

## TURKISH STANDARD INSTITUTION

**Issue Number:** B. 14.2. TSE.0.16.40.01-251.03-309581 03/09/2010

Subject: PrivateDemand

# ELEKTRAL Elektromekanik San. Ve Tic. A.Ş. Atatürk Organize Sanayi Bölgesi M. K. Atatürk Blv. 23. Çiğli/İzmir

Relevance: Your demand dated 01.09.2010

The demanded tests have been conducted on the Thruscan SX-i model Walk-Through Type Metal Detector sample enclosed with your demand, and the related test report is enclosed.

For your kind attention.

Ali BEYCAN

Ankara Laboratories Group Leader

Enclosed are 1) The report dated 02.09.2010 and numbered 09/10-93501.

- 2) The invoice dated 02.09.2010 and numbered 06.50.06-08/10-402.
- 3) The sample notice form.

#### HEADSHIP OF TEST LABORATORIES CENTRE

#### ELECTRICAL LABORATORY (ANKARA)

# TEST REPORT

Customer (Name, address, City etc.) : ELEKTRAL ELEKTROMEKANİK SAN. VETİC.

A.Ş – ATATÜRK ORGANİZE SANAYİ BÖLGESİ

M.K. ATATÜRK BLV. 23. ÇİĞLİ/İZMİR

**Order Date/No** : 02.09.2010 / 43515

Sample Description (Type, Mark, Model etc.) :WALK-THROUGH TYPE METAL DETECTOR,

ELECTRAL Mark, THRUSCAN sX-i model, 1item

Sample Receipt Date : 01.09.2010

The sample was provided by the customer.

**Date of Test** :02.09.2010 - 02.09.2010

**Applied Standart/Method** : The related standarts are given on the following

pages.

Number of pages of the report : 38

**Remarks**: Private Test

The testing and/or measurement results are given on the following pages which are part of this report.

This report was prepared referring to the private demand of the related firm, cannot be used as a

Conformity for Standarts Document and cannot be used for announcement and advertisement.

Seal Date Person in charge of tests Reviewer Head of Laboratory

03/08/2010 Hakan Uçar Turhan BUYURAN Ayşe Öztürk

Technician Chief Technician Head of Laboratory

This report shall not be partially or wholly reproduced without the permission of the laboratory. Test reports without signature and seal are not valid. This report is valid only for the tested sample, and can not be used as Product Certificate.

## **Test Sample Definition**

Name of the sample : Walk-Through Metal Detector

Mark : ELEKTRAL

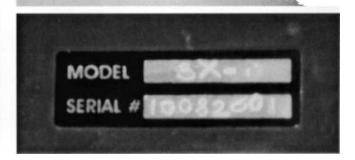
Model : THRUSCAN sX-i

**Serial No.** : 10082601









Photographs of the test sample



Rapor Tarih ve No: 09-10/93501

16.40.01





Photographs of the calibration kit

ECAC DOC No:30 AND ITS PROVISIONS	Explanation	Result
SECTION 13		
TECHNICAL SPECIFICATIONS OF SECURITY EQUIPMENTS		
ICAO ANNEX 17		
13.1 Metal Detection Equipment		
These requirements and metal detection equipment guidelines are applicable to any equipment using an electromagnetic field designed to detect, on a person, weapons and other metal items that may be used to commit an act of unlawful interference against civil aviation  For the screening of persons, metal detectors are used:  • while persons walk through the portal structure (Walk-Through Metal Detector – WTMD)  • when persons stop at a checkpoint to be screened by an operator using a hand-held device (Hand-Held Metal Detector – HHMD)		
Walk-through metal detectors used in passenger screening at airports should fulfil the following requirements:		
(a) Security  (i) equipment should be capable of detecting small items of	The sensitivity was adjusted 00. 2-teeth box cutter we detected in upper, middle lower sections.	as e
different metals, with a higher sensitivity for ferrous metals in all foreseeable conditions.		
(ii) equipment should be capable of detecting metal objects independentently of their orientation and location inside the frame.		1
(iii) the sensitivity of the equipment should be as uniform as possible inside the whole frame and should remain stable and be checked periodically.		1

(b) Operating requirements  The functioning of the equipment should not be affected by its environment.	The equipment should not be getting affected by fixed metal objects, and should be positioned to keep a 1m. distance from moving metal objects.	•
(c) Alarm indication  Metal detection should be indicated automatically, leaving nothing to the operator's discretion (go/no go indicator system).		1
(d) Controls  (i) equipment should be capable of being adjusted to meet all specified detection requirements, as well as the volume of the audible alarm.		<b>✓</b>
(ii)controls for adjustment of detection levels should be designed to prevent unauthorised access. The settings should be clearly indicated.	Protected via both password and mechanical lock.	1
(e) Calibration  Calibration procedures should not be made available to unauthorised persons.		
ECAC DOC No:30 AND ITS PROVISIONS		
<ul><li>13.1.1 General Principles</li><li>1) WTMD should be able to detect and to indicate by means of an alarm at least specified metallic items, both individually and in combination.</li></ul>		•
2)The detection by WTMD should beindependent of the orientation and position of the metallic item.	Detected in all of the XYZ directions.	1

3) WTMD should be firmly fixed to a solid base.		1
<b>4)</b> WTMD should have a visual indicator to show that the equipment is in operation.	Provided via 4x20 LCD screens and LEDs.	✓
<b>5)</b> The means for adjusting the detection settings of WTMD should be protected andaccesible only to authorised persons.	Protected via both password and mechanical lock.	1
6) WTMD should give both a visual alarm and an audible alarm when it detects metallic items as referred to in point 13.1.2. Both types of alarm should be noticeable at a range of 2 metres.		1
7) The visual alarm should indicate the strength of the signal detected by WTMD.	Indicated via VU metre.	✓
8)The performance of WTMD should not be affected by sources of interference.	Ran next to telephone and UPS; did not get affected.	1
13.1.3 Additional requirements for WTMD  (i)generate an audible and/or visual signal on a percentage of persons passing through the WTMD who did not cause an alarm as referred to in point 13.1.1.1. It should be possible to set the percentage; and	Adjusted to 50%. Gave alarm in 8 passings of every 15 ones.	•
(ii)count the number of screened persons, excluding any person passing through the WTMD in the opposite direction; and		1

(iii) count the number of alarms; and		1
(iv) calculate the number of alarms as a percentage of the number of screened persons.		1
13.1.5 Functional and other requirements for WTMD  13.1.5.1 Functional requirements	Tested with ECAC / NIJ / TSA test kits and found to meet all requirements.	1
<ul> <li>(a) Detection capability</li> <li>The WTMD should be capable of reliably and consistently detecting ferrous and nonferrous metal.</li> </ul>		
<ul> <li>The appropriate authority should specify the range of items to be detected.</li> </ul>		1
<ul> <li>The location, orientation and speed of any metal object passing through the WTMD should not influence the detection ability.</li> </ul>		•
The electromagnetic field inside the WTMD should be as uniform as possible.	Measured to be 0,1 Gauss on all surfaces.	1
(b) Discrimination  The WTMD should be capable of discriminating between different metals and their alloys.	With sensitivity set to 02, Spectacles and Bracelet in the test kit did not set off the alarm, while 2-teeth box cutter did. (The ability to discriminate.)	1
ECAC DOC No:30 AND ITS PROVISIONS		
(c) Alarm indication;  The WTMD should have both audible and visual alarm indication. Alarm should be indicated before or when the person screened walks out of the device. Alarm duration should be adjustable.		1

