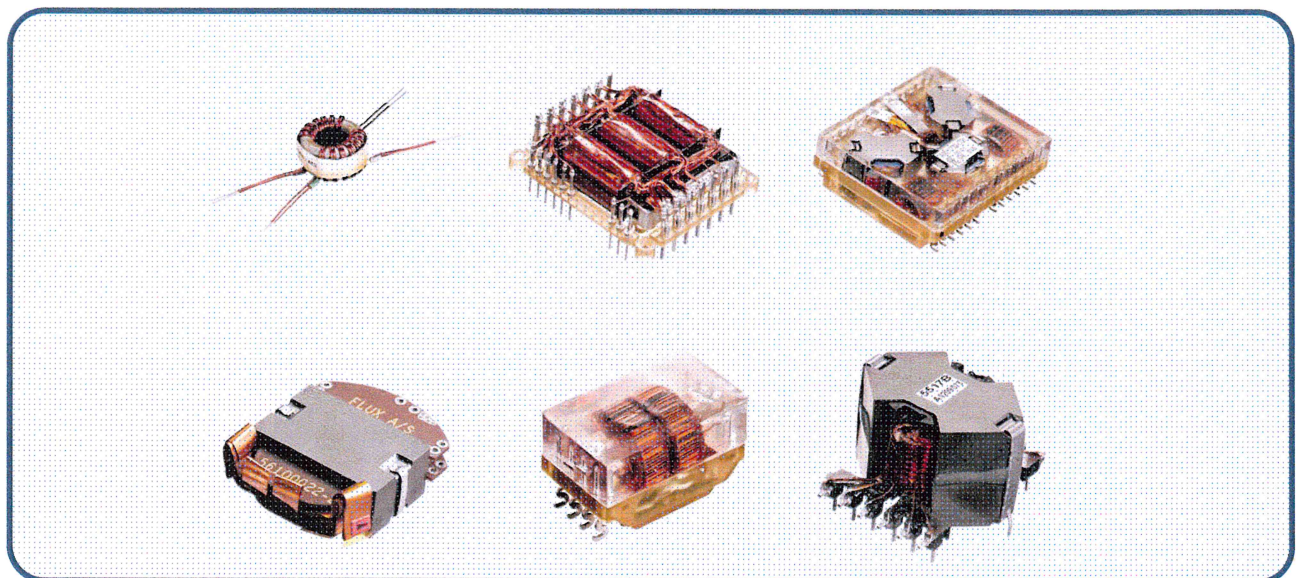


# Declared Materials List: Magnetic Components for Space Applications

**Document:** 08690027  
**Date:** 31<sup>th</sup> March 2026

**Issue:** 21  
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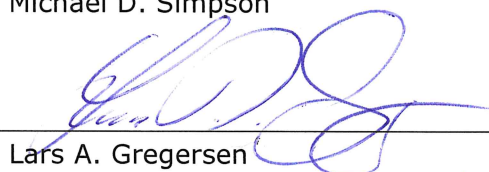


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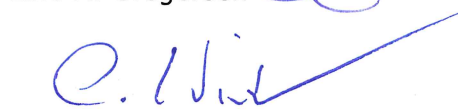
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## DOCUMENT CHANGE LOG

Change No.	Date	Initiator	Pages Affected	Short Description of Change
Issue 13	25-05-12	-	-	The document has been reformatted and rewritten. For details of earlier versions please refer to issue 12
Issue 14	25-01-15	MS	-	Section 2.1 renaming of Applicable to Reference documents Section 2.2 Removal of Reference Documents and addition of Generic Documents Section 5. Addition of new validation references. Section 5 - New Materials Added: Section 6.2 new preferred parts added.
Issue 15	03-03-16	MS	-	Addition of section 4.5 19.004 Correction of name
Issue 16	30-11-16	MS	-	Section 2.1 – change from applicable to reference documents. Section 5. Addition of new qualification references and materials
Issue 17	25-05-21	MS	-	Section 5. Addition of new qualification references and materials
Issue 18	22-08-22	MS	-	Section 5. Addition of new qualification references and materials
Issue 19	26-06-23	MS	-	Section 2.1 Additional document added Section 4. Additional notes added Section 5. Addition of new qualification references and materials
Issue 20	24-08-24	MS	-	Section 5. Addition of new qualification references and materials Section 6.2 Deletion of Stycast & Catalyst 11 from PPL
Issue 21	31-03-26	MS	-	Section 5. Addition of new qualification references and materials

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## 1. INTRODUCTION

### 1.1 Scope

This document lists materials used by Flux A/S for the manufacture of magnetic components for space applications.

The qualification and use of these materials on space applications originate with Alcatel Space Denmark and have been used in excess of 100 space programs over a 25 year period.

In order to be incorporated within DMLs for higher level assemblies, this DML has been prepared in line with the requirements of ECSS-Q-ST-70C<sup>(RD5)</sup>.

## 2. APPLICABLE DOCUMENTS

Unless stated otherwise, all documents will be used at their latest revision.

### 2.1 Reference Documents

Ref.	Document	Title
RD1	MIL-PRF-27F	General Specification for Transformers and Inductors
RD2	MIL-STD-202	Test Method Standards – Electronic and Electrical Component Parts
RD3	MIL-STD-981C	Design, Manufacturing and Quality Standards for Custom Electromagnetic Devices for Space Applications
RD4	ECSS-Q-ST-60	Electrical Electronic and Electromechanical (EEE) Components
RD5	ECSS-Q-ST-70	Materials, mechanical parts and processes
RD6	ECSS-Q-ST-70-08	Manual soldering of high-reliability electrical connections
RD7	ECSS-Q-ST-70-71	Guidelines for space material selection
RD8	ECSS-P-001B	Terms and Definitions
RD9	ECSS-Q-ST-70-61 <sup>(1)</sup>	High reliability assembly for surface mount and through hole connections

Note1: Replaces RD6 in due course.

### 2.2 Generic Documents

Ref.	Document	Title
GD1	FT08690019	Process Identification Document
GD2	FT08690020	Generic Specification
GD3	FT08690028	Declared Processes List

### 3. DEFINITIONS AND ABBREVIATIONS

#### 3.1 Definitions

For the purpose of this document, the terms and definitions given in ECSS-P-001B<sup>(RD8)</sup> apply.

#### 3.2 Abbreviations

Abbreviation	Meaning
AKA	Alcatel Kirk Aerospace document number
ASD	Alcatel Space Denmark document number
CORR	Corrosion
CVCM	Collected Volatile Condensable Mass (See VCM)
DML	Declared Materials List
DPL	Declared Processes List
FLAM	Flammability
FT	Flux A/S document number
N/A	Not Applicable
OFFG	Offgassing
OUTG	Outgassing
PS	Procurement Specification number
RFA	Request for approval
RML	Recovered Mass Loss
SCC	Stress Corrosion Cracking
TBA	To Be Advised
TBD	To Be Defined
TML	Total Mass Loss
VCM	Volatile Condensable Mass

## 4. MATERIALS

For further assistance and clarification refer to Annex B of ECSS-Q-ST-70C<sup>(RD5)</sup>.

### 4.1 Groups for Materials List

Group	Description
01	Aluminium and aluminium alloys
02	Copper and copper alloys
03	Nickel and nickel alloys
04	Titanium and titanium alloys
05	Steels
06	Stainless steels
07	Filler metals: welding, brazing soldering
08	Miscellaneous metallic materials
09	Optical materials
10 <sup>(1)</sup>	Adhesives, coatings, varnishes
11	Adhesive tapes
12	Paints and inks
13	Lubricants
14 <sup>(1)</sup>	Potting compounds, sealants, foams
15	Reinforced plastics (including PCBs)
16 <sup>(1)</sup>	Rubbers and elastomers
17	Thermoplastics (e.g. non-adhesive tapes and foils [MLI])
18	Thermoset plastics (including PCBs)
19	Material aspects of wires and cables
20	Miscellaneous non-metallic materials
21	Other

**Note1:** There are areas of overlap between sections 10, section 14 and section 16. A number of materials by used in all three applications

### 4.2 DML Contents

Column No	Purpose
1	Item number (applicable to equipment manufacturer level only)
2	Commercial identification or standardized designation
3	Chemical nature and product type
4	Procurement information
5	Processing parameters
6	Use and location
7 <sup>(1)</sup>	Environmental code
8	Size code
9.1	Validation references
9.2	Justification references
9.3 <sup>(1)</sup>	Prime approval
10 <sup>(1)</sup>	Customer approval status code and comments

**Note1:** This information is not available to Flux A/S and are for use in the next level integration.

### 4.3 Environmental Codes

This information is not available to Flux A/S. Should a project specific DML be required, this information is To Be Advised (TBA) by the customer.

