

Nordsec Security AB  
Box 1070  
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## Follow-up fire test of cabinet 071

6 appendices

### Accredited test method

NT FIRE 017, edition 2, approved 1997-05

### Product

Document cabinet

### Product designation

Nordsec, model L71 with ser no 02510

### Sponsor

Nordsec Security AB

### Fire technical classification

Based on the test result of the cabinet and the classification criteria in the test method NT FIRE 017, the fire resistance classification of the cabinet is as in certificate 10 12 02:

Classification:  
**NT FIRE 017 – 90 Paper**

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#### SP Technical Research Institute of Sweden

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## 1 Purpose of the test

The purpose of the test was to determine whether the fire resistance of the test specimen described in chapter 2, still fulfils the classification criteria as in certificate 10 12 02.

## 2 Test specimen

The test specimen was selected by SP on January 17, 2011 at Nordsec warehouse, located on Hönö, Sweden. The test specimen arrived at SP on February 22, 2011.

### 2.1 Description of the construction

The test specimen consisted of a cabinet designated Nordsec, model L71.

The dimensions of the cabinet were:

- outer (width x height x depth) 590 x 860 x 552 mm
- inner (width x height x depth) 450 x 716 x 362 mm

### 2.2 Mounting of the test specimen

The cabinet was placed on 50 mm ceramic fibre insulation in SP's horizontal furnace.

### 2.3 Conditioning

The test specimen was stored in SP's furnace hall before the test. The temperature in the furnace hall was in average 17 °C and the relative humidity was in average 59 % during this time.

### 2.4 Control

#### 2.4.1 Weight of the cabinet

The weight of the cabinet before the test was measured to 180,4 kg.

The weight of the cabinet after the test was measured to 160,6 kg.

### 2.4.2 Properties of included materials

<i>Test specimen</i>	<i>Moisture ratio 1) (%)</i>
Filling in cabinet	19,0

1) Moisture ratio calculated from weight loss after being heated at 105 °C.

The verification was performed on Mars 8, 2011 on material from the cabinet. It was not possible to calculate the density of the material. The purpose of the control is to verify and/or determine material data and dimensions of materials and components included in the test specimen. The extent of performed measurements and applied methodology can deviate from standardized method. The results shall therefore not be considered as formal material data.

### 2.4.3 Final settings

The cabinet was closed and the key was removed.

## 3 Test procedure and test results

The test was performed on Mars 9, 2011. The test was terminated after 92 minutes.

### 3.1 Witness of test

No witness from the sponsor was present.

### 3.2 Furnace control

The furnace was controlled in accordance with SIS 02 48 20, edition 2, dated 1977-07-01 (ISO 834-1975).

#### 3.2.1 Temperatures

The furnace temperature was measured with 4 thermocouples positioned at a level of half of the height of the cabinet and with a distance of 100 mm from the vertical surfaces of the cabinet.

The average temperature in the furnace in relation to the standard time-temperature curve is shown in appendix 1.

The temperature rise at each thermocouple in relation to the standard time-temperature curve is shown in appendix 2.

### 3.2.2 Pressure

The pressure in the furnace in relation to the ambient pressure in SP's furnace hall was measured at a point located 470 mm above the top of the cabinet. The furnace pressure was controlled so that a zero pressure was kept at a level of half the height of the cabinet.

The calculated furnace pressure is shown in appendix 3.

### 3.3 Measurements on the test specimen

#### 3.3.1 Temperatures

The temperature rise inside the cabinet was measured with 6 thermocouples (C1 – C6). The thermocouples were positioned as shown in appendix 4.

The temperature rise at each thermocouple in the cabinet is shown in appendix 5.

The average temperature of the thermocouples at the beginning of the test was 19 °C.

### 3.4 Observations

#### 3.4.1 Observations during the test

Photos taken before, during and after the test are shown in appendix 6.

<i>Time min:s</i>	<i>Observations</i>
00:00	The test starts.
03:15	Lock device falls down and starts to burn.
10:20	Handle is melting.
35:50	Sides of the cabinet is slightly deformed.
92:00	The test is terminated.

