





APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component title: RESISTORS, HEATERS, FLEXIBLE, SINGLE AND DOUBLE LAYER

Executive Member: ESA

Date: 23/10/2023

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Appl. No.

330E

Failure Analysis, DPA, NCCS available: Yes No  (Supply data)

Ref. No's and purposes:

The undersigned hereby certifies on behalf of the ESCC Executive - that the above information is correct; - that the appropriate documentation has been evaluated; - that full compliance to all ESCC requirements is evidence (except as stated in box 15;) - that the reports and data are available at the ESCC Executive and therefore applies on behalf of ESA as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.

Date: 07/12/2023

D. Lacombe, ESA  
(Signature of the Executive Coordinator)

Continuation of Boxes above:



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Non compliance to ESCC requirements:

15

No.:	Specification	Paragraph	Non compliance

Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance:

16

Executive Manager Disposition

Application Approval: Yes  No

Action / Remarks:

17

Date:

B. Schade: Head of the Product Assurance and Safety Department



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: RESISTORS, HEATERS, FLEXIBLE, SINGLE AND DOUBLE LAYER

Executive Member: ESA

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ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION

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Tests conducted in compliance with:

- ESCC 4009 generic specification; Chart F4 (for ESCC/QPL parts);
- Or PID-TFD 5.34.16 rev.31 (for ESCC/QML parts)

Tests vehicle identification/description:

R4002	Etched foil heater
R4003	Etched foil heater

Detail Specification reference: ESCC 4009/004

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	N° of Rejects	Comments if not performed. Comments on Rejection
Environmental/ Mechanical Subgroup	Robustness of Terminations	X	IEC 60068-2-21	2326A 2323A 2326A	7 8 5	0	None
	Climatic Sequence	X	ESCC 4009, Para. 8.7	2326A 2323A 2326A	7 8 5	0	None
	External Visual Inspection	X	ESCC 20500	2326A 2323A 2326A	7 8 5	0	None
Endurance Subgroup	Operating Life	X	ESCC 4009, Para. 8.8	2326A 2323A 2326A	8 7 5	0	None
	External Visual Inspection	X	ESCC 20500	2326A 2323A 2326A	8 7 5	0	None
	Permanence of marking	X	ESCC 24800	2326A 2323A 2326A	8 7 5	0	None
Additional tests		<input type="checkbox"/>					
		<input type="checkbox"/>					
		<input type="checkbox"/>					



ANNEX 2 : CONFIDENTIAL DATA

PID changes details

19

- None
- Minor
- Major

Noncompliance to ESCC requirements:

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No.:	Specification	Paragraph	Non compliance

Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance:

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Additional Comments

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APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component title: RESISTORS, HEATERS, FLEXIBLE, SINGLE AND DOUBLE LAYER

Executive Member: ESA

Date: 23/10/2023

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NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR ESCC QUALIFICATION EXTENSION APPROVAL

ENTRIES

- Form heading shall indicate: - the title of the component as given in its detail specification or the name of the series, family; - the Executive Member; - the entering date; - the certificate number and its sequential suffix.
- Box 1 shall provide details given in the table; in particular there shall be listed: - the variants or range of variants; - the range of components (the ESCC code is recommended to indicate the values or values range, the tolerance, the voltage, etc); the designation given in the detail specification as 'base on'; - under Test Vehicle enter either an ESCC code or the specific characteristic capable of identifying the component tested (e.g., voltage of coil for a relay); - under component similar enter a cross if relevant.
- Box 2; 3 and 4 As per QPL entry; otherwise, an explanation of the changes must be supplied.
- Box 5 Will show the ESCC Generic and Detail specifications, including issue number and revision letter, current at the time the tests reported were performed. If the specifications are different from those current on the date of the application, see Box 6.
- Box 6 Will show the deviations from the Generic and Detail Specifications listed in Box 5, in particular deviations from testing. In case of deviations this must be listed in Box 15. In case the referenced specification in Box 5 have currently a different issue and/or revision indicate also whether the test data deviates or not from such current documents.
- Box 7 Must reference the report(s) supplied in support of the application.
- Box 8 Should provide the details of procurement to the full ESCC System, documentation of all of which should already have been delivered to the ESCC Executive under the terms of the relevant Generic Specification. An appropriate table has been drawn in this box.
- Box 9 If the PID evolved after the Original Qualification or after the last Extension of Qualification, adequate details of such evolution shall be provided together with the reasons for the changes. Major changes shall be clearly marked.
- Box 10 Identify the current PID issue status, date and actual date of verification. The date of verification of the current PID should be arranged as close as possible to the required date of extension.
- Box 11 This box can be completed only after a physical visit to the plant to confirm that no unexplained changes occurred and that the practices, procedures, material, etc. used in manufacturing the components are as described in the PID. This survey shall be carried out in accordance with the requirements of ESCC Basic Specification No. 20200 and its findings shall be recorded.
- Box 12 Provide details of, or reference to, any Destructive Physical Analysis (DPA) and Failure Analysis reports as well as any Nonconformance(s) (NCCS) occurred during the qualification validity period, stating if established corrective action have produced satisfactory results.
- Box 13 Enter only the name of the Executive Member (i.e., CNES, DLR, ESTEC, etc.) and the signature of the responsible Executive Coordinator.
- Box 14 To be used when there is a need to expand any of the boxes from 1 through 12. Identify box affected and reference the Box 14 in the relevant Box. Box 14 can be broken into 14a, 14b, etc. if several boxes have to be expanded.
- Box 15 Fill in Table as requested.
- Box 16 Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
- Box 17 All Executive Manager recommendations on the application itself, special conditions or restrictions, modifications of the QPL or QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 19, signed by the representative for ESA, and dated.
- Box 18 Fill in Table as requested.
- Box 19 Confidential Details of PID changes including those of a confidential nature, shall be provided.
- Box 20 State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 16 each nonconformance shall be sequentially numbered. If relevant state 'None'.
- Box 21 Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
- Box 22 Additional Comments.



**APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL**

Component Title: **SWITCHES, THERMOSTATIC, BIMETALLIC, SPST, OPENING CONTACT, BASED ON TYPE TH 47**  
 Executive Member: CNES

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Date: 21/11/2023

Components (including series and families) submitted for Extension of Qualification Approval:

ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S	COMPONENT SIMILAR
3702 001	01 to 03	Grade Z and Grade Y	Type TH 47	3702 001 02B 030 025 HY	Variants 02, 03
3702 002	01 to 06	Grade Z and Grade Y	Type TH 473	-	Variants 01 to 06

Component Manufacturer COMEPA	2	Location of Manufacturing Plant(s) 35 RUE DU SAUSSET – 93290 TREMBLAY-EN-FRANCE	3	Date of original qualification approval: Date: 24/03/2004	4
				Certificate Ref No. 275	

ESCC Specifications used for Maintenance of qualification testing: Generic: 3702 Issue: 06 Detail(s): 3702 001 Issue: 09 3702 002 Issue: 03	5	Deviations to LVT testing and Detail Specification used: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (supply details in Box 15) Deviation from current Specifications: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details)	6	Qualification Extension Report reference and date: 5.1-COMEPA-VOQ2024-2026-Tremblay-232723000444-TH4702BHY030025-F2+F3.pdf 22/10/2023 5.2-COMEPA-VOQ2024-2026-Tremblay-2327-23000444-TH4702BHY030025-Subgroup 3.pdf 22/10/2023 5.3-COMEPA-VOQ2024-2026-Tremblay2327-23000444-TH4702BHY030025-Subgroup 2B.pdf 22/10/2023 5.4-COMEPA-VOQ2024-2026-Tremblay2327-23000444-TH4702BHY030025-Subgroup 2C.pdf 22/10/2023 5.5-COMEPA-VOQ2024-2026-Tremblay2327-23000444-TH4702BHY030025-Addestest-Vib et chocs-Subgroup 1A.pdf 22/10/2023 5.6-COMEPA-VOQ2024-2026-Tremblay2327-23000444-TH4702BHY030025-Addestest-Damp Heat-Subgroup 1B.pdf 22/10/2023 5.7-COMEPA-VOQ2024-2026-Tremblay2327-23000444-TH4702BHY030025Subgroup-2A-1A-1B.pdf du 22/10/2023	7
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Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)

Project Name	Testing Level	LAT	Date code	Quantity Delivered

PID changes since start of qualification None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> Major* <input type="checkbox"/> *Provide details in box:	9	Current PID Verified by: G. Quadri, CNES Name of Executive Representative Ref No: PRD-PROTH47 Issue: P Rev Date: 01/09/2023	10	Date: 01/12/2004
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Current Manufacturing facilities surveyed by:	G. Quadri, CNES & D. Lacombe, ESA	on	21/06/2023	11
		(Name of Executive Representative)		(Date)

Satisfactory: Yes  No  Explain

Report Reference: DTN\_QE\_CQ\_2023.0011299\_ES  
CC\_Audit\_Report\_COMEPA\_2023



**APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL**

Component Title: **SWITCHES, THERMOSTATIC, BIMETALLIC, SPST,  
OPENING CONTACT, BASED ON TYPE TH 47**

Executive Member: CNES

Date: 21/11/2023

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Failure Analysis, DPA, NCCS available:

Yes  No

(Supply data)

Ref. No's and purposes:

13

The undersigned hereby certifies on behalf of the ESCC Executive - that the above information is correct; - that the appropriate documentation has been evaluated; - that full compliance to all ESCC requirements is evidence (except as stated in box 15;) - that the reports and data are available at the ESCC Executive and therefore applies on behalf of CNES as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.