•	<b>Audible Alarm:</b> Audible alarm should be adjustable in tone and audio volume so that the operator can hear it in a busy operational environment.		✓
•	Visual Alarm: The visual alarm should be clearly visible to the operator. The visual alarm should provide information on the amount of detected material.		<b>√</b>
•	Additional Alarm (optional): It should be possible to generate an alarm for a specified percentage of persons who are not carrying metal items. This additional alarm may be indicated in a different tone.		<b>√</b>
•	<b>Threat location (optional):</b> The WTMD should be capble of indication the location of the metal which generated the alarm.		1
•	Remote alarm indication (optional): The WTMD should be capable of indicating the alarm at a remote location.	With computer connection, the viewing of real-time alarms via computer becomes available.	<b>√</b>
13.1.5.	2 Operational requirements		1
•	The WTMD should be easy to operate with clear alarm and failure indication.		
•	The WTMD should perform self-testing when switched on and shall not require any further adjustment by the operator.		1
•	An approved operational test piece should be supplied by the manufacturer. Frequency / methods of testing should be determined by the appropriate authority.		1
(a) Sen	sitivity settings	Adjustable between 0-246	<b>√</b>
•	The senitivity of the WTMD should be adaptable to the threat level.		
•	The adjustment of the WTMD's performance (selectable settings) should only be possible by authorised staff.	Protected via both password and mechanical lock.	1

<ul> <li>If performance can be adjusted or mantained by remote control or in a computer network, effective measures for preventing unauthorised access.</li> </ul>		✓
(b) Operator Controls;		✓
Only those controls required to operate the WTMD (Power On / Off) should be accessible to the operator.		
(c) Self-checking routine		✓
<ul> <li>The WTMD shall have continuous self-checking of key parameters that will cause an alarm that will require acknowledgement by the operator when a malfunction is detected.</li> </ul>		
Any automatic re-calibration should not interfere with system use.		✓
If the test or re-calibration fails, an appropriate display should provide the operator with failure indication.	Gives an error code.  The code is explained in the manual.	✓
<ul> <li>The WTMD should have continuous self-checking of key parameters.</li> </ul>		✓
ECAC DOC No:30 AND ITS PROVISIONS		
<ul> <li>(d) Insensitivity to interference</li> <li>Equipment used at an airport security checkpoint, including mobile phones, wireless devices etc., should not cause disturbance to the WTMD's operation.</li> </ul>	Conforms to the TSE test report numbered 05- 08/16050	✓
The WTMD should not affect the performance of either the airport or security equipment.	Conforms to the TSE test report numbered 05- 08/16050	✓
The WTMD should meet relevant EMC/EMI regulations.	Conforms to the TSE test report numbered 05- 08/16050	✓

(e) Statistica data of operation		1
The WTMD should be capable of accumulating statistical data, e.g.:		
time of operation		
passenger counts		1
alarm counts (seperated into real and additional alarms).		1
(f) Optimum siting	Will be provided for the user.	1
The manufacturer should provide information on the optimum siting of the WTMD.	user.	
13.1.5.3 Mechanical and electrical requirements		1
(a) General		
<ul> <li>The WTMD should be self-contained with a smooth surface, sturdy and not easily tipped.</li> </ul>		
The floor area should be clear of obstacles.		1
The WTMD should be capable of being fixed to the floor or other structure.		1
(b) Physical dimensions	74 cm	1
Internal dimensions: The internal dimension should be appropriate for the purpose of screening persons, e.g.:		
Width: min. 70 cm		
Height: min. 200 cm	201 cm	•
Depth: max. 65 cm.	50 cm	1

External dimensions: The external dimension should be as small as possible. Various options in outside design should be available for integrating the WTMD into the airport infrastructure.	8 types are available according to the statement of the firm.	•
(c) Susceptibility to vibration  The WTMD should not be susceptible to false alarms caused by mechanical vibration.		1
The WTMD should be water resistant and shall be provided with protection for the panels so that the floor could be washed with water without damaging the panels themselves.	Meets the IP44 conditions according to the TSE test report numbered 08-10/92337	1
The WTMD should be provided with protection against heat, dust and humidity.	Works in temperature levels between -20°C and +70°C and in %95 relative humidity according to the report of the firm NKL ELEKTRONİK SAN. dated 18.11.2009 and numbered 91120-01.	1
(e) Electrical requirements  The WTMD should be compatible with the local power supply and operate correctly at a voltage/frequency fluctation of +/-10%.		1
ECAC DOC No:30 AND ITS PROVISIONS		
13.1.5.4 Health and safety requirements  (a) General  The WTMD should comply with relevant health and safety legislation.	Appropriate according to the EGE University Fac. of Med. report dated 08.11.2007 and numbered B.30.2.EGE.0.01.00.06.04- 1568.	1

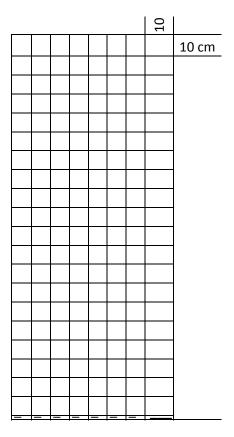
(b) Mechanical safety	/	
<ul> <li>The WTMD should not have any tripping hazards, such as ramps or external wires.</li> </ul>		
<ul> <li>The WTMD should be free of sharp corners and protrusions which could cause injuries or damage to clothing.</li> </ul>	/	
(c) Electrical safety	/	,
The WTMD should be free of potential electric shock hazards during operation.		
<ul> <li>(d) Non-interference with technical medical aids</li> <li>The WTMD should not have a detrimental effect on technical medical aids such as hearing aids, pacemakers, defibrillators, etc.</li> </ul>	Appropriate according to the EGE University Fac. of Med. report dated 08.11.2007 and numbered B.30.2.EGE.0.01.00.06.04-1568.	
<ul> <li>Evidence that this has been establised by a competent authority should be provided by the manufacturer.</li> </ul>	Appropriate according to the EGE University Fac. of Med. report dated 08.11.2007 and numbered B.30.2.EGE.0.01.00.06.04-1568.	
(e) Non-interference with electronic equipment  The WTMD should not interfere with electrical or electronic devices and magnetic storage media.	Appropriate according to test report of TSE numbered 05-08/16050	
13.1.5.5 Maintenance and service	/	,
<ul> <li>The WTMD should be designed for ease of maintenance.</li> </ul>		
<ul> <li>It should also have battery back-up with automatic intervention in the event of power blackout and battery operation signalling.</li> </ul>	UPS automatically intervened when the electricity to the device was cut off, and it was observed that the device kept on running.	

