Climatic Test Report

Equipment under Test (EUT): Industrial Terminal
- [redacted]

Applicant: [redacted]

Document : Climatic Test Report for frontfoil NEOXUM II after 24h of drying process

Receipt date: 2013-10-14
Test date: 2013-10-16 – 2013-10-17

[redacted]

Note	- The results in this report apply only to the tested sample(s). - Reproduction of this report except in its entirety is not permitted without written approval of [redacted]
[redacted]	- [redacted]

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1 Summary of standards and results

The system was tested close to the applicable standards as referenced below.

1.1 Classification of standards and results

Climatic environmental conditions close to EN 60721-3-5; class 5K2 and 7K2.

Table 1: Test specification

Climatic test	close to EN 60068-1	Environmental tests part 1 General and guidance
Climatic test Cold operation	close to EN 60068-2-1	Environmental tests; Part 2: test section A, cold
Climatic test Cold operation	startup at -30℃	Environmental t ests;
Climatic test	according to IEC 60721-3-7 category 7k2 -30℃ min Temp.; +50℃ max. Temp.	Environmental tests;
Climatic test	according to IEC 60721-3-7 category 5k2 +70℃ storage Temp.; +50℃ operation Temp.	Environmental tests;

1.2 Summary of results

Table 2: Overview and results of valued tests

Test link	Valued Tests	Results
		NEOXUM II
3.1	Storage shock test (-35 to +80) ℃	Passed
3.2	Remaining tests (7K2)	Passed
Remark	The results are only applicable for the tested configuration.	
Conclusion	Complete conclusion see 4. Conclusion	

1.3 Table of used instruments

Table 3: Table of used instruments/ material

Pos.	Name	Characterization	Manufacturer	PM	Cal.
1	Climatic test cabinet	VC4018	Vötsch	PM012E	6.2014
2	Temperature test cabinet	VT4018	Vötsch	PM106E	6.2014
3	Hybrid Recorder 20 chan.	DR130-23	Yokogawa	PM013E	5.2014
4	Thermocouples	5SRTX-GG-(J)I-30-2M	Omega		
5	Power Supply	Genesys GEN60-25	Lambda	Inv.1323	4.2014
6	Power Supply	Genesys GEN60-25	Lambda	Inv.1324	4.2014
7	Power Supply	Genesys GEN60-25	Lambda	Inv.1325	4.2014
8	Power Supply	CPX200Dual PowerFlex	TTi	PM116E	4.2014
9	Multimeter	M4660-M	Voltcraft		
10	Measure-PC	IPC 7/215 Panel mount	[redacted]	-	4.2015
11	Measure-PC	IPC 6 / Production	[redacted]	-	4.2015
12	Adhesive for Thermocouples	Rapid Adhesive X 60	HBM		

2 Equipment under test

2.1 System description

Table 4: Product configurations

Product	[redacted]
Manufacture	[redacted]
Type	Industrial Computer
Frontfoil:	NEOXUM II after 24h of drying process

2.2 Test setup

Figure 1: Test Setup overview

Figure 2: Unit with NEOXUM II before the tests

3 Test results

3.1 Storage shock test (-35 to +80) ℃

Passed

Table 5: Test configuration and results for storage shock test

Test Material + Software	Equipment under Test (EUT)
Temperature values	-35℃ to +80℃ for one cycle
Duration / Cycles	9h / 6
Fan rotational speed	100 % (-35℃) / 30 % (+80℃)
Requirements	Normal function, see FKT requirements
Results	-
Remarks	Requirements tested via visual inspection.
Conclusion	Complete conclusion see 4. Conclusion

Table 6: Test protocol of storage shock test for NEOXUM II

Session	Date	Time of change	Time / h:min	Temperature / ℃	Comment
1	17.10.13	09:00	1:30	-35	Figure 3
2	17.10.13	10:30	1:30	+80	Figure 4
3	17.10.13	12:00	1:30	-35	
4	17.10.13	13:30	1:30	+80	
5	17.10.13	15:00	1:30	-35	
6	17.10.13	16:30	1:30	+80	
Result	No visual limitation on the foil				

Figure 3: [redacted] unit at -35℃ (session 1)

Figure 4: [redacted] unit after loading from -35℃ to +80℃ (after se ssion 1)

3.2 7K2 test

Table 7: Test configuration and results for 7K2 test.

