An Affiliate of
ASTM INTERNATIONAL

January 16, 2020

TO MANUFACTURERS OF HAND-HELD and/or HAND-WORN METAL DETECTORS:

Initiation of Certification Program for Security Systems

The Safety Equipment Institute (SEI) is pleased to announce the initiation of a certification program for Security Systems that include ASTM F3278-19a, *Standard Performance Specifications and Test Methods for Hand-Held Metal Detectors Used in Safety and Security* and ASTM F3020-19a, *Standard Performance Specifications and Test Methods for Hand-Worn Metal Detectors Used in Safety and Security* along with the companion certification standard, ASTM F3356-19a, *Standard Practice for Conformity Assessment of Metal Detectors Used in Safety and Security*.

I. Initiation of Certification Program for Hand-Held and/or Hand-Worn Metal Detectors

SEI is ready to begin accepting applications for Hand-Held and/or Hand-Worn (HH/HW) Metal Detector approvals. SEI is partnering with Intertek to conduct initial and surveillance certification testing for HH/HW Metal Detectors that you intend to certify. Specific details regarding the certification program will be reviewed with you once you are ready to initiate certification of your product(s). This will include signing an SEI Manufacturers Agreement, which establishes a formal agreement between our organizations, and obtaining credentials to review the SEI Certification Program Manual (CPM) that details the requirements of the certification program.

General details regarding the program are as noted below.

II. SEI Fees, Testing Laboratory Fees, Sample Requirements and Quality Auditing

The Testing Laboratory Fee Schedules for ASTM F3278-19a, *Standard Performance Specifications and Test Methods for Hand-Held Metal Detectors Used in Safety and Security* and ASTM F3020-19a, *Standard Performance Specifications and Test Methods for Hand-Worn Metal Detectors Used in Safety and Security* are provided as Attachment A of this Bulletin. These fees will also be included in the next revision of SEI's Certification Program Manual. Please note that SEI has negotiated the attached fees with Intertek for this certification program. However, SEI will add a 10% surcharge to the prices listed in the attached fee schedule to the final invoice that you receive from SEI, which is generated when testing is completed.

In addition to required testing, the ASTM F3356-19a, *Standard Practice for Conformity Assessment of Metal Detectors Used in Safety and Security* requires SEI to conduct a surveillance quality audit and inspection program of the manufacturing facilities of the certified products, and details will be discussed and scheduled once we initiate certification of your product(s).

III. Application Processing

All certification submittal request(s) shall 1) be submitted directly to SEI (Mr. Chad Morey) and 2) include a completed submittal package for each HH/HW Metal Detector model. Instructions for completing a submittal package are included as Attachment B.

Following a review of each submittal request, SEI will determine the applicable test program. SEI will then direct manufacturers to forward the required number of samples which shall be submitted directly to Intertek at the following address:

Intertek
3933 US Route 11
Cortland NY, USA 13045
Attention: Jason Allen

Your assistance in following these procedures will assist SEI, Intertek, and SEI auditors in ensuring an orderly certification process.

We hope this information is helpful to you. Please feel free to call the SEI Office if you have any questions or if we can be of other assistance to you.

Sincerely,

Tricia Hock
Director, Certification Operations

Chad Morey
Program Manager

cc: Jason Allen, Intertek
SEI Auditors

ATTACHMENT A

SEI Test Plan					
Intertek					
ASTM F3278-19a Hand-Held Metal Detectors					
Issue Date: 12.10.2019					
Clause	**Requirement**	**Test Method**	**Testing Pricing**	**Comments**	**Categories of N/C**
4.2	**Safety Specifications and Requirements**				
4.2.1	Electrical	IEC 61010–1, Section 6	TBD	see: DATA SHEET, ELECTRICAL (SAFETY)	Critical
4.2.2	Mechanical	IEC 61010–1, Section 7	TBD		Critical
4.2.3	Thermal	IEC 61010–1, Section 10	TBD		Critical
4.2.4	Exposure		TBD		Critical
4.2.4.1	General	IEEE C95.1	TBD	see: DATA SHEET, EXPOSURE (SAFETY)	Critical
		ICNIRP	above	see: DATA SHEET, EXPOSURE (SAFETY)	
4.2.4.2	Personal Medical Electronics	ISO 14117:2012	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–1	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–2	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–3	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–4	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–5	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–6	TBD	Can be waived with statement also design dependent	Critical

