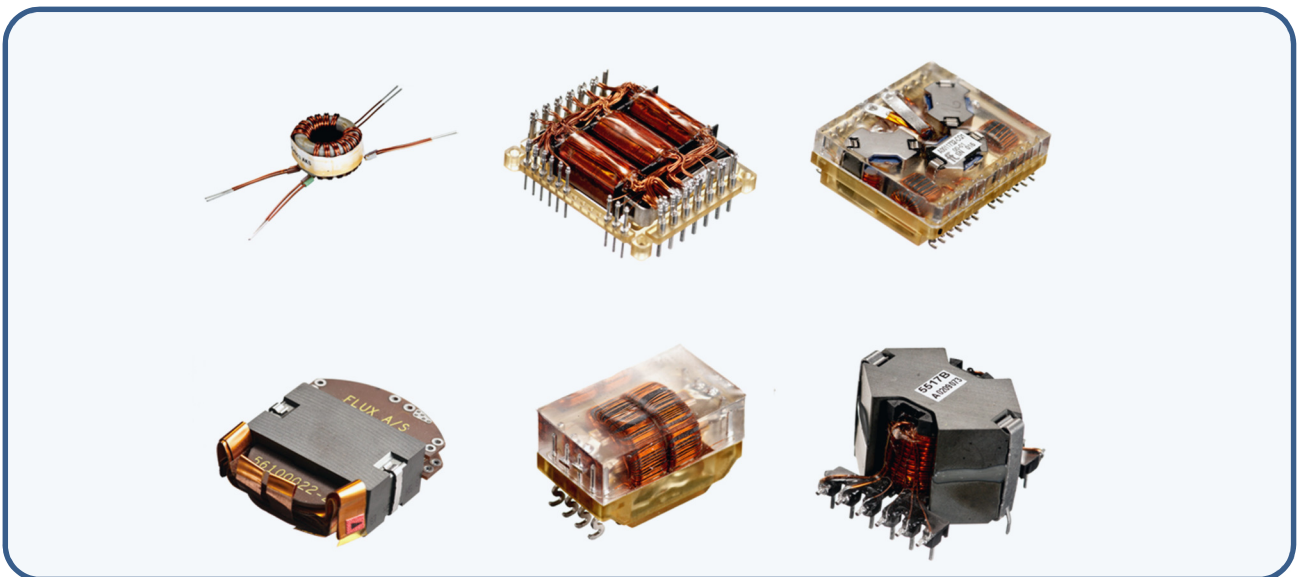


Declared Processes List: **Flux ESCC domain**

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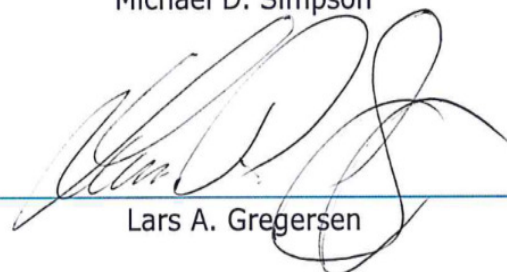


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DOCUMENT CHANGE LOG

Change No.	Date	Initiator	Pages Affected	Short Description of Change



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1. INTRODUCTION

1.1 Scope

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

The qualification and use of these processes 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 DPLs for higher level assemblies, this DPL has been prepared in line with the requirements of ECSS-Q-ST-70C.

2. APPLICABLE DOCUMENTS

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

2.1 Reference Documents

Ref.	Document	Title
RD1	ECSS-Q-ST-60	Electrical Electronic and Electromechanical (EEE) Components
RD2	ECSS-Q-ST-70	Materials, mechanical parts and processes
RD3	ECSS-Q-ST-70-08	Manual soldering of high-reliability electrical connections
RD4	ECSS-Q-ST-70-71	Guidelines for space material selection
RD5	ECSS-P-001B	Glossary of terms
RD6	ESCC 3201	Generic Specification: Coils, RF and Power, Fixed (Inductors and Transformers)
RD7	ESCC3201/013	Detail Specification: Customised Magnetics
RD8	FT08700000	FLUX QMS

2.2 Generic Documents

Ref.	Document	Title
GD1	FT08699002	Process Identification Document
GD2	FT08699003	Declared Materials List



3. DEFINITIONS AND ABBREVIATIONS

3.1 Definitions

For the purpose of this document, the terms and definitions given in ECSS-P-001B apply.

3.2 Definitions of Status

The qualification status of listed processes is given by reference to use on the relevant previous programs / reference to qualification reports where appropriate

The processes are defined as follows:

Status	Meaning
Critical	The process and the control of its use have not yet been demonstrated. All critical processes will be subject to qualification. After qualification, the process will be reclassified as "sensitive" or "standard".
Sensitive	The qualification has been completed, but the use of the process requires extensive control.
Standard	All other processes.