Test Material + Software	Equipment under Test (EUT)
Temperature values	Test configuration for 7K2
Duration / Cycles	12h / 1
Fan rotational speed	-
Requirements	Normal function, see FKT requirements
Results	-
Remarks	Requirements tested via visual inspection.
Conclusion	Complete conclusion see 4. Conclusion

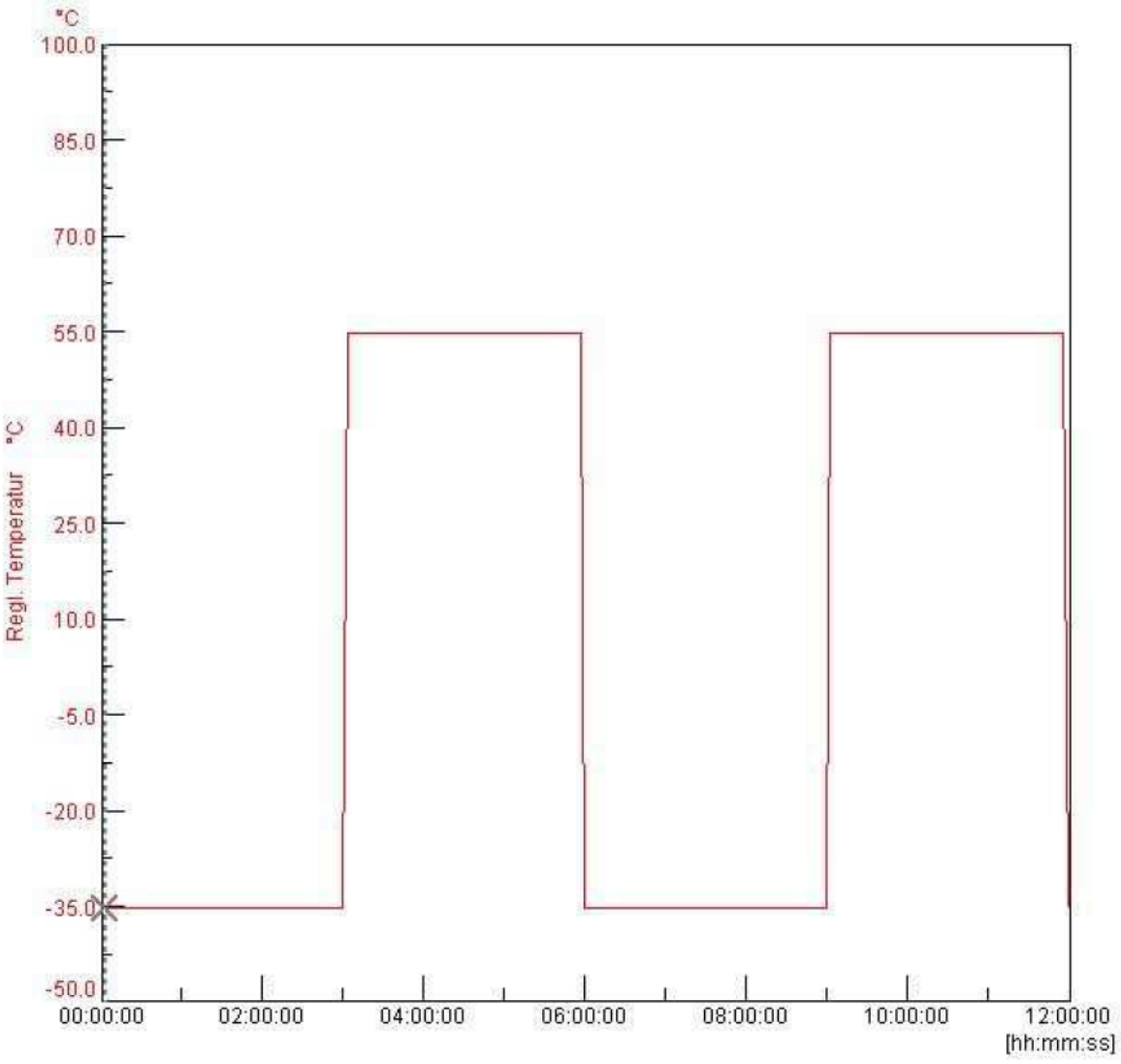

Figure 5: temperature profile

Figure 6: [redacted] Unit with NEOXUM II frontfoil after climatic shock and 7K2 test

Conclusion

NEOXUM II passed the test without any visual limitation.

4 Change History

Ver.	Change	Author	Date	Released	Date
01e	Document Created	[redacted]	2013-10-18	[redacted]	2013-10-18