

Evolving COLPRO Capabilities

Army Baseline. The M20 SCPE was type classified in 1986, based on a 1984 Letter Requirement from the U.S. Army Chemical School. SCPE was designed for one-time use in a contaminated environment for short duration missions (up to 24 hours) primarily "command & control" and "rest & relief" operations. As a one-time use system (i.e., no requirement for decontamination or subsequent re-use of major components), design emphasis was placed on system transportability, "two-man portability" of all system components, ease of system strike/erect and maintenance. As disposable items, the liner components were designed with emphasis on minimizing cost, weight and bulk.

Expanding Capabilities. A Pre-planned Product Improvement (P3I) Program generated the M20A1 SCPE. Type classified in 1992, the M20A1 SCPE featured several enhancements to system capabilities, including liquid agent resistant liners, reduced electromagnetic interference from the motor blowers, and increased entry/exit rate with redesign of the Protective Entrance (PE).

The SCPE P3I Program also type classified six pre-packaged M28 CPE system configurations for future joint service application to medical shelter complexes. The M28 CPE leveraged many major M20A1 SCPE system components, including the PE, Support Kit (which contains the motor blower), filter canister and recirculation filter. The improved liner material was also adopted along with new zipper closures to configure liners to interface with Tent, Extendable, Modular, Personnel (TEMPER). A second airlock, the Tunnel Airlock, Litter Patient (TALP), was developed to provide an entry/exit capability for litter-borne patients.

The M28 CPE was initially configured for 16 ft length increments of TEMPER, i.e., 16ft, 32ft, 48ft, 64ft, a Patient Processing Unit, and 16ft Extension Package. This posed limitations on the size of the protected area for the shelter complexes. Vestibule liners were designed to allow interconnection of liner systems to enlarge the protective area and reduce entry/exit needs. Used in combination with ISO Adapters, vestibule liners allowed the addition of ISO shelters to further enlarge the protective area to include surgical suites, laboratories and X-ray units. A third airlock, the Supply Airlock, was developed in 1996 to provide a new entry/exit capability for palletized supplies or equipment.

Joint Service Applications. In 1997, a Joint Operational Requirements Document (JORD) for the Army Chemically Protected Deployable Medical System (CP DEPMEDS) and the Air Force Chemically Hardened Air-Transportable Hospital (CHATH) required the M28 CPE to provide protection in a contaminated environment. Both systems were designed as large shelter complexes, taking advantage of expanded SCPE capabilities. While CP DEPMEDS required the same continual operating time as M28 CPE, CHATH required extended mission duration of 1-year minimum operation in a non-CB mode and up to 30 days operation in CB-mode. CHATH also required multiple strike and erect capability. Both requirements represented a substantial increase over the basic SCPE performance requirements.

During production, CHATH liners were redesigned to better protect against infiltration of moisture at closure joints between liners. Designated Type II, these liners are not interchangeable with the original closure configuration, and are being used for CHATH, the PACAF Interim Collective Protection System (PITCPS) and all other non-Army applications.

New Systems. As a follow-on system to CHATH, the Air Force adapted SCPE materials technology and components for their Chemically Protected Expeditionary Medical Shelter (CP EMEDS). Developed as part of the Joint Collective Protection Equipment (JCPE) program, CP EMEDS reconfigured M28 CPE liners to interface with the Small Shelter System (SSS) frame and tentage. With similar operational requirements as CHATH, thermal sealed liner seam and interface strap configurations were reinforced over the standard M28 CPE construction to improve liner durability. A new "Bump-thru-Door" Airlock (BTDA) was developed to provide a more sophisticated entry/exit capability for litter patients with litter bearers.

The Marine Corps adapted SCPE materials technology and components for a COLPRO system for their Modular General Purpose Tent System (MGPTS). Also developed under the JCPE program, the Interim Collective Protection System (ICPS) was to replace their Portable Collective Protection System (PCPS).

Future JCPE initiatives include new COLPRO systems for the Air Force Medium Shelter System (MSS) and the Marine Corps Modular Command Post Shelter (MCPS).

For additional information on SCPE, contact us at:

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Simplified Collective Protection Equipment (SCPE)



Evolving COLPRO Capabilities



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Modular, "two-man portable" components for easy installation and maintenance.

Collapsible Protective Entrance (PE) provides quick entry/exit into protective area.

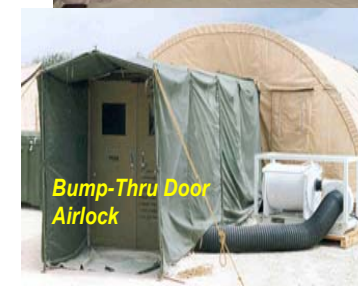
200 CFM Hermetically Sealed Filter Canister (HSFC) and Motor Blower provide clean air into protected area.



Configured in six pre-packaged M28 CPE systems and as major system components.



New "Type II" liner components designed for Air Force applications.



Modular, Saranex laminate liner sections are resistant to liquid chemical agents.

Vestibule liners and ISO adapters interconnect to configure large shelter complexes.

Tunnel Airlock Litter Patient (TALP) provides entry/exit for litter-borne patients.

CPE Supply Airlock provides entry/exit for palletized supplies and large equipment.

Support Kit provides convenient storage for motor blower and ancillary equipment.



M28 CPE liner designs modified to interface with new tent systems, including the Air Force Small Shelter System (above) and the Marine Corps Modular General Purpose Tent System (below). Similar liner designs planned for Medium Shelter System and Modular Command Post System.



SCPE components and materials technology adapted for joint service applications and systems.



Army Baseline
1985 - 1990

Expanding Capabilities
1991 - 1996

Joint Service Applications
1997 - 1999

New Systems
2000 - Today