Radiation/UV/ATOX (R) <sup>a</sup>		Ambience (A)	Temperature (T) <sup>b,c</sup>
G: Geostationary	S: Outside shadow	V: Vacuum	1: 0 K to 100 K
L: Low orbit	L: Outside light	H: Hermetic	2: 101 K to 200 K
B: Radiation belt		M: Manned	3: 201 K to 300 K
I: Interplanetary		E: Elevated pressure	
P: Planetary			
<sup>a</sup> For all materials, a letter is selected from the left-hand column. For materials on the surface of the spacecraft, the letter "L" or "S" is added.			
<sup>b</sup> Thermal cycling to be indicated by two values, e.g. 3/5.			
<sup>c</sup> "RT" (room temperature) can be accepted as a code between 283 K (10 °C) and 313 K (40 °C).			
NOTE: The materials that are at a boundary between environments are described by two sets of codes.			

### 4.4 Size codes

Size Code	Value
0	$0 < A \text{ or } V \text{ or } M \leq 1$
1	$1 < A \text{ or } V \text{ or } M \leq 10$
2	$10 < A \text{ or } V \text{ or } M \leq 100$
3	$100 < A \text{ or } V \text{ or } M \leq 1\,000$
4	...
where	A is the area, in cm <sup>2</sup> V is the volume, in cm <sup>3</sup> M is the mass, in g

### 4.5 Outgassing

On composite materials the exact outgassing figures may vary slightly as the ratio of material change with size.

## 5. DECLARED MATERIALS LIST

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
01.001 Aluminium Block Fixture	None	AA6082-T6/T651	1) Christian Olrik 2) FT04152008	Machined Item	1) TBA 2) TBA 3) Heatsinking and Clamping of ferrite core	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690257 FT08690244 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.11% RML: 0.04% VCM: 0.00% INTA: FC9819	Used in Flux qualification		
01.002 Alodine - Aluminium Alloy	None	Al97% Mg3% AA5754	1) Henkel 2) FT04152009	Machined Item	1) TBA 2) TBA 3) Heatsinking and Clamping of ferrite core	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2			Heritage - used on previous applications		
01.003 Aluminium Block Fixture	None	Aw6082-T6/T651	1) Christian Olrik	Machined Item	1) TBA 2) TBA 3) Heatsinking and Clamping of ferrite core	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690416 FT08699053		Heritage - used on previous applications		
01.004 Hard Anodized Aluminum		Hard Anodized Aluminum Mil-A-8625 Type III class 1								Heritage - used on previous applications		
01.005 Aluminium Block Fixture Surtec 650	None	AA6082-T6/T651	1) Christian Olrik 2) FT04152021	Machined Item	1) TBA 2) TBA 3) Heatsinking and Clamping of ferrite core	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690416 FT08699053		Used in Flux qualification		
01.006 Aluminium Fixtures	None	AA6082-T6/T651	1) Various	Machined Item	1) TBA 2) TBA 3) Fixtures	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2					
01.007 Aluminium Alloy Fixtures Surtec 650	None	DIN 1712/WNr 31655	1) Christian Olrik 2) FT04152021	Machined Item	1) TBA 2) TBA 3) Fixtures	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2					
02.001 Copper Foil Electrolytical	None	99,9 % Cu - 0,05% O; Chemical etching	1) Misc Suppliers 2) According to drawing & FT04131003 or FT04164001	Electrolytical pretinning acc. to ASD/PROC/9407 2	1) TBA 2) TBA 3) Shield in transformer, heat sink.	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99 011		Heritage - used on previous applications		