3.3 Abbreviations

Abbreviation	Meaning
AKA	Alcatel Kirk Aerospace document number
ASD	Alcatel Space Denmark document number
CORR	Corrosion
DML	Declared Materials List
DPL	Declared Processes List
FLAM	Flammability
FT	Flux A/S document number
N/A	Not Applicable
PS	Procurement Specification number
RFA	Request for approval
SCC	Stress Corrosion Cracking
TBA	To Be Advised
TBD	To Be Defined



4. PROCESSES

4.1 Groups for Processes List

Group	Description
01	Adhesive bonding
02	Composite manufacture
03	Encapsulation/moulding
04	Painting/coating
05	Cleaning
06	Welding/brazing
07	Crimping/stripping/wire wrapping
08	Soldering
09	Surface treatments
10	Plating
11	Machining
12	Forming
13	Heat treatment
14	Special fabrication: processes developed specifically for the programme
15	Marking
16	Miscellaneous processes
17	Inspection processes

4.2 DPL Contents

Column No	Purpose
1	Item number and user code
2	Process identification
3	1) User name 2) Associated procedure
4	Process description
5	1) Subsystem code 2) Equipment Code 3) Use
6	Not used by ECSS –
7	Associated DML item number
8	1) Criticality 2) Reason for criticality
9.1	1) Supplier reference 2) Prime comments
9.2	Prime approval status
10	Customer approval status/comments

For further assistance and clarification, refer to Annex C of ECSS-Q-ST-70C



5. DECLARED PROCESSES LIST

1	2	3	4	5	7	8	9.1	9.2	10
Item No. And user code	Process identification.	User name & Ass.	Process description.	Subsystem, equipment code & use.	DML reference.	Status	Supplier reference	Prime approval.	Customer approval
FT.01.001	Bonding with eccobond 55/9	1) Flux A/S 2) FT08700000	Coating of transformers	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	ASD/REPO/99011 FT08690279		
FT.01.002	Gluing with Scotchweld ECclea	1) Flux A/S 2) FT08700000	Gluing of transformers	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.01.003	Bonding with eccobond 285	1) Flux A/S 2) FT08700000	Coating of transformers	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690279		
FT.01.004	Protective Gluing and Taping	1) Flux A/S 2) FT08700000	Coating of transformers	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690279		
FT.03.001	Impregnation with CV2500 or MAPSIL QS1123	1) Flux A/S 2) FT08700000	Impregnation of transformers	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.03.002	Impregnation with solithane 113	1) Flux A/S 2) FT08700000	Impregnation of transformers	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690279		
FT.05.001	Cleaning	1) Flux A/S 2) FT08700000	Cleaning of materials and parts	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690279		
FT.03.003	Filling with CV2391	1) Flux A/S 2) FT08700000	Filling of cores with foam	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690269 FT08690279		
FT.07.001	Wire stripping	1) Flux A/S 2) FT08700000	Chemical stripping of wire $\varnothing < 0.56\text{mm}$	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.07.002	Wire stripping	1) Flux A/S 2) FT08700000	Mechanical stripping of wire $\varnothing > 0.60\text{mm}$	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690279		



1	2	3	4	5	7	8	9.1	9.2	10
Item No. And user code	Process identification.	User name & Ass.	Process description.	Subsystem, equipment code & use.	DML reference.	Status	Supplier reference	Prime approval.	Customer approval
FT.07.003	Wire stripping	1) Flux A/S 2) FT08700000	Thermal stripping (solderable enamelled wire)	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690279		
FT.07.004	Wire stripping	1) Flux A/S 2) FT08700000	Class I chemical stripping	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690279		
FT.07.005	Wire cleaning	1) Flux A/S 2) FT08700000	Cleaning after Class I chemical stripping	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690257 FT08690269 FT08690279		
FT.07.006	Wire winding	1) Flux A/S 2) FT08700000	Wire winding of transformers and inductors with coilformer	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690279		
FT.07.007	Wire winding	1) Flux A/S 2) FT08700000	Wire winding of transformers and inductors on toroids	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.07.008	Staking of thin wire	1) Flux A/S 2) ECSS-Q-ST-70-08C	Staking of thin wire to avoid stress	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process& ECSS-Q-ST-70-08C	FT08690184 FT08690279		
FT.07.009	Foil winding and taping	1) Flux A/S 2) ECSS-Q-ST-70-08C	Foil winding and taping	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process& ECSS-Q-ST-70-08C	FT08690184 FT08690279		
FT.08.001	Soldering	1) Flux A/S 2) ECSS-Q-ST-70-08C	Soldering with Sn63Pb37	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process& ECSS-Q-ST-70-08C	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.08.002	High temperature Soldering	1) Flux A/S 2) ECSS-Q-ST-70-08C	Soldering with Sn96Ag4	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process& ECSS-Q-ST-70-08C	FT08690184 FT08690257 FT08690279		
FT.08.003	Soldering of planar transformers	1) Flux A/S 2) ECSS-Q-ST-70-08C	Soldering with Sn96Ag4	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process& ECSS-Q-ST-70-08C	FT08690279		



