



# Grinnell®

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**FIRE PROTECTION SYSTEMS COMPANY**

835 Sharon Drive  
Westlake, Ohio 44145

A tyco INTERNATIONAL LTD. COMPANY

September 21, 1999

Seung Lee

Office of Nuclear Materials Safety and Safeguards  
United States Nuclear Regulatory Commission  
Washington D.C. 20555

Re: Proprietary label removal

Dear Mr. Lee,

On October 16, 1998 you sent me a facsimile requesting information relating to six items in my original application. Item three related to legible copies of Attachment E5 which is drawings 515456 and 515462. Item four concerned Attachment E3 which is the drawings and bill of materials 516-051-031 and CL 516-051-031. At that time I mailed updated copies of these items with the proprietary label covered. I have included copies of the latest revision of the drawings.

The only change from the last set that I sent back in October is a reference to wipe testing specifications, see item 15 in the notes. I have included this procedure, WP121-121-262.

I have also included a copy of the cover page of TE 6927 and TE 86995 with the proprietary clause removed.

In the near future we will be changing the label, drawing 515456 and 515462 to include the ULC designation because we plan to export these detectors to Canada. Can you advise me on the process required to make this change to your file.

If you need further assistance or information, please do not hesitate to call me at 1-440-871-9900 or fax me at 1-440-871 1870.

Thank You

Reed Timko  
Manager of Test Systems



L o s s P r e v e n t i o n C o u n c i l

Melrose Avenue Borehamwood Hertfordshire WD6 2BJ  
Telephone: 020 8207 2345 Fax: 020 8207 6305 E-mail: info@lpc.co.uk <http://www.lpc.co.uk>

Mr Raghbir Dhadha  
Senior Principal Engineer  
Thorn Security Ltd  
Hanworth Road  
SUDBURY-ON-THAMES  
Middlesex

17 November 1999

Dear Mr Dhadha

We refer to your telephone request of 10<sup>th</sup> November 1999 concerning the restrictions placed on the reproduction of test reports and offer the following statement:-

The Loss Prevention Council waives the restriction placed upon Thorn Security (as the client) that only they, Thorn Security, may reproduce reports TE 86995 and TE 86927 and allows The National Commission for Radiology of the USA to also reproduce these reports.

We trust this statement is sufficient to resolve the situation.

Yours sincerely

David L Lupton  
Group Company Secretary

HQ/DLL/081

# SPECIFICATION

## 1.0 INTRODUCTION

THIS TEST SHALL BE CARRIED OUT ON THE ION CHAMBER SMOKE DETECTORS LISTED BELOW AFTER FINAL TEST BUT PRIOR TO PACKAGING. THE PURPOSE OF THE TEST IS TO ENSURE THAT THERE IS NO CONTAMINATION ON THE DETECTOR COVER FROM THE AMERICIUM SOURCE. THE TEST IS A REQUIREMENT OF THE AMERICAN N.R.C. AND THE LIMITS ARE DEFINED IN "RECOMMENDATIONS FOR ION CHAMBER SMOKE DETECTORS IN IMPLEMENTATION OF RADIATION PROTECTION STANDARDS 1977" - ISSUED BY THE OECD NUCLEAR ENERGY AGENCY.

## 2.0 SCOPE

ALL GRINNELL ION CHAMBER DETECTORS MANUFACTURED FOR EXPORT TO THE USA.

## 3.0 OVERVIEW

A FILTER PAPER IS WIPED OVER THE DETECTORS TO REMOVE ANY LOOSE RADIOACTIVE CONTAMINATION, THE AMOUNT OF CONTAMINATION, IF ANY, ON THE FILTER PAPER IS THEN ACCURATELY MEASURED, THE SAMPLE SIZE AND CONTAMINATION LEVEL ARE THEN COMPARED AGAINST THE ACCEPTANCE CRITERIA, THE BATCH IS EITHER ACCEPTED OR REJECTED. IF THE BATCH IS ACCEPTED, THE TEST DOCUMENTATION AND THE DETECTORS MAY BE PACKAGED & DESPATCHED. IF THE BATCH IS REJECTED, THE DETECTORS MUST BE QUARANTINED AND THE COMPANY RADIATION PROTECTION SUPERVISOR INFORMED IMMEDIATELY, FOR DECLARATION OF CONFORMITY SEE SHEET 2.

## 4.0 PROCEDURE

### 4.1 WIPE METHOD

A FILTER PAPER (SEE CL FOR FINISHED GOODS LEVEL SCN) SHALL BE WIPED FIRMLY HALF WAY ROUND THE COVER OF THE DETECTOR BETWEEN THE BOTTOM OF THE AIR INLET HOLES AND THE BOTTOM OF THE DETECTOR IN ONE CLEAN MOVEMENT IN ORDER TO REMOVE LOOSE RADIOACTIVE CONTAMINATION (IF ANY). NOTE THAT THE SAME FILTER PAPER CAN BE USED TO WIPE UPTO 75 DETECTORS IN THE SAME BATCH.