1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
02.002 Copper Foil Electrolytical	None	99,9 % Cu – 0,05% O; Chemical etching or laser cut	1) Misc Suppliers 2) According to drawing & FT04131003	-	1) TBA 2) TBA 3) Shield in transformer, heat sink.	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690140 FT08690184 FT08690257 FT08690380		ECSS-Q-70-71 C.2.1 Used in Flux qualification		
02.003 Beryllium Copper	None	C17200 Electrodeposit with 3µm Sn60Pb40 by manufacturer on 2µm Ni barrier	1) Mekoprint 2) FT04152026	Etching, bending and tinning by manufacturer Pretinning acc. to ASD/PROC/94072	1) TBA 2) TBA 3) Clamps for transformers.	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/99011 + ASD/REPO/03012		ECSS-Q-70-71 C.2.2		
02.004 Beryllium Copper	None	C17200 Electrodeposit with 5µm Sn60Pb40 by manufacturer on 2µm Ni barrier	1) Mekoprint 2) FT04152026	Etching, bending and tinning by manufacturer Pretinning acc. to ASD/PROC/94072	1) TBA 2) TBA 3) Clamps for transformers.	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/99011 + ASD/REPO/03012		ECSS-Q-70-71 C.2.2		
02.005 BRASS MS58	None	BRASS MS58. Plated with 2,5 mm Ni and 5 mm Sn90Pb10 by manufacturer	1) PreciDip (CH) FR-TECH (DK) 2) PS101-04	Purchased mechanical items	1) TBA 2) TBA 3) Pins for integrated magnetics, UU Core Magnetics and AKA-RM coilformers	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99011 + ASD/REPO/03012 FT08690074 FT08690184 FT08690244 FT08690380 FT08690416 FT08699053		Used in Flux qualification		
02.006 Cu C12200 (UNS)	None	C12200 Copper Electrodeposit with 8µm Sn60Pb40 by manufacturer on 2µm Ni barrier	1) Mekoprint 2)	Etching and tinning by manufacturer	1) TBA 2) TBA 3) Pins for SMD carriers	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99011 ASD/REPO/03012 FT08690074 FT08690184 FT08690257 FT08690380		Used in Flux qualification		
02.007 TIN BRONZE	None	CuSn6 CuSn3 C5191  May include additional surface treatment	1) Various 2) Various	Additional surface treatment with Ni (typically 3-6µm) and Sn60Pb40 (typically 5-10µm)	1) TBA 2) TBA 3) Pins for carriers	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/99011 FT08690184 FT08690257 FT08690380 FT08690416 FT08699053		Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
02.008 TIN BRONZE	None	CuSn6/CuSn3 Tin plated	1) Epcos/TDK 2) PS202-07		1) TBA 2) TBA 3) Pins and accessories for coilformers Accessories can come in mixed sets with stainless steel items	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	Heritage - used on previous applications	Accessories can come in mixed sets with stainless steel items	Heritage - used on previous applications		
02.009 Copper Foil	None		1) Misc Suppliers 2) According to drawing & FT04131003		1) TBA 2) TBA 3) Winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690184 FT08690380 FT08690416 FT08699053		Used in Flux qualification		
02.010 Cu_ETP	CU_ETP		1) Various 2) FT04164001-1	Sn60Pb40: 5-10□m	1) TBA 2) TBA 3) Pins	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690244 FT08690380 FT08690269		Used in Flux qualification		
02.011 Brass	German Silver/Nickel Silver	CuNi18Zn20	1) Various 2) FT04154002-1	Sn60Pb40: 5-10□m	1) TBA 2) TBA 3) Pins	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690184		Used in Flux qualification		
02.012 Copper Foil	E-Cu58/Cu57 (F20-Soft) ETP	E-Cu58/Cu57 (F20-Soft)	1) COVI & Misc Suppliers 2) According to drawing & FT04131002		1) TBA 2) TBA 3) Winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690416 FT08699053		ECSS-Q-70-71 C.2.1 Used in Flux qualification		
02.013 Brass	CuZn4Pb3	CuZn4Pb3	1) CRISA 2) Various		1) TBA 2) TBA 3) Pins	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690184		Used in Flux qualification		
02.014 Brass	C38500 CW614N C3603 C3604	CuZn39Pb3	1) Various 2) Various	With or without surface treatment	1) TBA 2) TBA 3) Pin	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1			pending flux qualification		
05.007 Chromium Nickel Steel	None	Chromium Nickel Steel C<1%, Si>1%, Mn>2%	1) Arvid Nilsson A/S2) FT041520012	None	1) TBA2) TBA3) Screws and Washers	1) TBA2) TBA3) TBA	1) =>A12) =>V13) M1	FT08690257F T08690380		Used in Flux qualification		
06.002 Clamps for RM low profile cores without ground terminal	None	STAINLESS SPRING STEEL	1) EPCOS 2) PS301-09	None	1) TBA 2) TBA 3) Clamps for RM ferrite cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/99011 FT08690074 FT08690184 FT08690380 SCC Code A		Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
06.003 Clamps for EFD Cores	None	STAINLESS SPRING STEEL	1) FERROXCUBE 2) FT04152001	As Required	1) TBA 2) TBA 3) Clamps for EFD ferrite cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690074 FT08690416 FT08699053 SCC Code A		Heritage - used on previous applications		
06.004 Clamps with Ground Clamps for RM Ferrite Cores	None	STAINLESS SPRING STEEL, AISI 301	1) EPCOS + Surtech 2) PS301-09 + FT04152002	Removal of pure tin, Electrodeposit of 5 µ Sn60Pb40 on Ni barrier according to 04152002	1) TBA 2) TBA 3) Clamps for RM ferrite cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690064, FT08690074 FT08690123 FT08690140 FT08690380 FT08690416 FT08699053 SCC Code A		Heritage - used on previous applications		
06.005 Clamps for Planar ferrite cores	None	STAINLESS SPRING STEEL, AISI 301	1) EPCOS 2) FT04152010	None	1) TBA 2) TBA 3) Clamps for Planar ferrite cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690257 FT08690380		Used in Flux qualification		
06.006 Clamps for Planar ferrite cores	None	STAINLESS SPRING STEEL, AISI 301	1) Ferroxcube 2) FT04152011	None	1) TBA 2) TBA 3) Clamps for RM ferrite cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690257 FT08690380		Used in Flux qualification		
06.008 Clamps for EFD cores	None	STAINLESS SPRING STEEL	1) EPCOS 2) PS301-10	None	1) TBA 2) TBA 3) Clamps for EFD ferrite cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99011 FT08690184 FT08690244 FT08690380 FT08690416 FT08699053 SCC Code A		Used in Flux qualification		
06.009 Clamps with ground terminals for RM cores	None	STAINLESS SPRING STEEL, AISI 301	1) EPCOS 2) PS301-09	Plated with 3 mm Ni and 5 mm Ni by manufacturer. Pretinned 9 mm Sn60Pb40 by manufacturer DIN:X12 Cr Ni 17 7, Wk. 1.4310 (C<.15%, Si<1.0%, Mn<2.0%, P<.045%, S<.03% Cr16.0-18.0%, Ni6.0-8.0%)	1) TBA 2) TBA 3) Clamps for RM ferrite cores	1) =>A1 2) =>V1 3) W0	1) =>A1 2) =>V1 3) M0	ASD/REPO/99011 FT08690074 SCC Code A		Heritage - used on previous applications		
06.010 Stainless Steel Fixing items	None	STAINLESS SPRING STEEL, AISI 301	1) Various 2) Various	As Required	1) TBA 2) TBA 3) Fixation	1) =>A1 2) =>V1 3) W0	1) =>A1 2) =>V1 3) M0	FT08690257 FT08690269 FT08690380 FT08690416 FT08699053		Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
06.011 Stainless Steel Fixing items	None	STAINLESS SPRING STEEL, A286	1) Various 2) Various	As Required		1) =>A1 2) =>V1 3) W0	1) =>A1 2) =>V1 3) M0	FT 08699051		Used in ESA qualification ESCC-Q-70-71 (A6)		
06.012 Stainless Steel Fixing items	None	STAINLESS SPRING STEEL, A316 (A4)	1) Various 2) Various	As Required	1) TBA 2) TBA 3) Fixation	1) =>A1 2) =>V1 3) W0	1) =>A1 2) =>V1 3) M0	FT 08699051 FT08690416 FT08699053		ESA DML Database		
06.013 Stainless Steel Fixing items	None	STAINLESS SPRING STEEL, A304 (A2)	1) Various 2) Various	As Required	1) TBA 2) TBA 3) Fixation	1) =>A1 2) =>V1 3) W0	1) =>A1 2) =>V1 3) M0	FT 08699051 FT08690416 FT08699053		ESA DML Database		
07.001 Solder Wire	Tin Solder: Sn63 Pb37	Sn63Pb37	1) Bleiwiek Goslar 2) FT04131001-*	AKA/PROC/9407 2 and PSS-017-080	1) TBA 2) TBA 3) Soldering and pretinning of components and wires	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690074, FT08690088, FT08690123, FT08690141 FT08690184 FT08690244 FT08690257 FT08690269 FT08690380 FT08690416 FT08699053		ECSS-Q-70-71 C.7.2 Used in Flux qualification		
07.002 Solder Bar	Tin Solder: Sn60 Pb40	Sn60Pb40	1) Bleiwiek Goslar 2) FT04131001-*	None	1) TBA 2) TBA 3) Pretinning	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99 011, ASD/REPO/03 012, FT08690074, FT08690088, FT08690123, FT08690141 FT08690184 FT08690244 FT08690257 FT08690269 FT08690380 FT08690416 FT08699053		ECSS-Q-70-71 C.7.1 Used in Flux qualification		
07.003 High Temperature Solder	Tin Solder: Sn96 Ag4	Sn96Ag4	1) Bleiwiek Goslar 2) FT04131001-*	Thermal Transfer	1) TBA 2) TBA 3) Soldering / pretinning of pins and wires	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690184 FT08690257 FT08690380 FT08690416 FT08699053		ECSS-Q-70-71 Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1	9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation	Justification	Prime Approval	Customer Approval
08.001 RM CORE	None	Ferro Magnetic Oxide	1) EPCOS 2) PS203-01	None	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	ASD/REPO/99 011 FT08690074 FT08690123 FT08690184 FT08690416 FT08699053	Used in Flux qualification		
08.002 Toriod Core, MPP	MPP Core	Ni • Fe • Mo	1) Magnetics 2) FT04174001	Cleaned with IPA	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ESE-RPT- 4316-043- INTA-11 FT08690184 FT08690244 FT08690380 FT08690416 FT08699053	Used in Flux qualification  HiFlux moved to 08.048		
08.003 Toriod Core	None	Ferro Magnetic Oxide	1) EPCOS 2) PS203-10	Impregnated by supplier	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99 011 FT08690074 FT08690140 FT08690184	Used in Flux qualification		
08.004 Pot Core	None	Ferro Magnetic Oxide	1) EPCOS 2) PS203-08	None	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	ASD/REPO/99 011	Heritage - used on previous applications		
08.005 Amobead	None	Amorphous Magn Core	1) Toshiba metal Devision 2) FT 04173032	Bonded to PCB with scotch-weld 2216	1) TBA 2) TBA 3) Ferrite for switching noise supression	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99 011, FT08690416 FT08699053	Heritage - used on previous applications  TML: 0.02% RML: 0.01% VCM: 0.00% INTA FC-0228		
08.006 Arnold Toriod Core	None	Molypermalloy Powder	1) Arnold 2) PS203-07	Impregnated by supplier	1) TBA 2) TBA 3) Cores for transformers and inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Customer Spec	Heritage - used on previous applications		
08.007 Arnold Toriod Core	None	Tape Wound Core	1) Arnold 2) PS203-16	Impregnated by supplier	1) TBA 2) TBA 3) Cores for transformers and inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Customer Spec	Heritage - used on previous applications		
08.008 Toriod Core	None	Ferro Magnetic Oxide	1) FERROXCUBE 2) FT04173003	Impregnated by supplier	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99 011 FT08690184 FT08690380	Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1	9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation	Justification	Prime Approval	Customer Approval
08.009 Double Aperture Core	None	Ferro Magnetic Oxide	1) EPCOS 2) PS203-14	None	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690184 FT08690380	Used in Flux qualification		
08.010 RM Core with Nylon bushing	None	Ferro Magnetic Oxide	1) EPCOS 2) PS203-15	None	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	Customer Spec  OUTG: TML: 0.00% RML: - VCM: 0.00% INTA FC-9511	Heritage - used on previous applications		
08.011 Toroid Core	None	Iron Powder	1) FERROXCUBE 2) PS203-12	Impregnated by supplier	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/9 9011	Heritage - used on previous applications		
08.012 Toroid Core Grey Painted	None	Ferrite Core Epoxy, Polyester or Nylon Coated	1) Magnetics 2) PS203-18	Cleaned with IPA	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ESE-RPT-4316-043-INTA-11 FT08690244	OUTG: TML: 0.016% RML: 0.014% VCM: 0.003%	Used in Flux qualification	
08.013 Toroid Core Parylene Coated	None	Ferrite Core Parylene Coated	1) Magnetics 2) 04173004-1	Cleaned with IPA	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ESE-RPT-4316-043-INTA-11 FT086902184 FT08690380	OUTG: TML: 0.011% RML: 0.010% VCM: 0.005%	Used in Flux qualification	
08.014 Toriod Core	None	Amorphous Magnetic Material	1) Toshiba(US), BFI Ibexsa(DK) 2) PS203-21	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Customer Spec	Heritage - used on previous applications		
08.015 Core	3F3	MnO (25%), ZnO(5%), Fe <sub>2</sub> O <sub>3</sub> (70%)	1) FERROXCUBE 2) FT04152002 FT04173001	None	1) TBA 2) TBA 3) Transformers and Coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690074 FT08690140 FT08690184 FT08690257 FT08690380 FT08690416 FT08699053	Used in Flux qualification		
08.016 Nanocrystalline	None	Nanocrystalline Vitroperm 500F	1) VACUUMSCHMELTZ E 2) FT04172001	Impregnated by supplier	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690184	Used in Flux qualification		
08.017 Toriod Core	None	Toriod Core Strip Wound	1) Magnetics 2) FT04173006	Impregnated by supplier	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690184	Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
08.018 Ferrite Core	PC90 & PC95	Ferro Magnetic Oxide	1) Ferroxcube 2) FT04173008 FT04173009	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690184 FT08690380 FT08690416 FT08699053		Used in Flux qualification		
08.019 Ferrite Planar Core	Trademarks: N97, N95, N51 & PC200	Manganese Zinc Ferrite MnO (25%), ZnO(5%), Fe <sub>2</sub> O <sub>3</sub> (70%)	1) EPCOS 2) FT04173014 FT04173024	None	1) TBA 2) TBA 3) Planar transformer and inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1-M3	FT08690416 FT08699053		Heritage - used on previous applications		
08.020 Ferrite Planar Core	Trademarks: 3F3	MnO (25%), ZnO(5%), Fe <sub>2</sub> O <sub>3</sub> (70%)	1) Ferroxcube 2) FT04173015	None	1) TBA 2) TBA 3) Planar transformer and inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1-M3	Pending		Heritage - used on previous applications		
08.021 Ferrite Core Ferroxcube 3C96	Ferroxcube 3C96	MnO (23%), ZnO(5%), Fe <sub>2</sub> O <sub>3</sub> (71%)	1) Ferroxcube 2) FT04173012	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690184 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.005% RML: 0.003% VCM: 0.000%	Used in Flux qualification		
08.022 EFD Core	None	Ferro Magnetic Oxide	1) EPCOS 2) PS203-13	None	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	ASD/REPO/99011 FT08690074 FT08690184 FT08690380		Used in Flux qualification		
08.023 Toriod Core HIFLUX	None	Molypermalloy Powder, Hiflux NiFe Powder Graded into 2% bands	1) Magnetics 2) FT04174001	Cleaned with IPA	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	ESE-RPT-4316-043-INTA-11 FT08690244 FT08690380	OUTG: TML: 0.083% RML: 0.033% VCM: 0.001%	Used in Flux qualification		
08.024 RM and Integrated Magnetics Core	None	Ferro Magnetic Oxide	1) TDK 2) FT04173030	None	1) TBA 2) TBA 3) IM, UUCM, RM and PQ cores transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	ASD/REPO/99011, ASD/REPO/03012 FT08690244 FT08690380		Used in Flux qualification		
08.025 Ferrite Core Ferroxcube 3C92	Ferroxcube 3C92	MnO (20%), ZnO(9%), Fe <sub>2</sub> O <sub>3</sub> (71%)	1) Ferroxcube 2) PS 04173021	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690184 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.005% RML: 0.003% VCM: 0.000%	Used in Flux qualification		
08.026 Ferrite Core Ferroxcube 3C95	Ferroxcube 3C95	MnO (19%), ZnO(10%), Fe <sub>2</sub> O <sub>3</sub> (71%)	1) Ferroxcube 2) FT04173015 FT04173016 FT04173019 FT04173027	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690257 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.005% RML: 0.003% VCM: 0.000%	Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
08.027 Ferrite Bead Ferroxcube 4A15	Ferroxcube 4A15	Ni <sub>2</sub> O (12%), ZnO(22%), Fe <sub>2</sub> O <sub>3</sub> (66%)		None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690184	OUTG: TML: 0.15% RML: 0.15% VCM: 0.00% DMAV: 12047	Used in Flux qualification		
08.028 EFD Core 3F3	Ferroxcube 3F3	Ferroxcube 3F3	1) Ferroxcube 2) FT04173031	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690416 FT08699053		Heritage - used on previous applications		
08.029 Ferrite Core	Trademarks: N87	Manganese Zinc Ferrite MnO (25%), ZnO(5%), Fe <sub>2</sub> O <sub>3</sub> (70%)	1) EPCOS 2) FT04173014 FT04173020	None	1) TBA 2) TBA 3) Transformer and inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1-M3	FT08690184 FT08690257 FT08690380 FT08690416 FT08699053		Used in Flux qualification		
08.030 Ferrite Core Ferroxcube 3C90	Ferroxcube 3C90	MnO (20%), ZnO(9%), Fe <sub>2</sub> O <sub>3</sub> (71%)	1) Ferroxcube 2) FT04173010	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690184	OUTG: TML: 0.005% RML: 0.003% VCM: 0.000%	Used in Flux qualification		
08.031 Power Ferrite MN92	MN92	MnZn	1) EPCOS / Magnetics 2)	Machined Item	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT0869257 FT08690380	-	Used in Flux qualification		
08.032 Ferrite Core Ferroxcube 3F35	3F35	MnO ZnO Fe <sub>2</sub> O <sub>3</sub>	1) Ferroxcube 2) PS 203-22	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2		-	Used in Flux qualification		
08.033 Ferrite Core Ferroxcube 3C94	3C94	MnO ZnO Fe <sub>2</sub> O <sub>3</sub>	1) Ferroxcube 2) FT04173007 FT04173018	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT 08690279	-	Used in Flux qualification		
08.034 Ferrite Core Ferroxcube 3C36	3C36		1) Ferroxcube 2) FT04173012	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT 08690279	-	Used in Flux qualification		
08.035 Ferrite Core P46	P46			None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Pending	-	Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
08.036 Ferrite Core DM Type 11 Parylene	Dexter Magnetics Type 11		1) Dexter Magnetics 2)	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product	-	Flux verification testing		
08.037 Ferrite Core Ferroxcube 3D3	3D3	MnO ZnO Fe <sub>2</sub> O <sub>3</sub>	1) Ferroxcube 2) FT04173028	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product	-	Flux verification testing		
08.038 Ferrite Core Ferroxcube N49	N49	MnO ZnO Fe <sub>2</sub> O <sub>3</sub>	1) Ferroxcube 2)	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product	-	Flux verification testing		
08.039 Ferrite Core Hitachi Metals	Metglas Alloy	Metglas Alloy	1) Hitachi Metals 2) FT04172002 FT04172003	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690380	-	Flux Qualification		
08.040 Ferrite Alloy Core Micro Metals	Micro Metals	Alloys MS, SH MP, Hi-Flux & FS Epoxy	1) Micro Metals 2)	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product (08.039)	-	Flux verification testing		
08.041 Iron Powder Core Micro Metals	Micro Metals	Iron powder	1) Micro Metals 2)	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Formally known as Arnold Cores FT08690416 FT08699053	-	Heritage - used on previous applications		
08.043 Ferrite Core Ferroxcube 3E6	3E6	MnO ZnO Fe <sub>2</sub> O <sub>3</sub>	1) Ferroxcube 2) FT04173028	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product	-	Flux verification testing		
08.044 Ferrite Core Ferroxcube 3F36	3F36	MnO ZnO Fe <sub>2</sub> O <sub>3</sub>	1) Ferroxcube 2) FT04173028	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product FT08690416 FT08699053	-	Used in Flux qualification		
08.045 Ferrite Core 3F46	3F46	MnO ZnO Fe <sub>2</sub> O <sub>3</sub>	1) Ferroxcube 2) FT04173028	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product	-	Flux verification testing		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
08.046 Ferrite Core Aperam N443	N443	Nanocrystalline Ribbon core	1) Aperam 2)	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	TBA	-	Flux verification testing		
08.047 Ferrite Alloy Core Micro Metals	Micro Metals	Alloys MS, SH MP, Hi-Flux & FS Paralyne Coat*  *Temperature rating may vary by type	1) Micro Metals 2)	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product (08.039)	-	Flux verification testing		
