



Safety Equipment Institute

SEI Certification Program Manual

Section 28: Chemical Protective Clothing Program

28.0 Chemical Protective Clothing and Equipment Program Standards

- **NFPA 1990-2022 Standard for Protective Ensembles for Hazardous Materials and CBRN Operations (Includes NFPA 1991, 1992, 1994)**

28.1 Certification Submittal Package

A Certification Submittal Package shall include an SEI Certification Submittal form (*see Form 8.0: SEI Certification Submittal Form*), a Components & Materials Description Checklist form (*see Section 28B: General Components & Materials Description Checklist*), and a User Guide and Technical Data Package Checklist form (*see Section 28C: User Guide and Technical Data Package 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 package 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 28B: 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).

User Guide and Technical Data Package Checklist

A User Information and Technical Data Package is required for some protective ensembles and ensemble elements. The standards specify the minimum information that must be presented, and each manufacturer has the opportunity to provide as much information about the products they deem necessary to use the products safely. However, the standard does not specify or require a set format for presenting this information. As a result, there are many ways a User Guide (UG) or Technical Data Package (TDP) can be arranged and presented, which is up to the discretion of each manufacturer. Use of *Section 28C: User Guide and Technical Data Package Checklist* form is recommended to be completed so an accurate review and evaluation of each can be conducted.

28.2 Chemical Protective Clothing 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 are 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
LPS	Standard on Liquid Splash Protective Ensembles and Clothing for Hazardous Materials Emergencies	Liquid Splash Garments	NFPA 1990 (1992)
LPF	Standard on Liquid Splash Protective Ensembles and Clothing for Hazardous Materials Emergencies	Liquid Splash Footwear	NFPA 1990 (1992)
CBT	Standard on Protective Ensembles for First Responders to Hazardous Materials Emergencies and CBRN Terrorism Incidents	Chemical/Biological Terrorism Protective Clothing	NFPA 1990 (1994)
VPS	Standard on Vapor Protective Ensembles for Hazardous Materials Emergencies and CBRN Terrorism Incidents	Vapor-Protective Ensembles	NFPA 1990 (1991)

28.3 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.

A. Definition of Model

Characteristics that should affect the model’s ability to meet the performance requirements of the certification standard and therefore require a new model designation:

1. Primary suit material composition, thickness or design including:
 - a. Garment material
 - b. Visor material
2. Gloves and boots when different forms of attachment are used
NOTE: If a manufacturer employs different gloves (boots) or glove (boot) combinations but still uses the same means for attaching gloves (boots), suits comprising these different gloves (boots) or glove (boot) combinations shall be considered one model with each different glove and boot being considered a separate variant to the model. If a different means is used for attaching gloves (boots), then each different type of glove (boot) attachment shall constitute a different model.
3. Seam construction techniques and design
4. Suit closure type, design and orientation
5. Addition of external components including:
 - a. Exhaust valves
 - b. Existence of bulkhead airline attachments
 - c. Any component which affects the vapor or liquid-tight integrity of the protective suit.

NOTE: If a manufacturer offers several pass-thru devices, then each configuration constitutes an additional variant of the basic model.

Characteristics that should not affect the model’s ability to meet the performance requirements of the certification standard and therefore would not require a new model designation:

1. Color (unless pigmenting affects material composition)
2. Size
3. Internal components which do not affect the vapor or liquid-tight integrity of the protective suit.

B. Examples of Major Components

1. Garment materials – include all layers
2. Hood materials – include all layers

3. Wristlet material
4. Closures
5. Seam types
6. Threads
7. Over-cover: Visor/Faceshield
8. Bootie material
9. Pass thru devices and fittings
10. Boots
11. Glove systems
12. Respirator or Breathing System

28.4 Annual Certification Fees

Testing shall be performed annually. When an initial submittal package is submitted to SEI, the Annual Participation Fees (*See Section 7: Annual Participation Fees*) and Annual Model Certification Fees are due. The following is a schedule of annual model certification fees that apply to the Chemical Protective Clothing Program:

Program Code	Model Type	Annual Model Certification Fees
CBT	Base Model	\$2,575
	Variant Model	\$515
	Accessory Model	\$139
LPS	Base Model	\$2,060
	Variant Model	\$515
	Accessory Model	\$139
LPF & LPS Fabric Glove	Base Model	\$1,030
	Variant Model	\$515
	Accessory Model	\$139
VPS	Base Model	\$6,180
	Variant Model	\$515
	Accessory Model	\$139
VPS Footwear	Base Model	\$1,236
	Variant Model	\$515
	Accessory Model	\$139
Additional Listing of Certified Products	Base Model	\$206
	Variant Model	\$206
	Accessory Model	\$206
CBT & LPS Component	Base Model	\$412
	Variant Model	\$309
	Accessory Model	\$139

28.5 NFPA 1990 Standard for Protective Ensembles for Hazardous Materials and CBRN Operations (Includes NFPA 1991, 1992, 1994)

A. 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.

28.6 NIJ 0116.00 CBRN Protective Ensemble Standard for Law Enforcement

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