		ISO 14708–7	TBD	Can be waived with statement also design dependent	Critical
4.3	**Power Requirements**				
4.3.1	Battery Life	ASTM F3278, 5.5	1,200.00	see: DATA SHEET, BATTERY LIFE	Major A
4.4	**Detection Performance Specifications**				
4.4.1	Detection sensitivity	ASTM F3278, 5.2.2	1,200.00	see: DATA SHEET, DETECTION SENSITIVITY	Critical
4.4.2	Detection Speed	ASTM F3278, 5.2.3	1,200.00	see: DATA SHEET, SPEED	Critical
4.5	**Interference Specifications and Requirements**				
4.5.1	Electromagnetic Emission				
4.5.1.1	Radiated Disturbance	CISPR 22, Class B, radiated disturbance	1,750.00	see: DATA SHEET, EMISSION (ELECTROMAGNETIC INTERFERENCE)	Major A
4.5.2	Electromagnetic Susceptibility/Immunity				
4.5.2.1	Contact Discharge	IEC 61000–4–2, Level 2 (per requirements of IEC 61000-6-1)	750.00	see: DATA SHEET, SUSCEPTIBILITY/IMMUNITY (IEC 61000-4-2)	Major A
4.5.2.2	Radiated RF Electromagnetic Field Immunity	IEC 61000–4–3, Level 2 (per requirements of IEC 61000-6-1)	1,500.00	see: DATA SHEET, SUSCEPTIBILITY/IMMUNITY (IEC 61000-4-3)	Critical
4.5.2.3	50 Hz and 60 Hz Radiated Magnetic Field	IEC 61000–4–8, Level 2	750.00	see: DATA SHEET, SUSCEPTIBILITY/IMMUNITY (IEC 61000-4-8)	Critical
4.5.3	Body	ASTM F3278, 5.3.2	1,650.00	See: DATA SHEET, BODY INTERFERENCE	Major A
4.5.4	Metal	ASTM F3278, 5.4.2	1,650.00	See: DATA SHEET, METAL INTERFERENCE	Major A
4.6	**Environmental Ranges and Conditions**				
4.6.1	Temperature Stability and Range				
4.6.1.1	Indoor	MIL-STD-810G Method 501.5, Procedure II	725.00	see: DATA SHEET, TEMPERATURE STABILITY and RANGE	Critical
		MIL-STD-810G Method 502.5, Procedure II	725.00	see: DATA SHEET, TEMPERATURE STABILITY and RANGE	
4.6.1.2	Indoor/Outdoor	MIL-STD-810G Method 501.5, Procedure II	725.00	see: DATA SHEET, TEMPERATURE STABILITY and RANGE	Critical

		MIL-STD-810G Method 502.5, Procedure II	725.00	see: DATA SHEET, TEMPERATURE STABILITY and RANGE	
4.6.2	Relative Humidity	MIL-STD-810G Method 507.5, Procedure I	1,800.00	see: DATA SHEET, RELATIVE HUMIDITY STABILITY and RANGE	Major A
4.6.3	Environmental Protection, Indoor	IEC 60529, classification IP54	2,000.00	see: DATA SHEET, ENVIRONMENTAL PROTECTION, INDOOR	Critical
4.7	**Mechanical Specifications and Requirements**				
4.7.1	Shock	IEC 60068–2–27, using 100 ± 5 half-sine shock pulses	1,200.00	see: DATA SHEET, SHOCK	Critical
4.7.2	Free Fall	IEC 60068–2–31, 1 m	375.00	see: DATA SHEET, FREE FALL	Critical
4.8	**Alarm Requirements**				
4.8.1	Vibratory Alarm	ASTM F3278, 5.6.1	750.00	see: DATA SHEET, VIBRATORY ALARM	Critical
4.8.2.	Audible Alarm	ASTM F3278, 5.6.2	600.00	see: DATA SHEET, AUDIBLE ALARM	Critical
4.8.2.1	Frequency Range	ASTM F3278, 5.6.3	600.00	see: DATA SHEET, FREQUENCY RANGE	Major A
4.8.3	Visual Alarm	ASTM F3278, 5.6.4	750.00	see: DATA SHEET, VISUAL ALARM	Major A
4.8.4	Alarm Delays	ASTM F3278, 5.7	600.00	see: DATA SHEET, ALARM DELAYS	Major A
• **Note- All testing Prices are based on single sample**		**Total without Safety Portion**	**$ 23,225.00**		