<ul> <li>Instructions for installation, operation,</li> </ul>	Provided with the device.	✓	
maintenance, trouble-shooting, list of essential			
spare parts and equipment guarantees and warranties should be provided by the			
manufacturer.			

An Opinel brand stainless jackknife—knife length 10 cm—with the invoice number 521639 was used for Standard 2 in ECAC tests.

# (a) Laboratory test

The field inside the WTMD is separated in sections as follows:



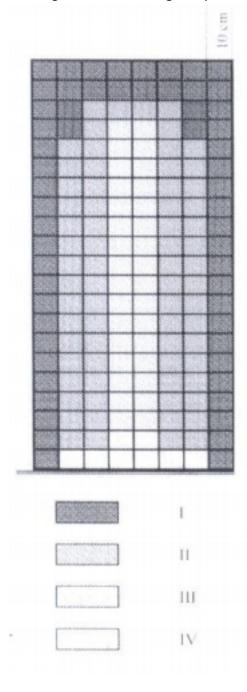
The following test objects are carried through every section with a determined speed.

Test Object	Metal/Alloy mass dimension	Location	Orientation	Speed (walk)	Speed (throw)	Detection capability (PD)
Α	2-teeth box cutter	1.2.3.4.5.6.7.8.9	x-y-z	Various	Various	% 100
В	NIJ test parts	1.2.3.4.5.6.7.8.9	x-y-z	Various	Various	% 100
С	TSA test parts	1.2.3.4.5.6.7.8.9	x-y-z	Various	Various	% 100
D	ECAC test part	1.2.3.4.5.6.7.8.9	x-y-z	Various	Various	% 100

The detection capability is measured and classified as follows:

 $\begin{tabular}{ll} I & PD = 100\% \\ III & PD = 75\% \\ III & PD = 50\% \\ IV & PD = 0 \\ \end{tabular}$ 

The following picture provides an image about the homogeneity of the magnetic field:



# (b) User test

Test object	Metal/alloy mass dimension	Location	Orientation	Speed (walk)	Speed (throw)	False alarm (F <sub>A</sub> )
E	2-teeth box cutter	1.2.3.4.5.6.7. 8.9	x-y-z	Various	Various	0%
F	NIJ test parts	1.2.3.4.5.6.7. 8.9	х-у-z	Various	Various	0%
G	TSA test parts	1.2.3.4.5.6.7. 8.9	x-y-z	Various	Various	0%
Н	ECAC test part	1.2.3.4.5.6.7. 8.9	x-y-z	Various	Various	0%

## Walk-Through Metal Detector

METAL DETECTOR	ELEKTRAL ELEKTROMEKANİK SAN. VE TİC. A.Ş.
	ThruScan SX-t
	10082601
Property Tag Number (if	10082601
applicable)	
Security Level Name	Various
Facility Name	TSE Electric Laboratory – Ankara-TR
Location	Bakanlıklar - Ankara
Date	2010   09   02

STANDARD 1	PASS □	FAIL □
	The verification has been completed	The verification has not been
	successfully. Each section gave a	completed. One or more of the
	positive result.	sections gave a negative result.
STANDARD 2	PASS	FAIL □
	The verification has been completed	The verification has not been
	successfully. Each section gave a	completed. One or more of the
	positive result.	sections gave a negative result.
STANDARD3	PASS □	FAIL □
	The verification has been completed	The verification has not been
	successfully. Each section gave a	completed. One or more of the
	positive result.	sections gave a negative result.

## 1) Foreword

This procedure shows the operations to be performed to verify the calibration of Walk-Through Metal Detectors, according to the actual Security Standards.

This procedure must be performed after the positive result of all the technical measurements done at the installation, which certify that the Walk-Through Metal Detector is operative in the working area. (Site Acceptance Test).

The calibration setting must be the one proposed by the manufacturer as the best to meet the requirements of the Security Standard.

## 2) Kit Composition

Table 1 - Part List of the 3-Standard Kit

Ref	Item	Q.ty
1	K6 Reference Test Sample	1
2	K8 Reference Test Sample	1
3	K10SS Reference Test Sample	1
4	K10 Reference Test Sample	1
5	K12SS Reference Test Sample	1
6	K12 Reference Test Sample	1
7	GD22 Reference Test Sample	1
8	GD32 Reference Test Sample	1
9	Carrying Case	1
10	Instructions for use and Verification Module (this sheet)	3
11	Holder for the ankle position	1
12	Test Piece certificates	1

## Table 2 - Part List of the 2-Standard Kit

Ref	Item	Q.ty
4	K10 Reference Test Sample	1
5	K12SS Reference Test Sample	1
6	K12 Reference Test Sample	1
7	GD22 Reference Test Sample	1
8	GD32 Reference Test Sample	1
9	Carrying Case	1
10	Instructions for use and Verification Module (this sheet)	1
11	Holder for the ankle position	1
12	Test Piece certificates	1

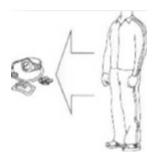
Tablo 3. İlgili Güvenlik Standardı İçin Kullanılacak Test Parçaları

Referans Test Parçası	Standart 1	Standart 2	Standart 3
K6			•
K8			•
K10SS			•
K10		•	
K12SS		•	
K12	•		
GD22	•	•	•
GD32		•	•

Drawing	Ref	Description		
a.a.	1	K6 Test Piece		
9	2	K8 Test Piece		
1000	3	K10SS Test Piece		
	4	K10 Test Piece		
	5	K12Test Piece		
	6	K12SS Test Piece		
	7	GD22 Test Piece		
	8 GD32 Test Piece			
	9	Carrying Case		
	10	Instructions for use and Verification Module (3		
		pieces)		
2	11	Holder for the ankle position		
8	12	Test Piece certificates		
6				
The state of the s				
120				

## 3. The "Clean Tester"

In order to verify the detection capabilities of the metal detector on the Reference Test Samples, without any influence by other metallic personal objects, the following tests shall be performed by an operator without wearing metallic parts, even the ones usually enclosed on clothes and accessories. This operator will be the "Clean Tester".



Therefore, the Clean Tester will wear a tracksuit, gym shoes and he/she must remove any personal metallic objects (glasses, watch, rings, necklaces, bracelets...) before starting the tests.

#### 4. Test Procedure

#### 4.1 Clean Tester

This test is performed by the Clean Tester.

Carry out four transits, two in one direction and two in the opposing direction, walking at a normal speed. Ensure that the Metal Detector will show a signal lower than the 20% (typical) and never higher than the 40% of the alarm threshold (maximum acceptable).