#### 3.4.2 Observations after the tests

The cabinet was easily opened after the test.

## 4 Summary

One cabinet, described in chapter 2, have been fire tested according to NT FIRE 017, edition 2, approved 1997-05 during 92 minutes. The following result was obtained:

The maximum temperature rise at 90 minutes was 143°C (thermocouple C6).

The test results relate only to the behaviour of the test specimen during the conditions of the test. At other conditions, for instance another fire curve, the behaviour of the construction may differ from the presented test results.

### SP Technical Research Institute of Sweden

#### Fire Technology - Fire Resistance

Technical Officer



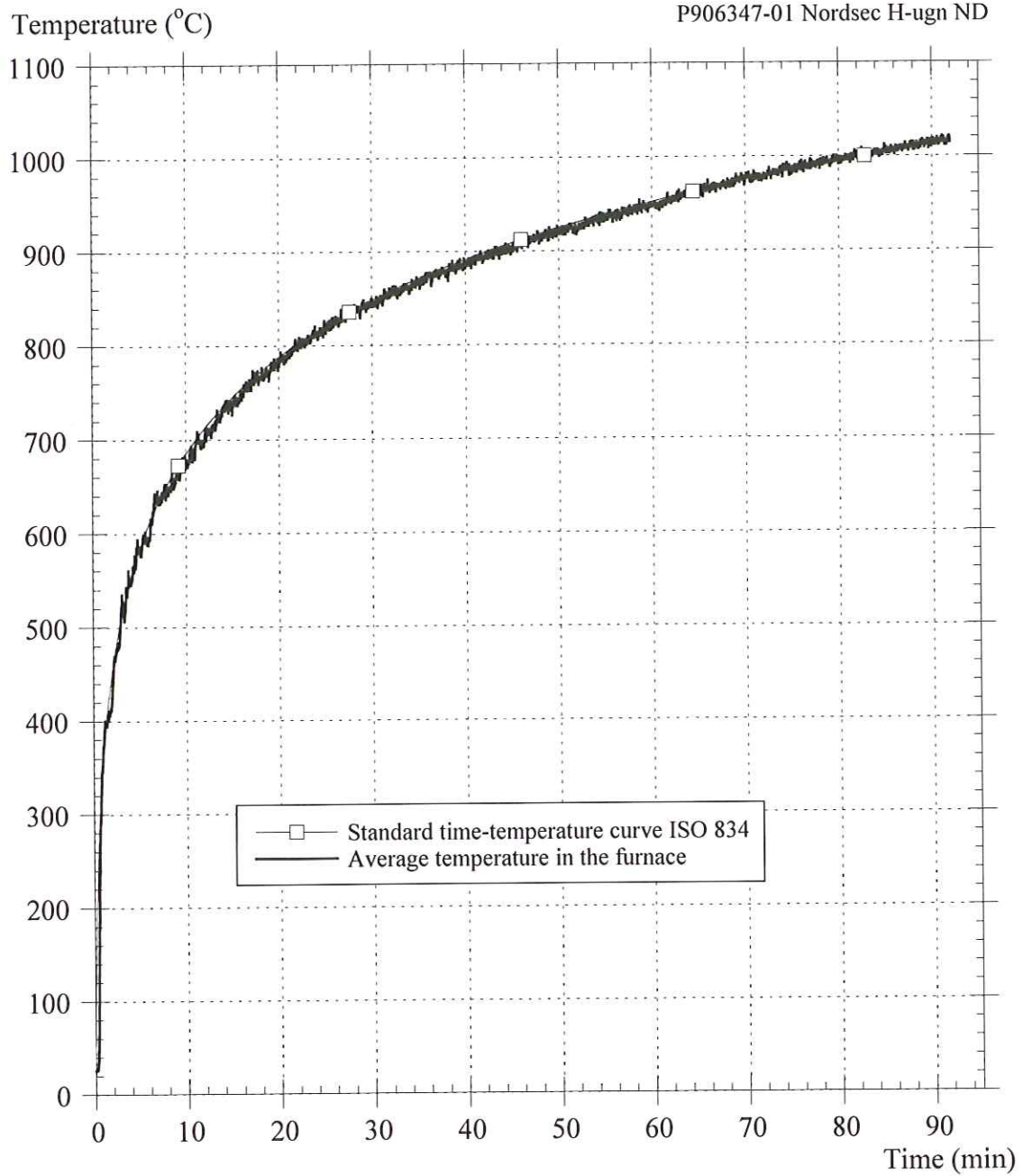
Joel Blom