SEI Test Plan					
Intertek					
ASTM F3020-19a Hand-Worn Metal Detectors					
Issue Date: 12.10.2019					
Clause	**Requirement**	**Test Method**	**Testing Pricing**	**Comments**	**Categories of N/C**
4.2	**Safety Specifications and Requirements**				
4.2.1	Electrical	IEC 61010–1, Section 6	TBD	see: DATA SHEET, ELECTRICAL (SAFETY)	Critical
4.2.2	Mechanical	IEC 61010–1, Section 7	TBD		Critical
4.2.3	Thermal	IEC 61010–1, Section 10	TBD		Critical
4.2.4	Exposure				
4.2.4.1	General	IEEE C95.1	TBD	see: DATA SHEET, EXPOSURE (SAFETY)	Critical
		ICNIRP	above	see: DATA SHEET, EXPOSURE (SAFETY)	Critical
4.2.4.2	Personal Medical Electronics	ISO 14117:2012	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–1	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–2	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–3	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–4	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–5	TBD	Can be waived with statement also design dependent	Critical
		ISO 14708–6	TBD	Can be waived with statement also design dependent	Critical
		IEC 60601–1–2 a	TBD	Can be waived with statement also design dependent	Critical
4.3	**Power Requirements**				
4.3.1	Battery Life	ASTM F3020, 5.4	1,200.00	see: DATA SHEET, BATTERY LIFE	Major A

4.4	**Detection Performance Specifications**				
4.4.1	Detection sensitivity	ASTM F3020, 5.2.2	1,200.00	see: DATA SHEET, DETECTION SENSITIVITY	Critical
4.4.2	Detection Speed	ASTM F3020, 5.2.3	1,200.00	see: DATA SHEET, SPEED	Critical
4.5	**Interference Specifications and Requirements**				
4.5.1	Electromagnetic Emission				
4.5.1.1	Radiated Disturbance	CISPR 22, Class B, radiated disturbance	1,750.00	see: DATA SHEET, EMISSION (ELECTROMAGNETIC INTERFERENCE)	Major A
4.5.2	Electromagnetic Susceptibility/Immunity				
4.5.2.1	Contact Discharge	IEC 61000–4–2, Level 2	750.00	see: DATA SHEET, SUSCEPTIBILITY/IMMUNITY (IEC 61000-4-2)	Major A
		(per requirements of IEC 61000-6-1)			
4.5.2.2	Radiated RF Electromagnetic Field Immunity	IEC 61000–4–3, Level 2 (per requirements of IEC 61000-6-1)	1,500.00	see: DATA SHEET, SUSCEPTIBILITY/IMMUNITY (IEC 61000-4-3)	Critical
4.5.2.3	50 Hz and 60 Hz Radiated Magnetic Field	IEC 61000–4–8, Level 2	750.00	see: DATA SHEET, SUSCEPTIBILITY/IMMUNITY (IEC 61000-4-8)	Critical
4.5.3	Body	ASTM F3020, 5.3.2	1,650.00	See: DATA SHEET, BODY INTERFERENCE	Major A
4.6	**Environmental Ranges and Conditions**				
4.6.1	Temperature Stability and Range				
4.6.1.1	Indoor	MIL-STD-810G Method 501.5, Procedure II	725.00	see: DATA SHEET, TEMPERATURE STABILITY and RANGE	Critical
		MIL-STD-810G Method 502.5, Procedure II	725.00	see: DATA SHEET, TEMPERATURE STABILITY and RANGE	

4.6.1.2	Indoor/Outdoor	MIL-STD-810G Method 501.5, Procedure II	725.00	see: DATA SHEET, TEMPERATURE STABILITY and RANGE	Critical
		MIL-STD-810G Method 502.5, Procedure II	725.00	see: DATA SHEET, TEMPERATURE STABILITY and RANGE	
4.6.2	Relative Humidity	MIL-STD-810G Method 507.5, Procedure I	1,800.00	see: DATA SHEET, RELATIVE HUMIDITY STABILITY and RANGE	Major A
4.7	**Mechanical Specifications and Requirements**				
4.7.1	Shock	IEC 60068–2–27, using 100 ± 5 half-sine shock pulses	1,200.00	see: DATA SHEET, SHOCK	Critical
4.7.2	Flexure	ASTM F3020, 5.6	2,200.00	Without doing 4.2. Need to verify if testable	Critical
				see: DATA SHEET, FLEXURE	
4.8	**Alarm Requirements**				
4.8.1	Vibratory Alarm	ASTM F3020, 5.5.2	750.00	see: DATA SHEET, VIBRATORY ALARM	Critical
4.8.2.	Audible Alarm	ASTM F3020, 5.5.3	600.00	see: DATA SHEET, AUDIBLE ALARM	Critical
4.8.2.1	Frequency Range	ASTM F3020, 5.5.4	600.00	see: DATA SHEET, FREQUENCY RANGE	Major A
4.8.3	Visual Alarm	ASTM F3020, 5.5.5	750.00	see: DATA SHEET, VISUAL ALARM	Major A
• **Note- All testing Prices are based on single sample**		**Total without Safety Portion**	**$ 20,800.00**		