STEP 1		
4.1 Verification by means of the "Clean Tester"		
Is the signal measured during	YES ✓	NO
all passages always lower than	YES ✓	NO
the 40% of the alarm	YES ✓	NO
threshold?	YES 🗸	NO
Overall result: The signal measured during all passages is alway the 40% of the alarm threshold.	YES ✓	NO

The human body did not trigger the alarm.

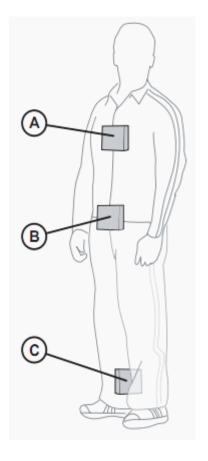
## 4.2 Walk-Through Detection Verification by means of the Reference Test Samples

The following procedure is performed by the Clean Tester.

Each Reference Test Sample is identified with its own name and with the transit orientations numbered from 1 to 6.

Wear each Reference Test Sample and perform, for each location (see picture on the right) and for each orientation (see table below), four transits, two in one direction and two in the opposite one, verifying that for every transit an alarm is triggered.

In case of no detection, increase the sensitivity by modifying the appropriate parameters globally and/or for the corresponding zone of the transit, if possible.



Position	Description
Α	Test piece at the centre of the chest
В	Test piece at the center of the waist
С	Test piece at right ankle, lower side of test piece at ankle bone.

# STEP 2-A

# 4.2 Walk-Through Detection Verification

Carry out four (4) transits through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside, and the associated arrow in the transit direction.

Orientation	Position	Standard 1		Stand	ard 2	Standard 3	
Onentation	1 Colucti	K12 Tes	t Sample	K10 Tes	t Sample	K6 Test	Sample
		YES []	№ []	YES	№ []	YES []	но 🛮
5	Å	YES []	ио []	YES	но 🛮	YES []	№ []
	0,	YES []	ио []	YES	ио 🛮	YES []	№ 🛮
		YES []	NO []	YES	но 🛮	YES []	№ []
	(A)	YES []	ио []	YES	ио 🛮	YES []	№ 🛮
6		YES []	№ []	YES X	№ []	YES []	№ 🛮
		YES []	№ []	YES X	№ 🛮	YES []	№ 🛮
		YES []	ио []	YES	№ []	YES []	№ 🛮
		YES []	№ []	YES	№ []	YES []	ио []
6		YES []	NO []	YES	NO []	YES []	№ 🛛
	B + /	YES []	NO []	YES	NO []	YES []	NO []
		YES []	NO []	YES	№ []	YES []	№ []

# STEP 2-B

## 4.2 Walk-Through Detection Verification

Carry out four (4) transits through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated. Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

Orientation	Position	Stand	ard 1	Stand	ard 2	Standard 3	
Orientation	Position	GD22 Te	st Sample	K12SS T	est Sample	K8 Test Sample	
5	Ω	YES	NO []	YES	ио 🛮	YES []	ио 🛮
_	(_)	YES []	NO []	YES	ио 🛮	YES []	ио 🛮
⊕e	(C)~	YES []	№ []	YES	№ 🛮	YES []	ио 🛮
	O 20	YES []	NO []	YES	№ []	YES []	№ []
6	O. S.	YES []	NO []	YES	ио □	YES []	№ 🛮
	( )	YES []	NO []	YES	№ []	YES []	ио 🛮
20	• 1	YES []	№ []	YES	№ 🛮	YES []	ио 🛮
	-	YES []	№ []	YES	№ 🛮	YES []	№ 🛮
6	B	YES []	№ []	YES	№ []	YES []	ио 🛮
		YES []	№ []	YES	ио 🛮	YES []	№ 🛮
0. 0		YES []	NO []	YES	№ 🛮	YES []	ио 🛮
	-	YES []	№ []	YES	№ []	YES []	№ 🛮
2	Ω	YES []	NO []				
	() ()	YES []	NO []				
		YES []	№ []				
		YES []	№ []				
4	08	YES	NO []				
		YES []	NO []				
	1	YES []	NO []				
	40	YES []	№ []				
4	Ω	YES []	NO []				
		YES []	NO []				
	0,0	YES []	NO []				
	4	YES	№ []				

# STEP 2-C

# 4.2 Walk-Through Detection Verification

Carry out four (4) transits through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

Orientation	Position	Stand	ard 1	Standard 2		Standard 3	
Ollentation	1 Oslubii	GD32 Te	st Sample	GD32 Test Sample		K10SS Test Sample	
5	Ω	YES []	NO []	YE5 X	NO []	YES []	ио 🛮
_	(1)	YES 🛮	ио []	YES	ио □	YES []	ио 🛮
0.8	O.,	YES 🛮	ио []	YES	ио □	YES []	ио □
	7	YES []	ио []	YES	ио □	YES []	ио 🛮
6	O.A.	YES 🛮	ио []	YE5	ио 🛮	YES 🔲	ио 🔲
T		YES 🛮	ио []	YES	NO []	YES []	ио □
84 8		YES 🛮	NO []	YES	NO 🛮	YES []	ио □
	م	YES []	NO []	YES	NO 🛮	YES []	№ 🛮
6	Ω	YES []	ио []	YES)X	ио 🛮	YES []	ио □
	B	YES []	ио []	YES X	ио 🛮	YES []	ио □
81 6		YES 🛮	NO []	YES	NO 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио □	YES []	ио 🛮
2	0	YES []	NO []	YES	NO 🛮		
		YES []	NO []	YES	NO []		
		YES []	NO []	YES	№ 🛮		
		YES []	NO []	YES X	№ 🛮		
4	00	YES []	NO []	YES	№ 🛮		
	(A)(a)	YES []	NO []	YES	№ 🛮		
	4 5	YES []	ио []	YES X	ио 🛮		
	2	YES []	ио []	YES X	ио 🛮		
4	Ω	YES []	ио []	YES	ио 🛮		
8	$\circ$	YES 🔲	ио []	YES	№ 🛮		\ \ \ \ \
	(B)+1	YES []	ио []	YES X	NO 🛮		
	O <sub>m</sub>	YES []	NO []	YES X	ио 🛮		

STEP 2 - Overall result						
4.2 Walk-Throu	gh Detec	tion Ver	ification.			
The Metal Detector generated an alarm for each and every transit,		ndard 1	Stan	ndard 2	☐ Star	ndard 3
orientation, position and Reference Samples specified.	YES []	№ 🛮	YES	№ 🛮	YES []	№ 🛮

## 4.3 Pass-Through Detection Verification by means of the Reference Test Samples

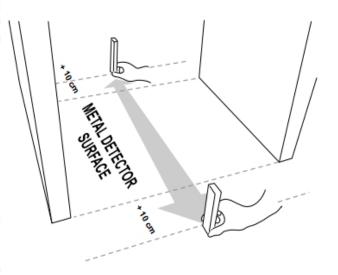
For the two smallest Reference Test Samples, and for each one of the 6 indicated orientations, perform two transits forward and two transits backward:

- at the floor level
- at 40cm
- at 80cm
- at 1,2m
- and at 1,6m

in the center of the gate.