08.048 Edge Core & HLI Flux	EDGE Hi Flux	Ni • Fe	1) Magnetics 2) FT04174001	Cleaned with IPA	1) TBA 2) TBA 3) Transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	Based on similar product (08.002) FT08690416 FT08699053	-	Hi Flux moved from FT 08.002		
08.049 Ferrite Core CMD5005 Parylene	CMD5005		1) National Magnetic 2)	None	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product Replacement for 08.036 FT08690416 FT08699053	-	Flux verification testing		
08.050 KoolMμ series	KoolMμ, KoolMμ Ultra, KoolMμ MAX, KoolMμ Hf	Al • Si • Fe	1) Magnetics 2) FT04174001	Cleaned with IPA	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product FT08690416 FT08699053	-	Flux verification testing		
08.051 Xflux, Xflux Ultra	Xflux, Xflux Ultra	Fe • Si	1) Magnetics 2) FT04174001	Cleaned with IPA	1) TBA 2) TBA 3) Transformers and Inductors	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Based on similar product	-	Flux verification testing		
10.001 Scotchweld EC2216	Scotchweld EC2216	2- part epoxy adhesive	1) 3M 2) FT04147008	AKS/PROC/92055 cure 2:30h at 65°C or 24h at RT	1) TBA 2) TBA 3) bonding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/9 9011 FT08690074 FT08690088 FT08690184 FT08690244 FT08690257 FT08690269 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.46% RML: - VCM: 0.08% INTA: FC9517	Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
10.002 Solithane C113/300	Solithane C113/300	Polyurethane	1) Thiokol, Uniroyal 2) FT04147019 FT04147020	AKA/PROC/90027, cure : 5h at 65°C	1) TBA 2) TBA 3) Impregnation of low voltage transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99011 FT08690074 FT08690140 FT08690184 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.40% RML: 0.19% VCM: 0.04% INTA: HIP DML	Used in Flux qualification		
10.003 Eccobond 55/9	Eccobond 55/9	2 Comp EpoXy Adhesive	1) Grace N.V 2) PS 502-04	ADS/PROC/95027, cure: 24H at RT	1) TBA 2) TBA 3) Coating of marking and labelling	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/99011	OUTG: TML: 0.47% RML: VCM: 0.01% ESTEC	ESTEC		
10.004 Eccobond 285	Eccobond 285	2 Comp EpoXy Adhesive	1)Loctite 2) FT04147016	CRA/ASD/PROC/8027, cure 3h at 60°C	1) TBA 2) TBA 3) Bonding of cores and bonding of components to PCB	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690074	OUTG: TML: 0.33% RML: 0.21% VCM: 0.00% FC0501	Heritage - used on previous applications		
10.005 Silicone 2 part	Nusil CV1-144-0	Silicone	1) Nusil 2) PS504-01	None	1) TBA 2) TBA 3) Coating of PCB and components	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99011 ASD/REPO/03012	OUTG: TML: 0.26% RML: 0.24% VCM: 0.00% INTA: FC8907	Approved for Space use		
10.006 Loctite 648	Loctite 648	Urethane methacrylate	1) Loctite 2) FT04141003	None	1) TBA 2) TBA 3) bonding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ATV ASTM FT08690380 FT08690416 FT08699053		Heritage - used on previous applications		
10.007 IQ-Bond 5600	IQ-Bond 5600	Silver, thyxotropic Paste	1) EPO-TEK 2)	None	1) TBA 2) TBA 3) Electrically conductive adhesive	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ATV ASTM	OUTG: TML: 0.24% VCM: 0.01%	Used in ESA qualification		
10.008 EPO-TEK 353	IQ-Bond 5600	EPO-TEK 353	1) Roartis 2) FT04147015	None	1) TBA 2) TBA 3) Adhesive	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1		OUTG: See product datasheet	Approved for Space use		
10.009 Arathane 5750 A/B	Arathane 5750 A/B	Urethane Conformal Coating	1) Huntsman 2) FT04147002	None	1) TBA 2) TBA 3) Coating	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690416 FT08699053	OUTG: TML: 0.41% VCM: 0.03%	Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
11.001 Polyester Label / Acrylic Adhesive	CIL-8100 M CIL-8100 ET	Polyester Label / Acrylic Adhesive	1) CILS Ltd 2) FT04142001 FT04152014	Thermal Transfer	1) TBA 2) TBA 3) Self-adhesive tape for marking of components	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690074 FT08690088 FT08690184 FT08690244 FT08690257 FT08690269 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.60% RML: 0.32% VCM: 0.03%	Used in Flux qualification		
11.002 Brady Label	Brady Label B426	Polymide / Acrylic adhesive	1) Brady 2) FT04141005	Thermal Transfer	1) TBA 2) TBA 3) Marking of components and PCBs	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690184	OUTG: TML: 1.15% RML: 0.05% VCM: 0.00%	Used in Flux qualification		
11.003 3M Tape 1205	3M Tape 1205	Polymide /Acrylic Adhesive	1) 3M 2) PS FT04141008-*	73µm thick	1) TBA 2) TBA 3) Insulation in transformers	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/03012 FT08690074 FT08690088 FT08690123 FT08690140 FT08690184 FT08690244 FT08690269 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.60% RML: 0.13% VCM: 0.03% INTA:FC-9415	Used in Flux qualification		
11.004 3M Tape 92	3M Tape 92	Polymide / Silicone Adhesive	1) 3M 2) FT4141002	73µm thick	1) TBA 2) TBA 3) Insulation in transformers	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/99011 FT08690257 FT08690380	OUTG: TML: 0.60% RML: 0.13% VCM: 0.03% INTA:FC-9415	Used in Flux qualification		
11.005 Lacing Tape	Temp Lace H231H	Teflon Braid /Syn Rubber	1) Gudebrod 2) FT04141006	None	1) TBA 2) TBA 3) Additional Fixation of Toroids	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690184 FT08690380 FT08690416 FT08699053		Used in Flux qualification		
11.006 Lacing Tape	AA52081 C4	Temp Lace, Polyester w synthetic rubber finish	1) Various 2) FT04141009	None	1) TBA 2) TBA 3) Additional Fixation of Toroids	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690244 FT08690380	OUTG: TML: 0.561% RML: 0.426% VCM: 0.0426% INTA:FC-9415	Used in Flux qualification		
11.007 SP 262 Polymide Tape	Polymide Tape with Adhesive	Polymide Tape with Adhesive	1) PPI Adhesive Products Limited 2) TBD	None	1) TBA 2) TBA 3) Tape and insulation	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690279	OUTG: TML: 0.987% RML: 0.179% VCM: 0.007% INTA:DMAV1506	Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
11.008 Polymide Tube					1) TBA 2) TBA 3) Protective sleeve.	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690416 FT08699053	OUTG: TML: 1,515% RML: 1,028% VCM: 0.008% INTA:ESE-RPT-7456-058-INTA-23			
14.001 Primer	CF1-135	Silicone Primer	1)Nusil 2) FT0414705	None	1) TBA 2) TBA 3) Primer for CV2500	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690184 FT08690244	OUTG: TML: 8.84% CVCM: 0.02% See 9.2	Item listed on NASA materials database ref GSC25405 Used in Flux qualification		
14.002 Silicone 2 part	CV-2500	Silicone	1)Nusil 2) FT04147021	AKS/PROC/9104 8, cure 1H at 100°C	1) TBA 2) TBA 3) Impregnation of low voltage transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690074 FT08690088 FT08690140 FT08690184 FT08690244 FT08690257 FT08690269 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.16% RML: 0.16% VCM: 0.01% INTA: FC-9222	ESA approved ECSS-Q-70-02 ECSS-Q-70-04 Used in Flux qualification		
14.003 Silicone foam	CV2391	Silicone Foam	1)Nusil		1) TBA 2) TBA 3) Filling of RM Core	1) TBA 2) TBA 3) TBA	1) =>A0 2) =>V0 3) M0	FT08690269	OUTG: TML ≤ 1% VCM ≤ 0.01%	Used in Flux qualification Meets or exceeds the ASTM E 595 low outgas specifications		
14.004 Silicone 2 part	CV10-2500	Silicone	1)Nusil 2) FT04147021	cure 1H at 100°C	1) TBA 2) TBA 3) Impregnation of low voltage transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690416 FT08699053	OUTG:Meets or exceeds the ASTM E 595 low outgas specifications outlined in NASA SP-R-0022A and European Space Agency PSS-014-702, with a TML of ≤1% and CVCM of ≤0.1%	Variation of CV2500 (FT14.002)		
14.005 Fong Yong E536 epoxy	E536 epoxy		1) Fong Yong 2)		1) TBA 2) TBA 3)Epoxy/Encapsulating compound.	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT 08699051	OUTG: TML: 0,337% RML: 0,215% VCM: 0.019% ESE-RPT-7456-062-INTA-18	Used in ESA qualification		
15.001 Coilformer and coil carrier		Polyerephthale, Glass fibre reinforced	1) EPCOS 2) PS202-03	None	1) TBA 2) TBA 3) Coilformer and coil carrier for POT cores and RM power cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690074 FT08690123 FT08690184 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.36% RML: 0.14% VCM: 0.08% ESTEC 325	Used in Flux Qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
15.002 Coupelle		FR4 or Permaglas	1) AMGP 2) FT04155001-2	None	1) TBA 2) TBA 3) Toroid Carrier	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690074	OUTG: TML: 0.45% RML: VCM: 0.00% ESTEC 104	Heritage - used on previous applications		
15.003 Polycarbonate	Polycarbonate	Polycarbonate	1) EPCOS 2) PS303-03	None	1) TBA 2) TBA 3) Mounting Washer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690074 FT08690123 FT08690184 FT08690380	OUTG: TML: 0.35% RML: 0.31% VCM: 0.03% ESTEC 320	Used in Flux Qualification		
15.004 Hostaphan/Mylar	Hostaphan/Mylar	Polyester Film	1) Various 2) FT04141007	None	1) TBA 2) TBA 3) IM Cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99011 ASD/03012 FT08690416 FT08699053	OUTG: TML: 0.26% RML: 0.07% VCM: 0.00% INTA:FC-9519/OC9520	Heritage - used on previous applications		
15.005 Ultem 1010R-7101	Ultem 1010R-7101	Polyetherimide (PEI)	1) Ulstrup 2) FT04151001	Injection moulding by supplier, heat treatment after moulding 1 ¾ h at 170°C	1) TBA 2) TBA 3) Ims, UU core magnetics and ASD RM coilformers	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690074 FT08690244 FT08690269 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.53% RML: 0.52% VCM: 0.02% NUSIL:1350	Used in Flux qualification		
15.006 Ultem 1000-100 natural	Ultem 1000-1000 Natural	Polyetherimide (PEI)	1) GE Plastic 2) FT04151002	Injection moulding by supplier, heat treatment after moulding 1 ¾ h at 170°C Machining by Christian Olrik A/S	1) TBA 2) TBA 3) Machined sockets for Ims, UU core magnetics, ASD-RM coilformers and SMD toroid carrier	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690088 FT08690184 FT08690244 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.56% RML: 0.28% VCM: 0.01% NUSIL:1349	Used in Flux qualification		
15.007 Bakelite PM9630	Bakelite PM9630	Sumitomo Bakelite Sumikon® PM-9630 Glass-Filled Phenolic	1) Various 2) PS TBA	None	1) TBA 2) TBA 3) Coilformer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	Heritage - used on previous applications	OUTG: TML: 1.68% RML: 1.19% VCM: 0.00% INTA DMAV-1107	Supplier replacement for previous coilformer material		
15.008 Liquid-crystal Polymers (LCP)	Liquid-crystal Polymers (LCP) UL 94V	Liquid-crystal Polymers (LCP) UL 94V	1) Ferroxcube 2) FT04155010	None	1) TBA 2) TBA 3) Coilformer for Plannar	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690257 FT08690380 FT08690416 FT08699053	-	Used in Flux qualification		
15.009 Bakelite UP3420	Bakelite UP3420	Bakelite UP3420 Polyester Alloy product filled with glass fiber	1) EPCOS 2) PS TBA	None	1) TBA 2) TBA 3) Coilformer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	Heritage - used on previous applications	Pending	Supplier replacement for previous coilformer material		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
15.010 Tecapeek	Tecapeek	PEEK polymer Thermaset plastic	1) TBA 2) PS TBA	None	1) TBA 2) TBA 3) moulded shapes	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1		OUTG: TML: 0.2% CVCM: 0.01%  NASA database	Heritage - used on previous applications		
15.011 LCPs	LCP E4008MR LCP 4008i		1) TBA 2) PS TBA	None	1) TBA 2) TBA 3) moulded shapes	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690416 FT08699053	-	Approved by Flux		
15.012 DAP4	DIALLYL PHTHALATE BLACK UV HOUSING		1) TBA 2) PS TBA	None	1) TBA 2) TBA 3) molded shapes	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690416 FT08699053	OUTG: TML: 0.56% CVCM: 0.00%  NASA database	Supplier replacement for previous coilformer material		
16.001 Silicone 2 part	R-2615 silicone	Silicone	1) Nusil 2) PS504-04	None	1) TBA 2) TBA 3) Impregnation of low voltage transformers and coils	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/9 9011		Heritage - used on previous applications		
16.002 Silicone Rubber Tube	Elkosil	Silicone Rubber	1) Elkoflex Carl Brincker 2) PS601-02	Baking during manufacturing: 3h at 120°C	1) TBA 2) TBA 3) Insulation/ identification of transformer wire	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/9 9011 ASD/REPO/0 3012 FT08690074 FT08690123 FT08690140 FT08690244 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.25% RML: 0.24% VCM: 0.05% INTA FC-9917	Used in Flux qualification		
16.003 Cho-Therm	Cho-Therm 1671	Silicone elastomer	1) Chomerics 2) FT04152013	cutting	1) TBA 2) TBA 3) Thermal Conductive sheet and electrical insulation	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ECSS-Q-ST- 70-02 ESA PSS-01 702 FT08690416 FT08699053	OUTG: TML: 0.46% RML: - VCM: 0.08% INTA 335	ESA DML database		
16.005 Silicone Compound	Dow Corning 6-1104	Dimethyl siloxane, methyl dimeth oxy- terminated Methyltrimeth oxysilane	1) DOW Corning 2) PS504-14	ASD/REPO/9800 4	1) TBA 2) TBA 3) bonding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	PSS-01-701- D-1	OUTG: TML: 0.13% RML: VCM: 0.04%	PSS-01-701-D- 1		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
16.006 Silicone Compound	MAPSIL QS1123 MAPSIL 213 MAPSIL 213 B MAPSIL 214		1)MAP 2) FT04147006 FT04147007 FT04147009	None	1) TBA 2) TBA 3) Impregnation	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ESA Report TEC-QEM FT08690184 Inta/616 OMD6172 OMD17109	OUTG: TML:0.1%- 0.4% RML: < 0.1% VCM: 0.1%-0,2%	ESA Qualified Used in Flux qualification		
16.007 Silicone Rubber Tube	Colour tubing	Silicone Rubber	1)Hilltop Products 2) TBA	None	1) TBA 2) TBA 3) Identification of transformer wire	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	Heritage - used on previous applications FT08690380 FT08690416 FT08699053	TBA	BS2848 Type 5 180TB -80°C to +250°C		
16.008 Shrink Tubing	Shrink tubing	Single wall polyfin	1)sumitube 2) TBA	None	1) TBA 2) TBA 3)insulationf transformer wire	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	Heritage - used on previous applications FT08690380	TBA			
16.009 Sylgard 170	Silicone Elastomer	Sylgard 170	1)The Dow Chemical Company 2) FT04147017	None	1) TBA 2) TBA 3) Impregnation	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1		-			
17.001 Polycarbonate Washer	None	Polycarbonate	1) EPCOS 2) PS303-003	None	1) TBA 2) TBA 3) Washer used for mounting of POT/RM coils and transformers	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/9 9011 FT08690074 FT08690123	OUTG: TML: 0.35% RML: 0.31% VCM: 0.03% ESTEC 320	Heritage - used on previous applications		
17.004 Cho-Seal	Cho-Seal 1285	Silicone elastomer	1) Parker Chomerics 2) FT04153002	None	1) TBA 2) TBA 3) Thermal Conduction and electrical insulation			FT08690257 FT08690380	-	ESA approved Used in Flux qualification		
17.005 Therm-A-Gap	Therm-A-Gap	Silicone elastomer	1) Parker 2) FT04153001	None	1) TBA 2) TBA 3) Thermal Conduction and electrical insulation			FT08690257 FT08690380	-	ESA approved Used in Flux qualification		
18.001 Duroplast GV	Duroplast	Phenolic with glass fibre	1) Ferroxcube 2) PS202-01	None	1) TBA 2) TBA 3) Coilformer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/9 9011 ESA: 30- 80/17 (ECS)	OUTG: TML: 0.36% RML: 0.20% VCM: 0.08%	ESA approved		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
18.002 PCB	None	Polymide Glass fibre and plated copper with SnPb on terminals	1) Systronic, Printca 2) ECSS-Q-ST-70-11c FT04156001	Baking and cleaning	1) TBA 2) TBA 3) Single or multilayer with coil turns for Planar Transformer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0-M3	ECSS-Q-ST-70-11c FT08690257 FT08690380		ECSS-Q-ST-70-11c Used in Flux qualification		
18.003 GFR Thermosetting Plastic	GFR Thermosetting Plastic	Phenolic with glass fibre Black +180°C	1) Epcos 2) FT04155007	None	1) TBA 2) TBA 3) Coilformer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690184 FT08690380 FT08690416 FT08699053		Used in Flux qualification		
18.004 GFR Thermosetting Plastic	GFR Thermosetting Plastic	Phenolic with glass fibre Green +155°C	1) Epcos 2) PS202-07	None	1) TBA 2) TBA 3) Coilformer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/9 9011 FT08690184 FT08690269 FT08690380 ESA: 30-80/17 (ECS)	QUTG: TML: 0.36% RML: 0.20% VCM: 0.08%	ESA approved Used in Flux qualification		
18.005 GFR Thermosetting Plastic	GFR Thermosetting Plastic	GFR Thermosetting Plastic	1) Epcos 2) FT04155003-1	None	1) TBA 2) TBA 3) Coilformer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT 08690140	-	Heritage - used on previous applications		
18.006 (PF) GFR	(PF) GFR	Phenol Formaldehyde	1) Ferroxcube 2) FT04155002-1	None	1) TBA 2) TBA 3) Coilformer	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/9 9011 ASD/REPO/0 3012 FT08690184 FT08690380 FT08690416 FT08699053		Used in Flux qualification		
18.007 Blue Alkyd	Blue Alkyd Previously designated VINCOLITE AMC 2568	Blue Alkyd	1) EPCOS 2) PS202-04	None	1) TBA 2) TBA 3) Coilformer for RM Cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/9 9011 FT08690140 FT08690184	QUTG: TML: 1.39% RML: 1.17% VCM: 0.00% INTA FC-9328	Used in Flux qualification		
18.008 Polyphenylene Sulfide with lead tinned pins	Ryton	Polyphenylene Sulfide with lead tinned pins	1) Norwe 2) PS TBA	None	1) TBA 2) TBA 3) Coilformer for RM Cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	Heritage - used on previous applications FT08690416 FT08699053	-	Heritage - used on previous applications		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
18.009 Thermosetting Plastic Phenolic PM	T385J	Polyphenylene Sulfide with lead tinned pins	1) Chang Chun 2) PS TBA	None	1) TBA 2) TBA 3) Coilformer for RM Cores	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	-		Heritage - used on previous applications		
18.010 Polytetrafluoroethylene	PTFE	Polytetrafluoroethylene	1) Various 2) PS TBA	None	1) TBA 2) TBA 3) Various	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	OUTG: TML: 0.05% RML: 0.02% VCM: 0.00%		Heritage - used on previous applications		
19.001 Theic-Mod Polyester with Polyamide-imide overcoating	Class 200(N), grade 2 acc to IEC 60317-13	Copper Wire-Polyester with Polyamide-imide overcoating	1) Various 2) FT04133004	ADS/PROC/90028 AKS/PROC/94027	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690074 FT08690184 FT08690380 FT08690416 FT08699053		Used in Flux qualification		
19.002 Theic-Mod Polyesterimide Enamelled copper Wire	Class 180(N), grade 2 acc to IEC 60317-8	Copper Wire - Polyesterimide Enamelled	1) Misc 2)	ADS/PROC/90028 AKS/PROC/94027	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	ASD/REPO/9011 ASD/REPO/03012 FT08690074 FT08690184 FT08690257 FT08690380	OUTG: TML: 0.03% RML: 0.01% VCM: 0.00% INTA FC-9302 INTA FC-93008	Used in Flux qualification		
19.003 Polyesterimide Enamelled copper Wire	Class 180(H), grade 2 acc to IEC 60317-23	Copper Wire - Polyesterimide Enamelled	1) Misc 2) FT04133005	ADS/PROC/90028 AKS/PROC/94027	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690074 FT08690123 FT08690140 FT08690184 FT08690244 FT08690257 FT08690269 FT08690380 FT08690416 FT08699053 INTA FC-9302 INTA FC-93008	OUTG: TML: 0.03% RML: 0.01% VCM: 0.00%	Used in Flux qualification		
19.004 Polyurethane Polyimide Enamelled Copper Wire	Class 180(H), grade 2 acc to IEC 60317-51/55	Copper Wire - Polyurethane Polyimide Enamelled	1) Various 2) FT04133001 FT04133002 FT04133003	ADS/PROC/90028 AKS/PROC/94027 ASD/PROC/97003	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690074 FT08690123 FT08690140 FT08690184 FT08690244 FT08690380 FT08690416 FT08699053	OUTG: TML: 0.07% RML: 0.02% VCM: 0.00% INTA FC-9917	Used in Flux qualification		