ATTACHMENT B

33.0 Security Systems Program Standards

- **ASTM F3278-19a Hand-Held Metal Detectors**
- **ASTM F3020-19a Hand-Worn Metal Detectors**
- **ASTM F3356-19a Conformity Assessment of Metal Detectors**

33.1 Certification Submittal Package

A Certification Submittal Package shall include an SEI Certification Submittal form *(see Form 8.0: SEI Certification Submittal Form*) and a Components & Materials Description Checklist form (*see Section 33B: General Components & Materials Description Checklist*) for each product model, variant or accessory being submitted. Completion of the submittal package serves four primary purposes:

1. The submittal package provides SEI and the SEI Quality Assurance Auditor with a description of new, modified or products to be selected for annual certification.
2. The information provided by the manufacturer in the submittal package confirms to SEI the product design and components.
3. Receipt of the submittal by the testing laboratory, from SEI, serves as the laboratory's authorization to begin testing the product(s) and allows laboratory personnel to verify that the correct product samples have been received.
4. The return of a signed copy of the submittal form from the testing laboratory provides SEI with a record of the date testing was completed on the product model.

Over the life of the product, subsequent submittal packages shall document that the product model submitted for certification testing is identical to samples **previously** tested, except where Class I model changes have been tested and documented through the submission of additional SEI submittal packages or documented Class II changes have been made. It is therefore necessary that each submittal to SEI include sufficient product description information, which is achieved by a complete components and materials listing to uniquely and unambiguously identify the product model in question (*see Section 14: Product Changes*).

SEI Certification Submittal Form

Each submittal must be identified on the submittal form as either (1) initial certification, (2) annual recertification, (3) Class I change, or (4) Class II change. Finished product manufacturing facilities (assembly) located at a different address (i.e. suppliers or company-owned factories) shall be identified in Section 3 of the submittal form. The SEI Certification Submittal Form shall be signed by the authorized manufacturer representative within the participating company having the authority to authorize expenditures for testing.

Components & Materials Description List

The product description information may be (a) listed on the Component and Materials Description Checklist form, (b) provided as a separate listing by the manufacturer (i.e. Bill of Materials), or (c) appropriate engineering drawings/ specification sheets. Use of *Section 33B: General Components and Materials Description Checklist* form is recommended. The following information is to be included on each Components & Materials Description Checklist. Brief examples are provided for guidance.

A. Description of Major Components

All major components and materials shall be identified and described. Where possible, include brand name and part number, supplier name and location.

B. Primary Materials

Materials used in the construction of major components shall be identified. Identification shall include trade names, if applicable. All changes shall be reported to SEI for evaluation and possible action.

C. Manufacturing Locations

All locations in which the product model is manufactured or assembled must be identified on the SEI Certification Submittal Form. If major components are manufactured by another company and purchased by the SEI participants, the name and address of the manufacturing facility and contact name shall be identified on the Components & Materials Description Checklist.

D. Specification Sheets or Technical Bills of Materials

Product specification sheets or technical bills of materials (BOM) may be included with the SEI Certification Submittal Form in addition to the Components & Materials description checklist to fulfill some or all other requirements noted above. In the case of annual recertification, the appropriate documents (i.e., submittal form and components and materials listing or BOM) shall be prepared prior to the sample selection audit and available to the auditor during the audit for reference and confirmation of product.

E. Confidentiality

All product information received by SEI staff, the SEI Quality Assurance Auditor, or the SEI testing laboratory shall be considered confidential and shall not be released to any third party without written authorization to do so (with the exceptions noted *Section 3: Manufacturer's Agreement* for response to a subpoena, court order or other compulsory process).

33.2 Additional Certification Submittal Information for Hand-Held or Hand-Worn Metal Detectors
In addition to the items noted in 33.1 of this program section, each manufacturer shall submit, initially and annually, a Test Plan Submittal Package that also includes the following:

A. An ISO 9001 Registration Certificate, if the participant and/or the participant's subcontract supplier holds an ISO 9001-2008 or ISO 9001-2015 *Quality Management Systems – Requirements* registration