For each and every transit the Metal Detector shall trigger an alarm.

In case of no detection, increase the sensitivity by modifying the appropriate parameters globally and/or for the corresponding zone of the transit, if possible.



# STEP 3-A

## 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test place transit.

Position the sample with the indicated number upside, and the associated arrow in the transit direction.

Position	Orientation	Stand	ard 1	Stand	ard 2	Standard 3	
Position	Onentation	GD22 Te	GD22 Test Sample		K10 Test Sample		Sample
	1	YES []	NO []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	ио 🛘
	8.00	YES []	NO []	YES	ио 🛮	YES []	ио 🛮
		YES []	NO []	YES	ио 🛮	YES []	№ 🛮
	2	YES []	NO []	YES	ио 🛮	YES []	№ []
	-	YES []	NO []	YES	ио 🛮	YES []	ио 🛮
	100	YES []	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	NO []	YES	№ []	YES []	№ []
	3	YES []	ио []	YES	ио 🛮	YES []	№ []
11.6-1/	<del></del>	YES []	ио []	YES	ио □	YES []	ио □
Will V	2 00	YES []	ио []	YES	ио 🛮	YES []	ио □
100		YES []	NO []	YES	ио 🛮	YES []	NO 🔲
	4	YES []	ио []	YES	ио 🛮	YES []	ио 🛮
In the middle of the gate,		YES []	ио []	YES	№ 🛮	YES []	ио 🛘
at floor level.	\$	YES []	ио []	YES	№ 🛮	YES []	№ []
		YES []	NO []	YES	ио []	YES []	NO 🔲
	5 10	YES []	ио []	YES	ио □	YES []	№ []
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	ио □
		YES []	NO []	YES	ио []	YES []	NO 🔲
		YES []	NO []	YES	ио []	YES []	ио 🛮
		YES []	ио []	YES		YES []	№ []
		YES []	NO []	YES		YES []	№ 🛮
		YES []	NO []	YES	ио 🛘	YES []	№ []

# STEP 3-A

## 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

and the associated arrow in the transit direction.								
Position	Orientation	Stand		Stand		Stand		
T GOILLOIT	Onontation	GD22 Te	st Sample	K10 Tes	t Sample	K8 Test Sample		
	1	YES []	№ []	YES	ио 🛮	YES []	№ 🛮	
		YES []	№[]	YES	ио 🛮	YES []	№ 🛮	
	200	YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
		YES []	№ []	YES	ио 🛮	YES []	№ 🛮	
	2	YES[]	ио []	YES	ио 🛮	YES []	ио 🛮	
		YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
24		YES []	ио []	YES	ио 🛮	YES []	№ 🛮	
(1)		YES []	ио []	YES	ио 🛮	YES []	ио 🛮	
	3	YES []	№ []	YES	№ 🛮	YES []	№ 🛮	
717	200	YES []	№ []	YES	ио 🛮	YES []	ио 🛮	
10.1	3 00	YES []	№ []	YES	ио 🛮	YES []	ио 🛮	
40cm		YES []	ио []	YES	ио 🛮	YES []	NO 🔲	
In the middle of the	4	YES []	№ []	YES	ио 🛮	YES []	ио 🛮	
gate, at 0,4 m from ground.		YES []	№[]	YES	ио 🛮	YES []	ио 🛮	
		YES []	NO []	YES	ио 🛮	YES []	№ []	
11-1-1		YES []	№ []	YES	ио 🛮	YES []	NO 🔲	
	5 10	YES []	ио []	YES	№ 🛮	YES []	ио □	
120		YES []	№ []	YES	№ 🛮	YES []	№ 🛮	
Harrison.		YES []	ИО []	YES	ио 🛮	YES []	ио 🛮	
		YES []	NO []	YES	№ []	YES []	NO 🔲	
	6	YES []	ио []	YES	ио □	YES []	№ 🛮	
	<sub>2</sub>	YES []	ио []	YES	ио □	YES []	ио □	
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮	
		YES []	ио []	YES	ио □	YES []	ио 🛮	

# STEP 3-A

# 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

Decition	Orientation	Stand		Stand		Standard 3	
Position	Orientation	GD22 Te	st Sample	K10 Tes	t Sample	K8 Test	Sample
	1	YES []	NO []	YES	ио 🛮	YES []	№ []
		YES []	NO []	YES	ио 🛮	YES []	ио 🛮
	<b>:</b>	YES []	№ []	YES	ио 🛮	YES []	NO []
		YES []	№ []	YES	ио 🛮	YES []	№ 🛮
	2	YES []	NO []	YES	ио 🛮	YES []	ио 🛮
( )		YES []	NO []	YES	№ 🛮	YES []	№ 🛮
		YES []	№ []	YES	ио 🛮	YES []	ио 🛮
/1 //		YES []	NO []	YES	№ []	YES []	№ 🛮
3 <b>1</b> J	3	YES []	№ []	YES	ио 🛮	YES []	№ []
1	<del></del>	YES []	NO []	YES	№ []	YES []	№ 🛮
80cm	\$ 00	YES []	NO []	YES	№ []	YES []	NO []
		YES []	ио []	YES	ио 🛮	YES []	NO 🔲
	4	YES []	NO []	YES	№ 🛮	YES []	№ 🛮
In the middle of the gate,		YES []	№ []	YES	ио 🛮	YES []	ио 🛮
at 0,8 m from ground.		YES []	NO []	YES	№ 🛮	YES []	NO []
N . 1 //		YES []	ио []	YES	ио 🛮	YES []	NO 🔲
1	5 20	YES []	NO []	YES	№ []	YES []	№ []
		YES []	NO []	YES	№ 🛮	YES []	№ 🛮
1		YES []	№ []	YES	ио 🛮	YES []	ио 🛮
		YES []	NO []	YES	№ []	YES []	NO 🔲
	6	YES []	NO []	YES	№ []	YES []	NO []
	_  •	YES []	NO []	YES	№ 🛮	YES []	ио 🛮
		YES []	NO []	YES	№ 🛮	YES []	№ 🛮
		YES []	№ []	YES	ио 🛮	YES []	№ []