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
19.005 Polyurethane Enamelled Copper Wire	Class 155(F), grade 2 acc to IEC 60317-20	Copper Wire - Polyurethane Enamelled	1) Misc 2) PS403-08	ADS/PROC/90028 AKS/PROC/94027 ASD/PROC/97003	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	ASD/REPO/99011	OUTG: TML: 0.09% RML: 0.03% VCM: 0.00% INTA FC-9917	Heritage - used on previous applications		
19.006 Polyimide Insulated Copper Wire	AWG (Filica Wire)	Copper Wire - Polyimide Insulated	1) AXON-F 2) SCC/3901/001-28-B3 SCC/3901/001-29-B3	AKS/PROC/94027 ASD/PROC/97003	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	Customer qualification A5 ES Phases P1/P2 FT08690184 FT08690380		EESA SCC Used on Flux qualification		
19.007 Au coated wire	Class 180(N) to IEC 60317/NEMA74	Copper Wire, Au coated with Polyurethane/ Polyimide	1) Misc 2) PS403-08		1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690279 FT08690416 FT08699053		Heritage - used on previous applications		
19.008 Cu coated wire	HSPTN Natural	Copper ETP coat polyester AI/Polyamideide	1) MWS 2) NEMA MW36-C NEMA MW77-C 04133007	None	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	ESE- RPT7456_02 7_RPT_16	OUTG: TML: 0.016% RML: 0,011% VCM: 0.03%	Heritage - used on previous applications NEMA		
19.009 Litz Wire	Polysol P155 and various other	Copper Wire	1) Elektisola 2) FT04132001 FT04132002 FT04132003	None	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT 08699051		Used in ESA qualification		
19.010 Polyimide Insulated Flat	HSPTN-180 Natural HAPT 200°C	HAPT 200°C		None	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	FT08690416 FT08699053 ESE_RPT_74 56_027_RPT_16	OUTG: TML: 0.016% RML: 0.011% VCM: 0.03%	NEMA		
19.011 ESCC 3901	ESCC 3901			None	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0			ESCC 3901		
19.012 Flexible RF cable	Flexible RF cable	Steel, Copper+Silver plated PTFE (Polytetrafluoroethylene)		None	1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0					