Date: 5/12/2023

G. QUADRI

(Signature of the Executive Coordinator)

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Continuation of Boxes above:

Revision 1 concerns the manufacturing site move from Bagnolet to Tremblay-En-France. This revision is applicable by the DC2327

All the Audit corrective actions have been accomplished see document CAPA2023-187-ESA-CNES AUDIT-Correctiv actions





**APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL**

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Executive Member: CNES

Date: 21/11/2023

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275J rev 1

Non-compliance to ESCC requirements:

15

No.:	Specification	Paragraph	Non compliance

Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of Non-compliance:

16

Executive Manager Disposition

17

Application Approval: Yes  No

Action / Remarks:

Date:

\_\_\_\_\_  
B. Schade; Head of the Product Assurance and Safety Department



**APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL**

Component Title: **SWITCHES, THERMOSTATIC, BIMETALLIC, SPST, OPENING CONTACT, BASED ON TYPE TH 47**

Executive Member: CNES

Date: 21/11/2023

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**ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION**

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Tests conducted in compliance with:

- ESCC 3702 generic specification; Chart F4 (for ESCC/QPL parts);
- or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

ESCC 370200102B030025HY DC 2327 (TH4702BHY030025 Lot id. 23000444)

Detail Specification reference: 3702/001 issue 9

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental / Mechanical Subgroup 1A	Rapid Change of Temperature	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-14	2327	6	0	
	Vibration	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-6	2327	6	0	
	Shock	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-27	2327	6	0	
	Seal Test	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-17	2327	6	0	
	Electrical and Thermal Measurements	<input checked="" type="checkbox"/>	Table 2 of the Detail Specification	2327	6	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	2327	6	0	
Environmental / Mechanical Subgroup 1B	Resistance to Soldering Heat	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-20	2327	3	0	
	Damp Heat	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-78	2327	3	0	
	Seal Test	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-17	2327	3	0	
	Electrical and Thermal Measurements	<input checked="" type="checkbox"/>	Table 2 of the Detail Specification	2327	3	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	2327	3	0	
Endurance Subgroup 2A	Response Time	<input checked="" type="checkbox"/>	ESCC 3702 Para. 8.12	2327	4	0	
	Operating Life	<input checked="" type="checkbox"/>	ESCC 3702 Para. 8.13	2327	4+4+4	0	
	Seal Test	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-17	2327	4+4+4	0	
	Electrical and Thermal Measurements	<input checked="" type="checkbox"/>	Table 2 of the Detail Specification	2327	4+4+4	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	2327	4+4+4	0	
Endurance Subgroup 2B	Response Time	<input checked="" type="checkbox"/>	ESCC 3702 Para. 8.12	2327	3	0	
	Overload	<input checked="" type="checkbox"/>	ESCC 3702 Para. 8.14	2327	3	0	
	Seal Test	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-17	2327	3	0	
	Electrical and Thermal Measurements	<input checked="" type="checkbox"/>	Table 2 of the Detail Specification	2327	3	0	



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	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	2327	3	0	
Endurance Subgroup 2C	High Temperature Storage	<input checked="" type="checkbox"/>	ESCC 3702 Para. 8.15	2327	2	0	
	Low Temperature Storage	<input checked="" type="checkbox"/>	ESCC 3702 Para. 8.15	2327	2	0	
	Seal Test	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-17	2327	2	0	
	Electrical and Thermal Measurements during Endurance Testing	<input checked="" type="checkbox"/>	Table 6 of the Detail Specification	2327	2	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	2327	2	0	
	Assembly Capability Subgroup	Solderability	<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-20	2327	2	0
Permanence of Marking		<input checked="" type="checkbox"/>	ESCC Basic Specification No. 24800	2327	2	0	
Robustness of Termination		<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-21	2327	2	0	
Seal Test		<input checked="" type="checkbox"/>	IEC Publication No. 60068-2-17	2327	2	0	
Electrical and Thermal Measurements during Endurance Testing		<input checked="" type="checkbox"/>	Table 6 of the Detail Specification	2327	2	0	
External Visual Inspection		<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	2327	2	0	

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