# STEP 3-A

# 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

Position	Orientation	Stand	ard 1	Stand		Standard 3	
Position	Orientation	GD22 Te	st Sample	K10 Tes	t Sample	K8 Test	Sample
	1	YES []	<mark>ио</mark> []	YES X	ио 🛮	YES []	ио 🛮
		YES	NO []	YES	№ 🛮	YES []	ио 🛮
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	YES []	<mark>ио []</mark>	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮
	2	YES []	ио []	YES	ио 🛮	YES []	ио 🛮
( )	_	YES 🗍	ио []	YES	ио 🛮	YES []	ио 🛮
		YES	<mark>ио</mark> []	YES	ио 🛮	YES []	ио 🛮
/ U #		YES 🗌	ио []	YES	ио 🛮	YES []	ио 🛘
	3	YES []	NO []	YES	№ 🛮	YES []	№ 🛮
120cm		YES []	NO []	YES	ио 🛮	YES []	ио 🛮
1 ( ) 1 .200	8 00	YES	NO []	YES	ио 🛮	YES []	ио □
211		YES []	№ []	YES	ио 🛮	YES []	NO 🔲
	4	YES []	NO []	YES	ио □	YES []	ио 🛮
In the middle of the gate,	<del></del>	YES 🗍	ио []	YES	ио 🛮	YES []	ио 🛮
at 1,2 m from ground.	•	YES 🗍	ио []	YES	ио 🛮	YES []	ио 🛮
N . / //		YES []	ио []	YES	ио 🛘	YES []	мо 🔲
	5 10	YES	NO []	YES	ио 🛮	YES []	ио 🛮
W Va-//		YES []	NO []	YES	ио 🛮	YES []	ио 🛮
1-1-10		YES []	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	NO []	YES	№ 🛮	YES []	NO 🔲
	6	YES 🛮	ио []	YES	ио 🛮	YES []	ио 🛘
	•	YES []	ио []	YES	ио 🛮	YES []	ио 🛮
		YES 🛮	ио []	YES	ио 🛮	YES []	ио 🛘
		YES []	NO []	YES	ио 🛮	YES []	ио 🛮

# STEP 3-A

# 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside, and the associated arrow in the transit direction.

Position	Orientation	Stand		Stand		Stand	ard 3
Position	Orientation	GD22 Te	st Sample	K10 Tes	t Sample	K8 Test Sample	
	1	YES []	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	NO []	YESX	NO 🛮	YES []	ио 🛮
	E.	YES []	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	NO 🛮	YES []	ио 🛮
	2	YES []	ио []	YESX	ио 🛮	YES []	ио 🛮
0./	~	YES []	ио []	YE5	ио 🛮	YES []	ио 🛮
T T		YES []	ИО []	YES X	ио 🛮	YES []	ио 🛮
		YES []	№ []	YES	NO 🛮	YES []	ио □
180cm	3	YES 🛮	ио []	YES	NO []	YES []	ио 🛮
0	<del>_</del>	YES 🛮	№ []	YES	№ 🛮	YES []	ио □
	<b>G</b> 00	YES	№ []	YES	№ 🛮	YES 🗍	ио 🛮
271		YES []	ио []	YES	№ 🛮	YES []	NO []
	4	YES []	ио []	YESX	NO 🛮	YES []	ио 🛮
In the middle of the gate,	<del></del>	YES []	ио []	YES X	NO 🛮	YES []	ио 🛮
at 1,6 m from ground.		YES 🗍	ио []	YES	№ 🛮	YES []	ио 🛮
N . 1 //		YES []	№ []	YES	№ 🛮	YES []	NO 🔲
	5 10	YES []	NO []	YES	NO 🛮	YES []	№ 🛮
		YES 🛮	NO []	YESX	NO 🛮	YES []	№ 🛮
1-1-00		YES []	ио []	YES	NO 🛮	YES []	ио 🛮
W .		YES []	NO []	YESX	ио □	YES []	NO 🔲
	6	YES []	ио []	YESX	№ 🛮	YES []	ио 🛮
	_	YES []	ИО []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES 🔲	ио 🛮
		YES []	NO []	YES	NO []	YES []	№ 🛮

# STEP 3-B

# 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

Position	Orientation	Stand		Stand		Standard 3	
Position	Orientation	GD32 Te	st Sample	GD32 Te	st Sample	GD32 Test Sample	
	1	YES	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮
	- Ee	YES []	ио []	YES	ио 🛮	YES []	№ 🛮
		YES []	NO []	YES	ио 🛮	YES []	NO []
	2	YES	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	№ []	YES	ио 🛮	YES []	№ 🛮
	3	YES []	№ []	YESX	ио 🛮	YES []	№ 🛮
NI 1	- 00 E	YES []	ио []	YES	ио 🛮	YES []	ио 🛮
Will V	1 00	YES []	ио []	YES	ио 🛮	YES []	№ 🛮
I De		YES []	NO []	YES	ио 🛮	YES []	NO 🔲
	4	YES []	ио []	YES	ио 🛮	YES []	ио 🛮
In the middle of the gate,		YES []	NO []	YES	ио 🛮	YES []	ио 🛮
at floor level.	]	YES	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	NO 🔲
	5	YES 🔲	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮
	35	YES	ио []	YES X	ио 🛮	YES []	ио 🛮
		YES []	МО []	YES	ио 🗆	YES []	NO 🔲
	6	YES []	ио []	YES	ио 🛮	YES []	№ 🛮
		YES []	NO []	YES	ио 🛮	YES []	№ []
	a. 6	YES	ио []	YES	ио 🛮	YES []	ио 🛮
		YES []	ио []	YES	ио 🛮	YES []	ио 🛘

# STEP 3-B

# 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated. Respect the orientation indicated in the figure during the test piece transit. Position the sample with the indicated number upside,

and the associated arrow in the transit direction.								
Position	Orientation	Stand		Stand		Standard 3		
rosition	Onemation	GD32 Test Sample		GD32 Test Sample		GD32 Test Sample		
	1	YES []	NO []	YESX	№ 🛮	YES []	ио 🛮	
	1-9	YES []	NO []	YES	ио □	YES []	ио 🛮	
	Te e	YES []	NO []	YES	NO 🛮	YES []	NO 🛮	
		YES []	NO []	YESX	NO 🛮	YES []	NO 🛮	
	2	YES []	NO []	YES	NO 🗌	YES 🔲	ио 🛮	
		YES 🛮	NO []	YES	№ 🛮	YES []	NO 🛮	
24		YES []	ио []	YES	ио 🛮	YES []	ио 🛮	
// //		YES []	ио []	YESX	ио □	YES []	ио 🛮	
	3	YES 🛮	NO []	YES	№ 🛮	YES []	NO 🛮	
1 71 7		YES 🛮	NO []	YES	№ 🛮	YES 🔲	NO 🛮	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	8. 8.	YES []	NO []	YES	NO 🛮	YES 🗍	NO 🛮	
40cm		YES []	NO []	YES	№ 🛮	YES []	NO [	
In the middle of the	4	YES 🛮	NO []	YES	ио 🛮	YES 🛮	NO []	
gate, at 0,4 m from ground.		YES []	ИО []	YES	ио 🛮	YES []	ио 🛮	
_	]	YES 🗍	NO []	YES	ио 🛮	YES []	ио 🛮	
11-1-1		YES []	ио []	YES	ио 🛮	YES []	№ 🛮	
	5	YES 🛮	NO []	YES	ио 🛮	YES []	NO []	
120		YES 🛮	NO []	YES	№ 🛮	YES 🔲	№ 🛮	
1	91	YES []	ио []	YES	ио 🛮	YES []	ио 🛮	
		YES []	NO []	YES	NO 🛮	YES []	NO 🛮	
	6	YES []	NO []	YESX	NO 🛮	YES 🗍	NO 🛮	
		YES 🗍	NO []	YES	ио 🛮	YES 🛮	NO 🛮	
	1 1	YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
		YES []	ио []	YES	NO [	YES []	NO [	