Technical Manager

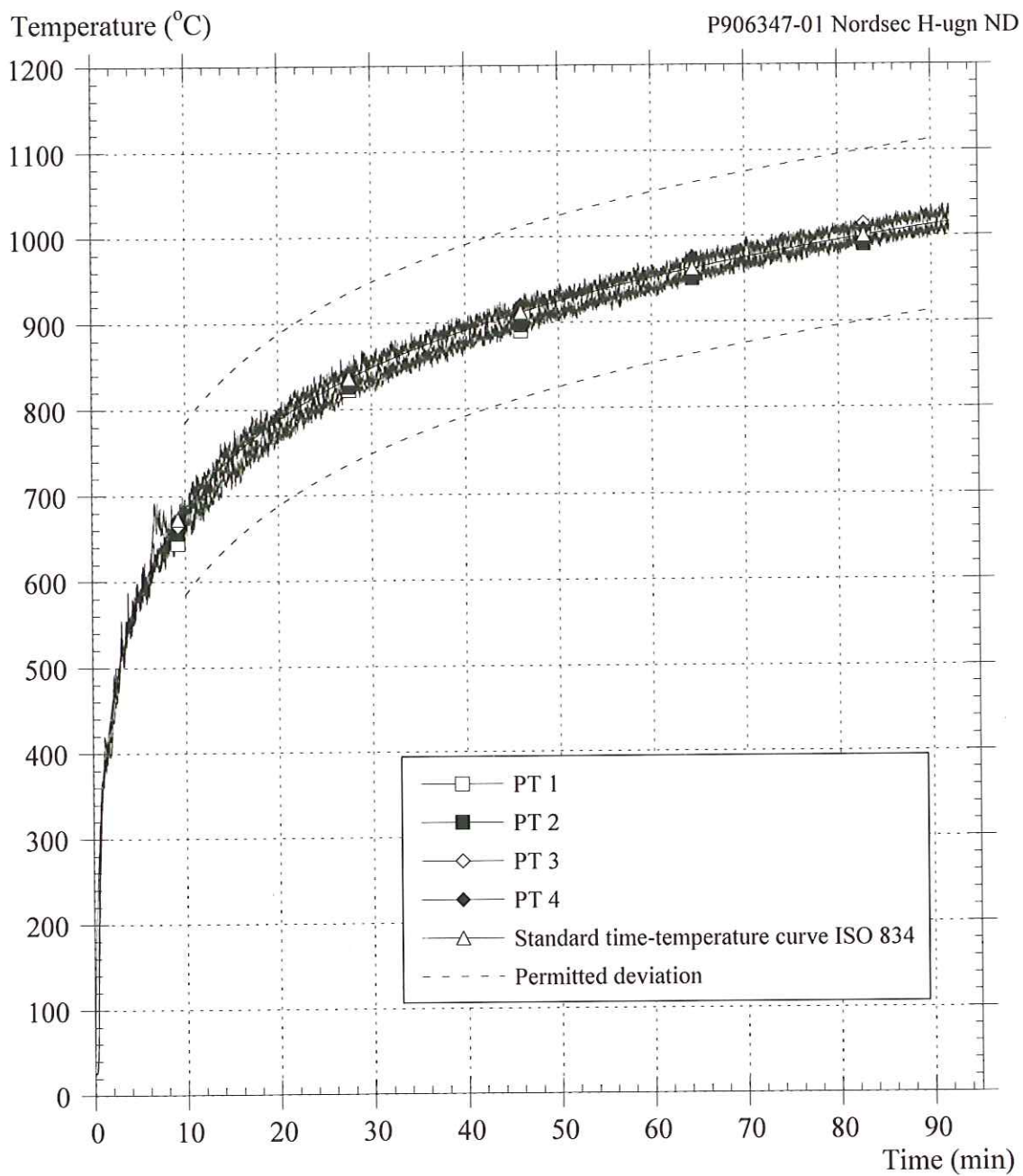


Lars Boström

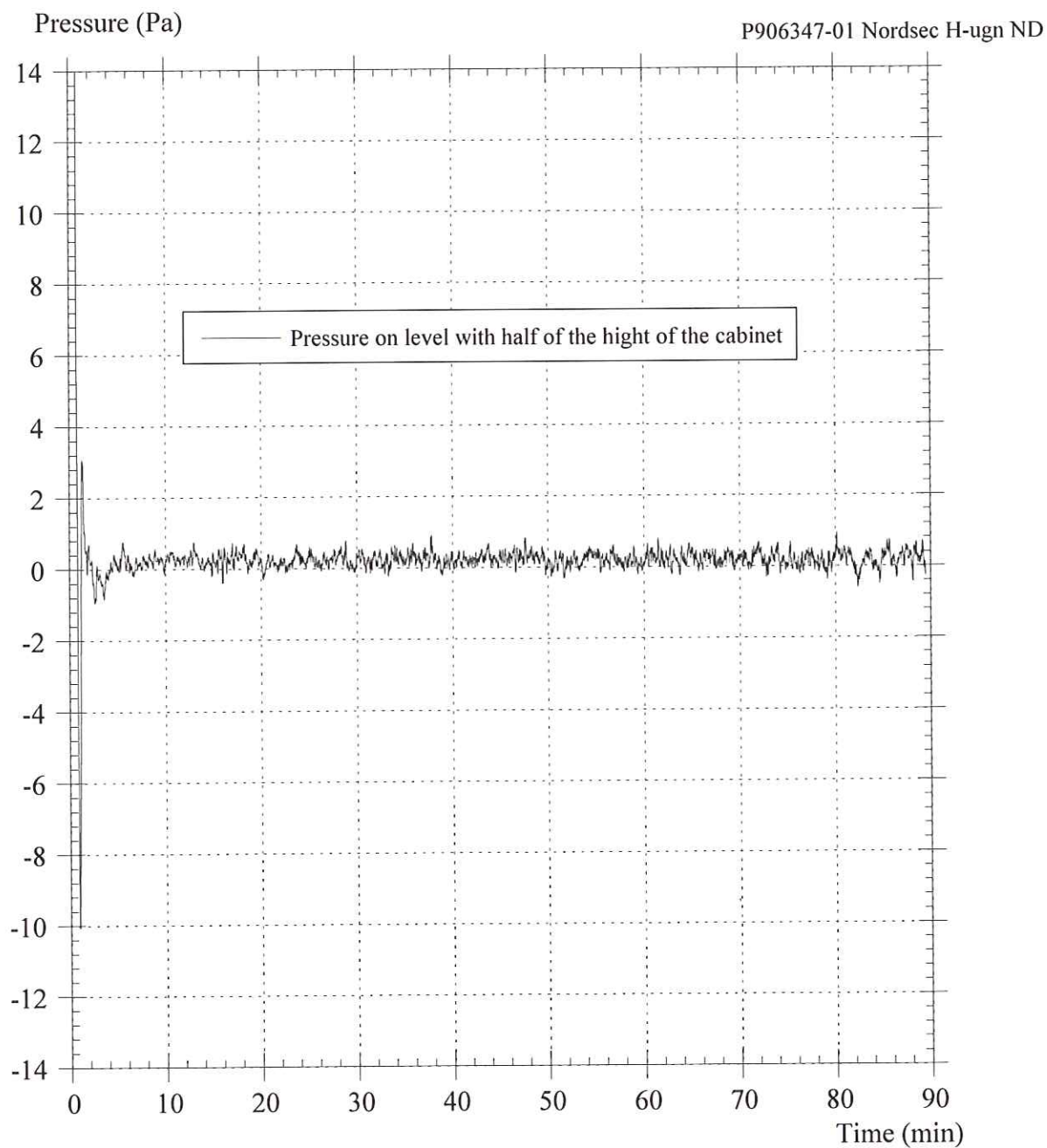
### Temperature in the furnace



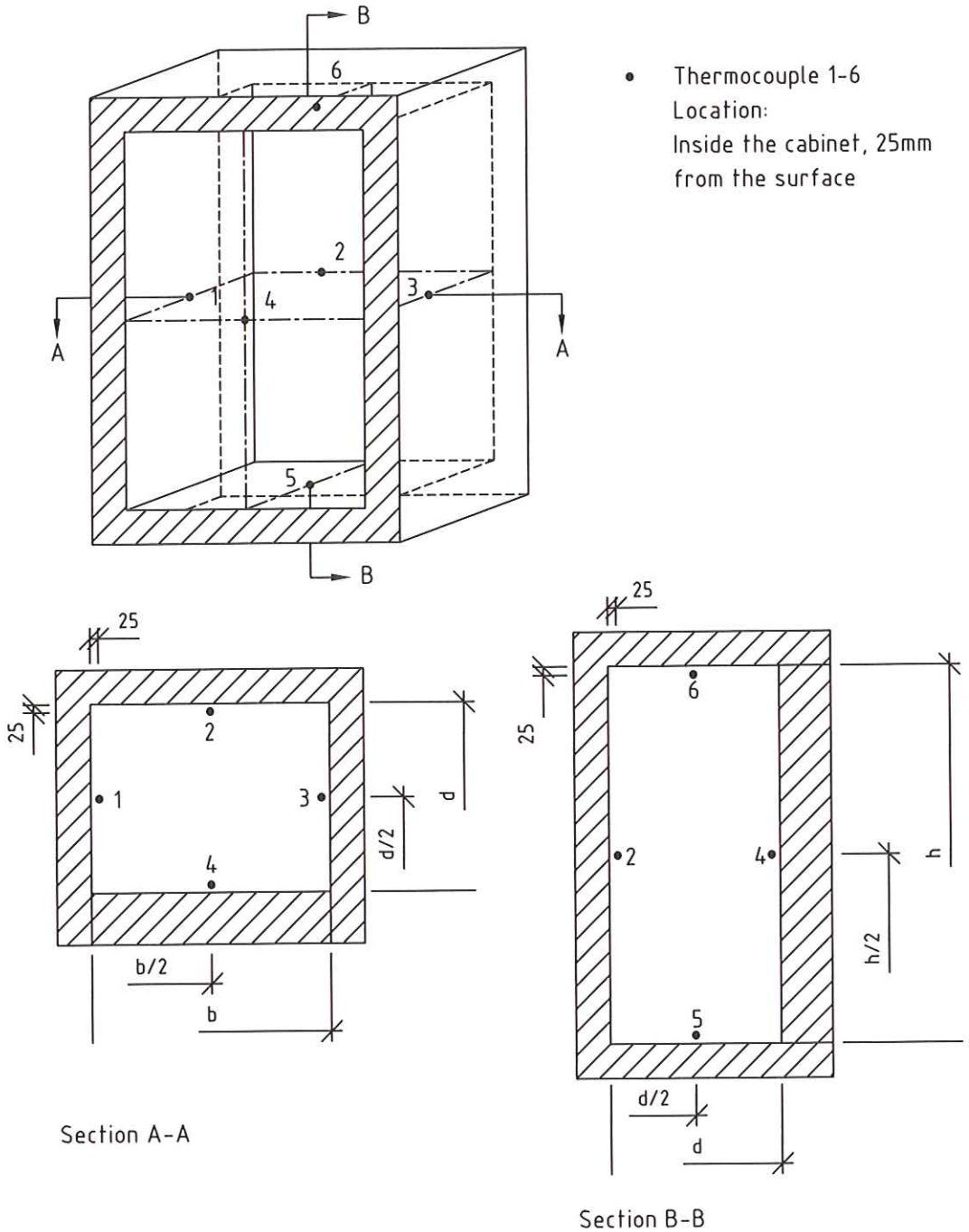
### Temperature in the furnace



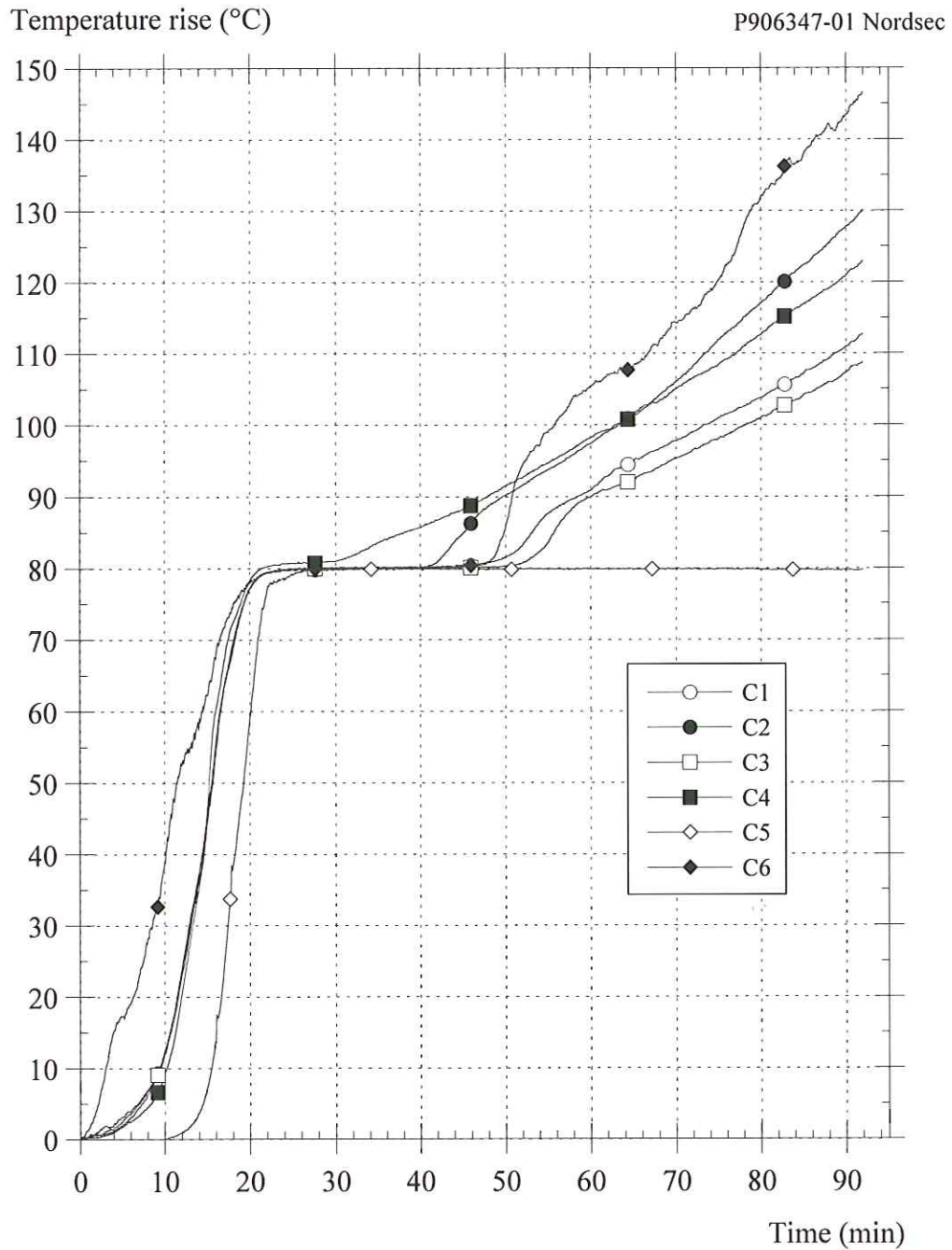
### Pressure in the furnace in relation to the ambient pressure in the laboratory







### Temperature rise inside the cabinet.





Appendix 6

Report No: P906347B

Photo no: 1

*Prior to the test:*

The cabinet placed in the furnace.