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
19.013 Enamelled Copper wire	NEMA MW82-C	Copper Wire Polyurethane enamelled copper wire	1) MWS 2) NEMA MW82-C & FT04133008		1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0			NEMA	19013 Enamelled Copper wire	
19.014 Enamelled Copper wire	NEMA MW83-C	Copper Wire Polyurethane Nylon enamelled copper wire	1) MWS 2) NEMA MW83-C & FT04133006		1) TBA 2) TBA 3) Transformer and Inductor winding	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0			NEMA	19014 Enamelled Copper wire	
20.001 Thread	Class 180(N) to IEC 60317/NEMA74				1) TBA 2) TBA 3) Additional Fixation of Wires	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	Customer Specific FT08690380		Used in Flux qualification	20.001 Thread	
20.002 Epoxy Glass Laminate	Epoxy Glass Laminate GF, FR4	Epoxy Glass Laminate GF, FR4	1) Printca 2) MIL. P-13949/4	None	1) TBA 2) TBA 3) Plinths	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99011 FT08690184 FT08690380 ESTEC fax 23850725	OUTG: TML: 0.5% RML: - VCM: 0.03%	ESA approved Used in Flux qualification	20.002 Epoxy Glass Laminate	
20.004 Glass micropearls	Glass micropearls 0.1mm	3020-BL 70/110	1) Verre Industri S.A. 2) PS501-05	AKS/PROC/92055	1) TBA 2) TBA 3) filler	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M0	ASD/REPO/99011 FT08690184 FT08690244		Used in Flux qualification	20.004 Glass micropearls	
20.005 Aerosil 200	Aerosil 200		1) Degussa, Superfos Kemi 2) FT04147004	AKS/PROC/92055, mixed with Scotch-Weld 2216 when specified	1) TBA 2) TBA 3) Filler for adhesive	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	ASD/REPO/99011 FT08690074 FT08690088 FT08690184 FT08690244 FT08690257 FT08690269 FT08690416 FT08699053	OUTG: TML: 1.08% RML: 0.60% VCM: 0.01% INTA FC-9517 (EC2216 + Aerosil)	Used in Flux qualification	20.005 Aerosil 200	
20.006 CAB-O-SIL	CAB-O-SIL	Silicon Dioxide	1) Cabot 2) FT04147003	AKS/PROC/91048	1) TBA 2) TBA 3) Filler to silicone	1) TBA 2) TBA 3) TBA	1) =>A0 2) =>V0 3) M0	FT08690074 FT08690088 FT08690416 FT08699053	OUTG: TML: 2.24% RML: 2.03% VCM: 0.1% INTA/370	Heritage - used on previous applications	20.006 CAB-O-SIL	
20.007 Stycast 2850FT	Stycast 2850FT		1) Cabot 2) FT04147003	Used with Catalyst	1) TBA 2) TBA 3) Thermally conductive Epoxy	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690244		Used in Flux qualification	20.007 Stycast 2850FT	