# STEP 3-B

# 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

and the associated arrow in the transit direction.  Standard 1 Standard 2 Standard 3								
Position	Orientation	GD32 Te		GD32 Te		GD32 Test Sample		
	1	YES []	NO []	YES	ио 🛮	YES []	МО □	
		YES []	ио []	YES	ио 🛮	YES []	ио 🗆	
		YES []	ио []	YES	ио 🛮	YES []	ио 🗆	
		YES []	NO []	YES	№ 🛮	YES []	МО □	
	2	YES []	МО []	YES	ио 🛮	YES []	ио 🗌	
()		YES []	ио []	YES	ио 🛮	YES []	ио 🗆	
1		YES []	NO []	YES	ио 🛮	YES []	ио 🗌	
$A \cup B$		YES []	ио []	YES	ио 🛮	YES []	ио 🗆	
G 🗖	3	YES []	NO []	YES	ио 🛮	YES []	МО □	
<b>†</b>		YES []	NO []	YES	ио □	YES []	№ 🗆	
80cm	6.00	YES []	ио []	YES	ио 🛮	YES []	ио 🗆	
21		YES []	№ []	YES	ио □	YES []	ио 🛮	
	4	YES []	№ []	YES	ио 🛮	YES []	ио 🗌	
In the middle of the gate,		YES []	ио []	YES	ио 🛮	YES []	ио 🗆	
at 0,8 m from ground.		YES 🔲	NO []	YES	ио 🛮	YES 🛮	ио 🗌	
/ //		YES []	NO []	YES	ио 🛮	YES []	МО □	
11	5	YES []	NO []	YES	ио 🛮	YES []	ио 🗆	
Wart.		YES []	NO []	YES	ио □	YES []	ИО □	
1-1-10	ا ا	YES []	NO []	YES	ио 🛮	YES []	ио 🗆	
	A.	YES []	ио []	YES		YES []	ио 🛮	
	6	YES []	ио []	YES	ио 🛮	YES []	ио 🗆	
		YES []	ио []	YES	ио 🛮	YES 🔲	ио 🗆	
	, ,	YES []	ио []	YES		YES []	ио 🗆	
		YES []	NO []	YES		YES []	№ 🛮	

# STEP 3-B

# 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

and the agent stad arrow in the transit direction

and the associated arrow in the transit direction.									
Position	Orientation	Stand		Stand		Stand			
I OBILION	Onentation	GD32 Test Sample		GD32 Test Sample		GD32 Test Sample			
	1	YES []	NO []	YESX	№ 🛮	YES []	№ 🛮		
	4	YES []	ио []	YESX	ио 🛮	YES []	ио 🛮		
	Te e	YES []	ио []	YES	ио 🛮	YES []	NO []		
		YES []	ио []	YES	ио 🛮	YES []	NO [		
	2	YES []	NO []	YESX	NO []	YES []	NO []		
1		YES []	NO []	YES	ио 🛮	YES []	№ 🛮		
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮		
/ V		YES []	NO []	YES	NO []	YES []	NO [		
G T A	3	YES []	ио []	YESX	ио 🛮	YES []	№ 🛮		
120cm	6 00 6	YES []	NO []	YES	№ 🛮	YES []	NO [		
1110	C. V.	YES []	ио []	YES	NO []	YES []	NO 🛮		
211		YES []	ио []	YES	NO []	YES []	NO [		
	4	YES []	ио []	YES	ио 🛮	YES []	ио 🛮		
In the middle of the gate,	1	YES []	ио []	YES	ио 🛮	YES []	ио 🛮		
at 1,2 m from ground.		YES []	ио []	YES	ио 🛮	YES []	ио 🛮		
N . 1 //		YES []	NO []	YESX	ио 🛮	YES []	NO []		
	5	YES []	ио []	YESX	NO []	YES []	NO [		
W Sol		YES []	NO []	YES	№ 🛮	YES []	№ 🛮		
1 200	3	YES []	ио []	YES	ио 🛮	YES []	ио 🛮		
		YES []	NO []	YESX	NO []	YES []	NO [		
	6	YES []	ио []	YES X	ио 🛮	YES []	ио 🛮		
		YES []	NO []	YESX	№ 🛮	YES []	NO 🛮		
	الله الله الله	YES []	ио []	YES X	ио 🛮	YES []	ио 🛮		
	4	YES []	ио []	YESX	ио 🛮	YES []	№ 🛮		

# STEP 3-B

## 4.3 Pass-Through Detection Verification by means of the Reference Test Samples.

Carry out four (4) transits of each Test Sample through the Metal Detector, two in one direction and two in the opposite direction, verifying that for each transit an alarm will be generated.

Respect the orientation indicated in the figure during the test piece transit.

Position the sample with the indicated number upside,

and the associated arrow in the transit direction.								
Position	Orientation	Stand		Stand		Standard 3		
		GD32 Test Sample		GD32 Test Sample		GD32 Test Sample		
	1	YES	ИО []	YES	ио 🛮	YES []	ио 🛮	
		YES []	№ []	YES	ио 🛮	YES []	ио 🛮	
	1	YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
		YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
	2	YES []	№ []	YES	№ 🛮	YES []	№ 🛮	
<b>Ú</b> .		YES []	№ []	YES	№ 🛮	YES []	ио 🛮	
1		YES []	№ []	YES	ио 🛮	YES []	ио 🛮	
		YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
160cm	3	YES []	NO []	YES	№ []	YES []	NO []	
	0. 10	YES []	NO []	YES	ио []	YES []	ио 🛮	
[ [ ] [ ]	- 00	YES []	NO []	YES	№ []	YES []	№ []	
		YES []	NO []	YES	ио 🛮	YES []	№ []	
	4	YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
In the middle of the gate,		YES []	NO []	YES	№ []	YES []	ио 🛮	
at 1,6 m from ground.		YES []	NO []	YES	№ 🛮	YES []	№ 🛮	
N . 1 //		YES []	№ []	YES	ио 🛮	YES []	ио 🛮	
	5	YES []	NO []	YES	ио []	YES []	ио 🛮	
Wast.		YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
1 300	200	YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
		YES []	ио []	YES	ио 🛮	YES []	ио 🛮	
	6	YES []	№ []	YES	ио 🛮	YES []	ио 🛮	
		YES []	NO []	YES	№ []	YES []	ио 🛮	
	A. 4	YES []	NO []	YES	ио 🛮	YES []	ио 🛮	
		YES []	NO []	YES	ио 🛮	YES []	№ 🛮	

STEP 3 - Overall result						
4.3 Pass-Through Detection Verifica	ition by	means o	the Ker	erence I	est Sam	pie.
The Metal Detector generated an		ndard 1	Star	ndard 2	☐ Stan	dard 3
alarm for each and every transit, orientation, position and Reference Samples specified.		NO []	YES	NO []	YES []	ио []

## **4.4 Verification of Combination Effects**

The absence of this detrimental effect can be verified by passing through the smallest objects on the two combination coupling. Transit the assembled items at floor level and at 0,8 meters from the floor.