1	2	3	4	5	7	8	9.1	9.2	10
Item No. And user code	Process identification.	User name & Ass.	Process description.	Subsystem, equipment code & use.	DML reference.	Status	Supplier reference	Prime approval.	Customer approval
FT.09.001	Pure tin removal	1) Flux A/S 2) FT08700000	Removal of pure tin surface finishes	1) TBA 2) TBA 3) TBA	FT08699003	1) Sensitive 2) FT qualified process	FT08690184 FT08690279		
FT.09.002	Pretinning	1) Flux A/S 2) FT08700000	Pretinning	1) TBA 2) TBA 3) TBA	FT08699003	1) Sensitive 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.13.001	Wire tempering	1) Flux A/S 2) FT08700000	Tempering of enamelled wires after winding to avoid solvent induced crazing	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690279		
FT.13.002	Destressing of carrier	1) Flux A/S 2) FT08700000	Destressing of carrier	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690279		
FT.14.001	Assembly of cores	1) Flux A/S 2) FT08700000	Core Assembly	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690279		
FT.14.002	Insertion of pins	1) Flux A/S 2) FT08700000	Insertion of pins into carrier	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.14.003	Modification of coilformer	1) Flux A/S 2) FT08700000	Modification of coilformer	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690279		
FT.14.004	Bending and insertion of L pin	1) Flux A/S 2) FT08700000	Bending and insertion of L pin in F6 house	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690244 FT08690279		
FT.15.001	Marking	1) Flux A/S 2) FT08700000	Marking and serialisation	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.16.001	Grinding of cores	1) Flux A/S 2) FT08700000	Grinding of ferrite cores	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690279		



1	2	3	4	5	7	8	9.1	9.2	10
Item No. And user code	Process identification.	User name & Ass.	Process description.	Subsystem, equipment code & use.	DML reference.	Status	Supplier reference	Prime approval.	Customer approval
FT.16.002	Toroids on coupelle	1) Flux A/S 2) FT08700000	Assembly and potting of toroids in coupelles	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690279		
FT.16.003	Packing and Shipping	1) Flux A/S 2) FT08700000	Packing and Shipping	1) TBA 2) TBA 3) TBA	N/A	1) Standard 2) FT process	FT08690257 FT08690279		
FT.16.004	Housing Assembly	1) Flux A/S 2) FT08700000	Housing Assembly	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690244 FT08690257 FT08690279		
FT.16.006	Foil Preparation	1) Flux A/S 2) FT08700000	Foil Preparation:	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690257 FT08690279		
FT.16.007	Stacking of PCBs and Foils	1) Flux A/S 2) FT08700000	Stacking of PCBs and Foils:	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690257 FT08690279		
FT.17.001	Incoming inspection	1) Flux A/S 2) FT08700000	Incoming inspection	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690257 FT08690269 FT08690279		
FT.17.002	MIP/KIP	1) Flux A/S 2) FT08700000	Mandatory and Key inspection points	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.17.003	Manufacturing control	1) Flux A/S 2) FT08700000	Manufacturing control	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690257 FT08690279		
FT.17.004	Screening	1) Flux A/S 2) FT08700000	Screening test for inductors and transformers	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.17.005	In production testing	1) Flux A/S 2) FT08700000	Measuring of magnetic components	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.17.006	Material Inspection	1) Flux A/S 2) FT08700000	Material Inspection prior to use	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		



1	2	3	4	5	7	8	9.1	9.2	10
Item No. And user code	Process identification.	User name & Ass.	Process description.	Subsystem, equipment code & use.	DML reference.	Status	Supplier reference	Prime approval.	Customer approval
FT.17.007	Visual Inspection	1) Flux A/S 2) FT08700000	In production visual inspection	1) TBA 2) TBA 3) TBA	FT08699003	1) Standard 2) FT qualified process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.17.008	Final Inspection	1) Flux A/S 2) FT08700000	Final Inspection	1) TBA 2) TBA 3) TBA	N/A	1) Standard 2) FT process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.17.009	Kitting	1) Flux A/S 2) FT08700000	Kitting of parts and materials	1) TBA 2) TBA 3) TBA	N/A	1) Standard 2) FT process	FT08690184 FT08690244 FT08690257 FT08690269 FT08690279		
FT.17.010	Pre-screening	1) Flux A/S 2) FT08700000	Pre-screening of parts prior to formal screening	1) TBA 2) TBA 3) TBA	N/A	1) Standard 2) FT process			