1	2	3	4	5	6	7	8	9.1		9.2	9.3	10
Item No.	Commercial ID	Chemical Nature	Procurement Details	Processing	Use and Location	Environmental Code	Size Code	Validation		Justification	Prime Approval	Customer Approval
20.008 Catalyst 11	Catalyst 11		1) Emmerson and Cumming 2) FT04147010	Used with Stycast	1) TBA 2) TBA 3)Catalyst for Stycast	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M1	FT08690244		Used in Flux qualification		
20.009 Aluminiumoxid	Rubalit® 708S C	Aluminiumoxid or Alumina (Al2O3).	1) Ceremtec	Ceramic	1) TBA 2) TBA 3) TBA	1) TBA 2) TBA 3) TBA	1) =>A1 2) =>V1 3) M2	FT08690416 FT08699053				

## 6. PREFERRED PARTS

### 6.1 Qualification

In co-operation with our customers, Flux has qualified various magnetic topologies.

The qualification tests and criteria are based on the requirements given in MIL-PRF-27<sup>(RD1)</sup>, for grade 5 transformers and inductors.

The materials used to manufacture the components tested form Flux's preferred parts list. Other parts may be used but may require modelling and evaluation.

Due to the similarity in their physical nature, some ferrite materials are deemed interchangeable with the relevant topologies.