B. ISO 17025 Laboratory Certificate(s) and/or Test Report(s) that fulfill a part of the ASTM F3278 standard performance requirements for hand-held metal detectors, as outlined below. The format of the data presented by the ISO 17025 testing laboratory shall conform to the format provided in ASTM F3356 to facilitate accurate and consistent evaluation and comparison of the model tested.
    a. IEC 61010-1, Section 6, *Protection Against Electrical Shock* (re: ASTM F3278-19a, Section 4.2.1)
    b. IEC 61010-1, Section 7, *Protection Against Mechanical Hazards* (re: ASTM F3278-19a, Section 4.2.2)
    c. IEC 61010-1, Section 10, *Equipment Temperature Limits and Resistance to Heat* (re: ASTM F3278-19a, Section 4.2.3)
    d. Human Exposure: Section 4.2.4.1 *General & Section 4.2.4.2 Active Implanted and Body-worn Medical Devices*; (re: ASTM F3278)

C. ISO 17025 Laboratory Certificate(s) and/or Test Report(s) that fulfill a part of the ASTM F3020 standard performance requirements for hand-worn metal detectors, as outlined below. The format of the data presented by the ISO 17025 testing laboratory shall conform to the format provided in ASTM F3356 to facilitate accurate and consistent evaluation and comparison of the model tested.
    a. IEC 61010-1, Section 6, *Protection Against Electrical Shock* (re: ASTM F3020-19a, Section 4.2.1)
    b. IEC 61010-1, Section 10, *Equipment Temperature Limits and Resistance to Heat* (re: ASTM F3020-19a, Section 4.2.2)
    c. IEC 61010-1, Section 10, *Equipment Temperature Limits and Resistance to Heat* (re: ASTM F3020-19a, Section 4.2.3)
    d. Human Exposure: Section 4.2.4.1 *General & Section 4.2.4.2 Active Implanted and Body-worn Medical Devices*; (re: ASTM F3278)

33.3 Security Systems Products Program Codes

SEI utilizes SEI Reference Numbers internally to identify each SEI participant and their unique models and variants. The first set of two or three letters/numbers indicates which standard program code the model/variant is being certified against. The second set of three letters indicates the SEI participant's unique identification. The third set of numbers is assigned by SEI to identify each model (see definition below) being certified.

e.g.: BBH ABC 03
e.g.: BBH ABC V03
Where BBH identifies the standard program code
Where ABC identifies the unique participant identification
Where 03 identifies the model submitted for certification
Where V03 identifies the model as the third variant (V03) for this Participant Identification (ABC)

SEI Reference Program Code	Standard Description	Product Type	Standard
HHM	Standard Performance Specification for Hand-Held Metal Detectors Used in Safety and Security	Hand-Held Metal Detector	ASTM F3278
HWM	Performance Standard for Hand-Worn Metal Detectors Used in Safety and Security	Hand-Worn Metal Detector	ASTM F3020

33.4 Application & Annual Certification Fees

Testing shall be performed annually. When an initial submittal package is submitted to SEI, the Application Fees and Annual Participation Fees (*See Section 7: Annual Participation Fees*) are due. Upon completion of initial testing, Annual Model Certification Fees are due. The following is a schedule of application fees and annual model certification fees that apply to the recreational products program:

Model Type	Submittal Type	Application Fee	Annual Model Certification Fees
Base Model	Initial	$250	$405
	Class I Change	$50	N/A
	Class II Change	$50	N/A
Variant Model	Initial	$125	$130
	Class I Change	$50	N/A
	Class II Change	$50	N/A
Accessory Model	Initial	$125	$130
	Class I Change	$50	N/A
	Class II Change	$50	N/A

33.5 Definition of a "Model"

"Model" is the collective term used to identify a group of protective devices of the same basic design and components from a single applicant produced by the same manufacturing and quality assurance procedures that are covered by the same certification. Any characteristic that affects the device's performance under the limits of the current certification standards constitutes a different model. For purposes of the SEI Certification Program, the above definition of the term "model" uses performance characteristics as the basic criteria.

33.6 ASTM F3278 Hand-Held Metal Detectors
ASTM F3020 Hand-Worn Metal Detectors

A. Definition of Model

Characteristics that should affect the model's ability to meet the performance requirements of the certification standard:

1. Detector
2. Detector Holder
3. Electrical Component Change
4. Power Source
5. Raw Material
6. Size Class
7. Change in manufacturing location (final assembly or critical component supplier)

Characteristics that should not affect the model's ability to meet the performance requirements of the certification standard:

1. None

B. Examples of Major Components

1. Power Source
2. Detector

C. Laboratory Testing Fees/ Attributes & Variables

SEI currently has approved one (1) laboratory that may conduct testing to this standard. The schedule of rates for testing at these laboratories can be found on the SEI website and can be used to estimate the total cost of testing for all the models that are to be certified. Testing laboratory data sheets are provided in the ASTM Conformity Assessment Specification.