# **Combination of test samples**

Standard	Combinations					
Standard 1	GD22	GD22				
Standard 2	GD32 K10	GD32				
Standard 3	GD32 K8	GD32				

STEP 4  4.4 Verification of Combination Effects.				
Position	Orientation		Standard 1	
	GD22 with the number 1 and the associated the transit direction sample GD22 or GD32, with the number 1 gD32, with the number 1	Position the sample GD32 with the number 1 upside, and the associated arrow in the transit direction and the sample GD22 on top of GD32, with the number 5 upside, and the associated arrow in the transit direction.	YES []	ио □
			YES []	ио □
			YES []	ио □
		as shown in the picture.	YES []	ио □
In the middle of the gate, at floor level.	GD22	Position the sample GD32 with the number 4 upside, and the associated arrow in the transit direction and the sample GD22 on top of GD32, with the number 2 upside, and the associated	YES []	ио []
	and the associated arrow in the transit direction and the sample GD22 on top of GD32, with the number 2		YES []	ио []
			YES []	ио []
		YES []	№ []	
In the middle of the gate, at 0,8 m from ground.	GD22 with the and the a the trans	Position the sample GD32	YES []	ио □
		with the number 1 upside, and the associated arrow in the transit direction and the sample GD22 on top of	YES []	ио □
	GD32	GD32, with the number 5 upside, and the associated arrow in the transit direction.	YES [] NO []	ио □
		as shown in the picture.	YES []	ио □
	GD22	Position the sample GD32 with the number 4 upside, and the associated arrow in the transit direction and the sample GD22 on top of GD32, with the number 2 upside, and the associated arrow in the transit direction, as shown in the picture.	YES []	ио []
			YES []	ио []
			YES []	ио []
			YES []	№ []

STEP 4				
Position	4.4 Verification of Combination Effects.  Orientation		Standard 2	
	with the number 1 upside and the associated arrow the transit direction and the sample K10 on top of GD3 with the number 5 upside and the associated arrow	Position the sample GD32	YES	NO []
		with the number 1 upside, and the associated arrow in the transit direction and the sample K10 on top of GD32, with the number 5 upside, and the associated arrow in the transit direction, as shown in the picture	YES	№ □
			YES	№ []
			YES	№ []
In the middle of the gate, at floor level.	K10	Position the sample GD32 with the number 4 upside, and the associated arrow in the transit direction and the sample K10 on top of GD32, with the number 2 upside, and the associated arrow in the transit direction, as shown in the picture	YES	№ []
	GD32		YES	ио []
			YES	ио □
			YES	ио []
In the middle of the gate, at 0,8 m from ground.	20 K10	Position the sample GD32 with the number 1 upside, and the associated arrow in the transit direction and the sample K10 on top of GD32,	YES	№ 🛮
			YES	№ 🛮
	GD32	with the number 5 upside, and the associated arrow in the transit direction, as	YES	_ NO []
		shown in the picture	YES	№ 🛮
	and the associated arrow in the transit direction and the sample K10 on top of GD32, with the number 2 upside, and the associated arrow in the transit direction, as	YES	ио []	
		YES	ио []	
		with the number 2 upside, and the associated arrow in the transit direction, as	YES	ио []
			YES	№ 🛮

STEP 4				
Position	4.4 Verification of Combination Effects.  Orientation		Standard 3	
	GD32  With the number 1 upside, and the associated arrow in the transit direction and the sample K8 on top of GD32, with the number 5 upside, and the associated arrow in the transit direction, as shown in the picture		YES []	ио □
		and the associated arrow in the transit direction and the sample K8 on top of GD32, with the number 5 upside, and the associated arrow in	YES []	ио □
			YES []	ио 🛮
		shown in the picture	YES []	ио □
In the middle of the gate, at floor level.	K8	Position the sample GD32 with the number 4 upside, and the associated arrow in the transit direction and the sample K8 on top of GD32, with the number 2 upside, and the associated arrow in the transit direction, as shown in the picture	YES []	ио []
	GD32		YES []	ио []
			YES []	ио []
			YES []	ио []
In the middle of the gate, at 0,8 m from ground.	with the number 1 upside and the associated arrow the transit direction and sample K8 on top of CD.	Position the sample GD32	YES []	ио □
		and the associated arrow in the transit direction and the sample K8 on top of GD32,	YES []	ио □
	GD32	with the number 5 upside, and the associated arrow in the transit direction, as	YES [] NO [	ио □
		shown in the picture	YES []	ио □
	кв	and the associated arrow in the transit direction and the sample K8 on top of GD32,	YES []	NO []
			ио []	
	with the number 2 upside, and the associated arrow in the transit direction, as shown in the picture	YES []	ио []	
			YES []	МО []

STEP 4 - Overall result			
4.4 Verification of Combination Effects.			
The Metal Detector generated an alarm for each and every transit, orientation, position and Reference Samples specified.		Standard 2	Standard 3
	YES NO	YES NO []	YES NO

## 4.5 Working parameter changes

Note possible parameter changes performed during the tests.

Parametre name	Starting value (sensitivity)	Final value (sensitivity)
K10 metal detection	30	07
2-teeth box cutter	08	00
GD 32 Metal test	22	07
Opinel test knife	50	33
Nıj test piece	13	02

Test pieces were hidden in locations such as pockets and inside the shoes of persons, and it was verified that the device gave alarm to these pieces. Similar performances were observed for magnetic and anti-magnetic metallic objects independently of their passage speed, location and orientation.

#### 5. CONCLUSIONS

The installation can be validated when the procedure ends with

- Successful "Clean Tester" step
- 100% of detection, for each indicated location and orientation, of the Reference Test Samples, both by themselves and coupled.

#### **CONSCLUSIONS AND CONSIDERATIONS**

The ELEKTRAL brand, THRUSCAN sX-i model WTMD sample of ELEKTRAL ELEKTROMEKANİK SAN VE TİC A.Ş., with the serial number of 10082601, was found to meet the required criteria, functions and sensitivity after the tests and controls conducted on 02.09.2010 in comply with ECAC (European Civil Aviation Covference) Standart 2.

In all these aforementioned steps, ECAC Standart 2 Test Piece, OPINEL brand No:10 Jackknife, NIJ, NILECJ 0601 and TSA test kits provided by the related firm were used.

This report is valid only for the tested sample.

This report hereby was prepared on 02.09.2010 in 38(Thirty-eight) pages and in 4(four) copies.