### 6.2 Preferred Parts List

DML Ref	Part	Nature	Size Range	Comments
01.001	Aluminium Block Fixture	AA6082-T6/T651	Not Applicable	
01.003	Aluminium Alloy	Al97% Mg3% AA5754	Not Applicable	
01.005	Aluminium Block Fixture	AA6082-T6/T651 Surtec 650	Not Applicable	Additional surface treatment
01.007	Aluminium Alloy	DIN 1712/WNr 31655	Not Applicable	
02.002	Copper Foil Electrolytical	99,9 % Cu - 0,05% O;	Not Applicable	
02.005	Brass MS58 Terminal Pin	Brass MS58. Plated with 2,5 mm Ni and 5 mm Sn90Pb10 by manufacturer	Not Applicable	
02.006	Cu C12200 (UNS) Pins	C12200 Copper Electrodeposit with 8µm Sn60Pb40 by manufacturer on 2µm Ni barrier	Not Applicable	
02.007	Tin Bronze Terminal	CuSn6	Not Applicable	
02.009	Copper Foil	Copper Foil	Not Applicable	
02.010	Cu_ETP	Copper	Not Applicable	
02.012	Copper Foil	E-Cu58/Cu57 (F20-Soft) ETP	Not Applicable	
05.007	Chromium Nickel Steel	Chromium Nickel Steel C<1%, Si>1%, Mn>2%	Not Applicable	
06.002	Clamps	Stainless Spring Steel	Not Applicable	
06.003	Clamps	Stainless Spring Steel	Not Applicable	
06.004	Clamps	Stainless Spring Steel	Not Applicable	
06.005	Clamps	Stainless Spring Steel	Not Applicable	
06.006	Clamps	Stainless Spring Steel	Not Applicable	
06.008	Clamps	Stainless Spring Steel	Not Applicable	
06.010	Fixing Items	Stainless Spring Steel	Not Applicable	
07.001	Solder	Tin Solder: Sn63 Pb37	Not Applicable	
07.002	Solder	Tin Solder: Sn60 Pb40	Not Applicable	
07.003	Solder	Tin Solder: Sn94 Ag4	Not Applicable	High Temperature
08.001	RM Core	Ferro Magnetic Oxide	Between RM4 & RM6	
08.002	Toroid Core MPP and Hiflux	Molypermalloy Powder, Hiflux NiFe Powder Graded into 2% bands	Between 5,243mm & 14,475mm Ø	
08.008	Toroid Core	Ferro Magnetic Oxide	Between 4,41mm & 33,15mm Ø	
08.009	Double Aperture Core	Ferro Magnetic Oxide	Between 6.2mm X 7,25 mm and 9,3mm X 10.875mm	
08.012	Toroid Core Grey Painted	Ferrite Core Polyester or Nylon Coated	Between 16,3mm & 34,35mm Ø	
08.013	Toroid Core Parylene Coated	Ferrite Core Parylene Coated	Between 6,67mm & 14,3mm Ø	
08.015	RM Core 3F3	Ferro Magnetic Oxide(Material discontinued)	Between RM4 & RM16	RM14 and over is limited to 500G mechanical shock
08.016	Tape Wound Core	Nanocrystalline Vitroperm 500F	Between 11,2mm & 24mm Ø	
08.018	RM Core PC90 & PC95	Ferro Magnetic Oxide	Between RM4 & RM8	

DML Ref	Part	Nature	Size Range	Comments
08.021	EFD Core	Ferroxcube 3C96	EFD15	
08.022	EFD Core	Ferro Magnetic Oxide	Between EFD25 & EFD 30	
08.023	Toroid Core Hi Flux	Molypermalloy Powder, Hiflux NiFe Powder Graded into 2% bands	Upto 58,5mm Ø	
08.024	RM and Integrated Magnetics Core	Ferro Magnetic Oxide	Depending on form	
08.026	Ferroxcube 3C95	MnO (19%), ZnO(10%), Fe <sub>2</sub> O <sub>3</sub> (71%)	Depending on form	
08.029	Ferrite core N87	Manganese Zinc Ferrite MnO (25%), ZnO(5%), Fe <sub>2</sub> O <sub>3</sub> (70%)	Depending on form	
08.031	Power Ferrite	MN92	Not Applicable	
08.032	Ferrite Core	3F35	Not Applicable	
08.033	Ferrite Core	3C94	Not Applicable	
08.034	Ferrite Core	3C36	Not Applicable	
08.035	Ferrite Core	P46	Not Applicable	
08.036	Ferrite Core	Dexter type 11	Not Applicable	
08.037	Ferrite Core	3D3	Not Applicable	
08.038	Ferrite Core	N49	Not Applicable	
08.039	Ferrite Core	Metglas Alloy	Not Applicable	
08.040	Ferrite Core	Ferrite Core	Not Applicable	
08.041	Ferrite Core	Iron powder core	Not Applicable	
08.042	Ferrite Core	Ni Zn Core	Not Applicable	
08.043	Ferrite Core	3E6	Not Applicable	
08.044	Ferrite Core	Ferroxcube 3F36	Not Applicable	
08.048	Ferrite Core	Edge Core	Not Applicable	
08.049	Ferrite Core	CMD5005	Not Applicable	
10.001	Scotchweld EC2216	2- part epoxy adhesive	Not Applicable	
10.002	Solithane C113/300	Polyurethane	Not Applicable	
10.006	Glue	Loctite 648	Not Applicable	
11.001	CIL-8100 M Label	Polyester Label / Acrylic Adhesive	Not Applicable	
11.003	3M Tape 1205	Polymide /Acrylic Adhesive	Not Applicable	
11.004	3M Tape 92	Polymide / Silicone Adhesive	Not Applicable	
11.006	Temp Lace AA52081 C4	Polyester w synthetic rubber finish	Not Applicable	
14.001	Silicone Primer	CF1-135	Not Applicable	
14.002	CV2500	Silicone 2 part (10:1)	Not Applicable	
14.003	CV2391	Silicone Foam 2 Part(10:1)	Not Applicable	
14.004	CV10-2500	Silicone 2 part (1:1)	Not Applicable	
15.001	Coilformer and coil carrier	Polyephtalate, Glass fibre reinforced	Not Applicable	
15.003	Epcos Washer	Polycarbonate	Not Applicable	
15.004	Film	Hostaphan/Mylar	Not Applicable	
15.005	Ultem 1010R-7101	Polyetherimid (PEI)	Not Applicable	
15.006	Ultem 1000-1000 Natural	Polyetherimid (PEI)	Not Applicable	
15.008	Liquid-crystal Polymers (LCP) UL 94V	Liquid-crystal Polymers (LCP) UL 94V	Not Applicable	
15.011	Polymer	LCPs	Not Applicable	
15.012	molded	DAP4	Not Applicable	
16.002	Silicone Rubber Tube	Silicone Rubber Tube	Not Applicable	
16.006	MAPSIL QS1123	Silicone Compound	Not Applicable	
16.007	Silicone Rubber Tube	Silicone Rubber Tube	Not Applicable	
17.004	Cho-Therm 1671	Silicone elastomer	Not Applicable	
17.005	Cho-Seal 1285	Silicone elastomer	Not Applicable	

DML Ref	Part	Nature	Size Range	Comments
18.002	PCB	Polymide Glass fibre and plated copper with SnPb on terminals	Not Applicable	
18.003	GFR Thermosetting Plastic	Phenolic with glass fibre Green +155°C	Not Applicable	
18.004	GFR Thermosetting Plastic	Phenolic with glass fibre Green +155°C	Not Applicable	
18.006	(PF) GFR	Phenol Formaldehyde	Not Applicable	
18.007	Blue Alkyd	Blue Alkyd Previously designated VINCOLITE AMC 2568	Not Applicable	
18.008	Ryton	Polyphenylene Sulfide with lead tinned pins	Not Applicable	
18.009	T385J	Thermosetting Plastic Phenolic PM	Not Applicable	
18.010	PTFE	Polytetrafluoroethylene	Not Applicable	
19.001	Copper Wire	Theic-Mod Polyester with Polyamide-imide overcoating	From Ø 0,710MM upwards	
19.002	Copper Wire	Theic-Mod Polyesterimide Enamelled	From Ø 0,560MM upwards	
19.003	Copper Wire	Polyesterimide Enamelled	From Ø 0,080MM upwards	
19.004	Copper Wire	Polyurethane Polyimide Enamelled Copper Wire	From Ø 0,100MM upwards	
19.006	Copper Wire	AWG (Filica Wire)	From AWG 18 upwards	
19.007	Copper Wire	Copper Wire, Au coated with Polyurethane/Polymide	From Ø 0,100MM upwards	
19.008	Copper Wire	Copper ETP coat polyester Al/Polyamideide	From Ø 0,100MM upwards	
19.009	Copper Wire	Polysol P155	From Ø 0,100MM upwards	
19.010	Copper Wire	HSPTN-180 Natural HAPT 200°C	From Ø 0,100MM upwards	
19.011	Copper Wire	ESCC 3901 qualified wires	From Ø 0,100MM upwards	
19.012	RF Cable	Steel, Copper+Silver plated PTFE (Polytetrafluoroethylene)	From Ø 0,100MM upwards	
20.002	Epoxy Glass Laminate	Epoxy Glass Laminate GF, FR4	Not Applicable	
20.004	Glass 3020-BL 70/110	Micropearls	0.1mm	
20.005	Aerosil 200	Silicone Dioxide	Not Applicable	
20.009	Aluminiumoxid	Aluminiumoxid	Not Applicable	