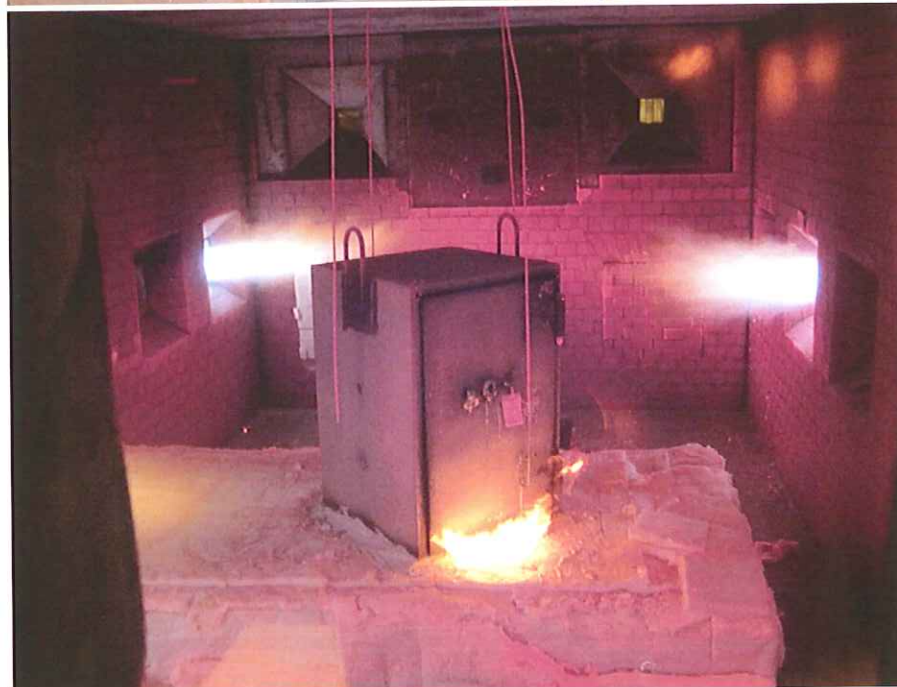


Photo no: 2

*During the test:*

Approximately fifteen minutes after the test has started.



Photo no: 3

*After the test:*

The cabinet was opened after the test.



# CERTIFIKAT

No. 10 12 02

## Document cabinets

### Holder/Issued to/Manufacturer

Nordsec Security AB, Box 1070 , SE-475 22 ÖCKERÖ, Sweden

### Product

Document cabinets

### Product name

SD, L70, L71, L72

### Product information

See attached appendix

### Fire resistance class

NT FIRE 017 - 90 Paper

### Performance specification

NT FIRE 017 and SP's certification rules for fire resisting storage cabinets, SPCR 002.

### Marking

Marking in the cabinet shall show the name of the product, its fire resistance class, its serial number, the number of this certificate and SP's **P**-symbol.

### Validity

This certificate is valid until not longer than 31<sup>st</sup> May 2018.

### Miscellaneous

The manufacturer's in-house inspection is under surveillance by SP in accordance with section 4 and 5 of SPCR 002. Other terms and conditions are set out in section 6 of SPCR 002. This is the fifth issue of this certificate, replacing earlier issues. The certificate was originally issued on 13<sup>th</sup> June 1997.

Borås, 7<sup>th</sup> January 2013

### SP Technical Research Institute of Sweden Certification

  
Lennart Månsson  
Certification Manager

  
Lennart Aronsson  
Certification Officer

  
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Certificate issued by an Accredited Certification Body

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# CERTIFIKAT

No. 10 12 02 - Appendix

Dated 7<sup>th</sup> January 2013

## Product information

Cabinet model	External dimensions (mm)			Internal dimensions (mm)			Weight (kg)
	Width	Height	Depth	Width	Height	Depth	
SD	463	608	479	325	470	355	105
L70	590	760	551	450	560	360	155
L71	590	930	551	450	720	360	190
L72	590	1270	551	450	1060	360	250

Appendix to certificate issued by an Accredited Certification Body, page 1(1)

Sign:



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