### 4.2 MEASUREMENT

THE SETTING UP AND USE OF THE EQUIPMENT USED TO MEASURE RADIOACTIVE CONTAMINATION IS DETAILED IN LWI TS/034/SS. THE FILTER PAPER IS LOADED TO THE DRAW OF THE SCINTILLATION COUNTER, THE DRAW IS THEN CLOSED THE SCALER/TIMER RESET TO ZERO THEN INITIALISED, THE COUNT OF THE RADIOACTIVE CONTAMINATION IS THEN DISPLAYED AND MUST BE ENTERED ONTO THE DECLARATION OF CONFORMITY BY THE PERSON WHO CARRIED OUT THE TEST.

### 4.3 ACCEPTANCE CRITERIA

IF THE FILTER PAPER IS CONTAMINATED IN EXCESS OF 185 Bq (BECQUERELS) THEN THE ENTIRE BATCH MUST BE REJECTED, IF THE CONTAMINATION IS BELOW 185 Bq THEN THE ENTIRE BATCH CAN BE ACCEPTED.

### 4.4 SAMPLE SIZE

THE NUMBER OF DETECTORS THAT NEED TO BE TESTED VARIES WITH THE BATCH SIZE, AND GIVES A 95% CONFIDENCE LEVEL THAT THE DETECTORS MEET THE DESIGN SPECIFICATION, THE ACTUAL NUMBER OF DETECTORS THAT NEED TO BE TESTED IN ANY BATCH IS DEFINED ON THE DECLARATION OF CONFORMITY.

### 4.5 ACCEPTANCE

IF THE BATCH IS ACCEPABLE, THE DECLARATION OF CONFORMITY WITH THE TEST RESULTS (CONTAMINATION LEVEL), MUST ACCOMPANY THE DETECTORS TO THE WAREHOUSE AND ONWARDS TO THE USA. THE DECLARATION OF CONFORMITY MUST BE SIGNED & DATED BY THE PERSON WHO CARRIED OUT THE TEST.

### 4.6 REJECTION

IT IS EXTREMELY UNLIKELY THAT CONTAMINATION WILL BE DETECTED. IF CONTAMINATION ABOVE THE ACCEPTANCE LEVEL IS DETECTED THE ENTIRE BATCH MUST BE QUARANTINED AND NOT OUTPUTTED. THE COMPANY RPS MUST BE IMMEDIATELY INFORMED AND THE CONTINGENCY PLAN FOR CONTAMINATION IMPLEMENTED.

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ISSUE	APP'D	ISSUE	APP'D	ISSUE	APP'D	COMPILED	
1. 008786 2-12-98	<i>df</i>					M.Y	30-11-98
						CHECKED	

A4	TITLE: WIPE TEST FOR UL APPROVED ION CHAMBER DETECTOR TYPES 612I. 912I	DRAWING No: WP 121-121-262
		SHEET 1 OF 2

**tyco ELECTRONIC PRODUCT GROUP**

**DECLARATION OF CONFORMITY  
INCORPORATING TEST RESULTS**

Smoke Detector Type \_\_\_\_\_ Part Number \_\_\_\_\_

Source Type: Am241 Nominal Activity: 33.3kBq

**Test Equipment Used:**

Scintillation Counter type \_\_\_\_\_ Ser Number \_\_\_\_\_ Calibration Date \_\_\_\_\_  
Counter-timer type \_\_\_\_\_ Ser Number \_\_\_\_\_ Calibration Date \_\_\_\_\_

Batch Qty: \_\_\_\_\_ Works Order No.(s) \_\_\_\_\_  
Sample Qty: \_\_\_\_\_ Manufacturing Date(s) \_\_\_\_\_

**BATCH RESULT LIMIT: NOT GREATER THAN 185 BECQUERELS**

ACTUAL RESULT ACHIEVED: \_\_\_\_\_ Becquerels

**Sampling Plan Details:**

Batch Size	Sample Size	Accept Reject Level
1 to 30	ALL	185 Bequerels Maximum
31 to 50	30	185 Bequerels Maximum
51 to 100	37	185 Bequerels Maximum
101 to 200	40	185 Bequerels Maximum
201 to 300	43	185 Bequerels Maximum
301 to 400	44	185 Bequerels Maximum
401 to 2000	45	185 Bequerels Maximum
2001 to 100,000	75	185 Bequerels Maximum

**Declaration**

The above mentioned product "batch" (defined as consecutive manufacture) have been sample tested in accordance with the requirements of WP 121.121.262 and are confirmed to meet the contamination limits defined therein, to the LTPD=5% sampling table.

Tested and Certified by: \_\_\_\_\_ Date: \_\_\_\_\_

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SHEET 2 OF 2



L o s s P r e v e n t i o n C o u n c i l

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Telephone: 020 8207 2345 Fax: 020 8207 6305 E-mail: info@lpc.co.uk <http://www.lpc.co.uk>

Mr Raghbir Dhadra  
Senior Principal Engineer  
Thorn Security Ltd  
Hanworth Road  
SUDBURY-ON-THAMES  
Middlesex

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