[METRIC]
AA-D-600D
May 15, 2000
SUPERSEDING
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FEDERAL SPECIFICATION
DOOR, VAULT, SECURITY

The General Services Administration has authorized the use of this federal specification by all federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers security vault doors which are designed to conform to the minimum standards for physical security equipment as required by the Information Security Oversight Office Directive governing the safeguarding of national security information. The doors provide protection against unauthorized entry for the periods of time specified in 1.2.1.

1.2 Classification. The vault doors under this specification shall be of the following classes, types, styles and designs, as specified (see 6.2).

1.2.1 Classes.

Class 5-V - Vault door shall be resistant to 20 man-hours surreptitious entry, 30 man-minutes covert entry and 10 man-minutes forced entry.

Class 5-A - Armory door shall be resistant to 30 man-minutes covert entry and 10 man-minutes forced entry.

Class 5-B - Ballistic door shall be resistant to 20 man-hours surreptitious entry, 30 man-minutes covert entry, 10 man-minutes forced entry, ballistic resistant.

1.2.2 Types.

Type IR - Right opening swing; with optical device.
Type IL - Left opening swing; with optical device.
Type IIR - Right opening swing; without optical device.
Type IIL - Left opening swing; without optical device.
Type IIIR - Double leaf; active right opening swing.
Type IIIL - Double leaf; active left opening swing

1.2.3 Styles.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent to: General Services Administration, Federal Supply Service, National Furniture Center, Engineering Division (3FNE-CO), Washington, DC 20406.

Style H - Hand change combination lock.
Style K - Key change combination lock.

1.2.4 Design.

Design S - Single lock.
Design B - No exterior hardware. (Types I and II only)

2. APPLICABLE DOCUMENTS

2.1 Government publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issue in effect on the date of invitation for bids or request for quotation shall apply.

Federal Specifications:

FF-L-2740 Lock, Combination.
QQ-C-320 Chromium Plating (Electro-deposited).
QQ-P-416 Plating, Cadmium, (Electro-deposited).
TT-C-490 Cleaning Methods and Pretreatment of Ferrous Surfaces for Organic Coatings.

Federal Standards:

Fed. Std. No. 123 - Marking for Domestic Shipment (Civil Agencies).
Fed. Std. No. 595 - Colors.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards and Handbooks as outlined under General Information in the Index of Specifications and Standards and at the price indicated in the Index. The index which includes cumulative supplements, as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC, 20402.

(Single copies of this Specification and other Federal Specifications are available from: General Services Administration, Federal Supply Service, Specifications Section (3FP-E), Suite 8100, 470 East L'Enfant Plaza, SW, Washington, DC 20407, Tel - (202)619-8925.)

(Sample panels of the standard colors are obtainable, without charge, from the Business Service Center, Federal Supply Service, General Services Administration, Washington, DC 20407, or from the Business Service Center of the nearest Regional Office.)

Military Standards:

MIL-STD-129 - Marking for Shipment and Storage.

(Copies of Military Specifications and Standards are available from: DODSSP - Customer Service, Standardization Document Order Desk, 700 Robbins Avenue, Bldg. 4D, Philadelphia, PA 19111-5094, Tel 215.697.2179)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on the date of invitation for bids or request for proposal, shall apply.

American National Standards Institute (ANSI)/American Society for Quality (ASQ):
ANSI/ASQ Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

(Application for copies should be addressed to ANSI, 11 West 42nd Street, NY 10036.)

American Society for Testing and Materials (ASTM):

ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel.

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959)

Underwriters Laboratories (UL):

UL 752 - Standard For Safety For Bullet-Resistive Equipment.

UL 768 - Combination Locks: For locking control of safes, chests, vaults, and similar products.

(Application for copies should be addressed to Global Engineering Documents,15 Inverness Way, East Englewood, CO 80112, Telephone: (303)397-7956 (outside the U.S.), (800)854-7179 (U.S. and Canada) ,Fax: (303)397-2740)

National Motor Freight Traffic Association, Inc., Agent:

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Association, Inc., Traffic Department, 1616 P Street, NW, Washington DC, 20036.)

Uniform Classification Committee, Agent:

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Qualification. The vault doors furnished under this specification shall be products which have been tested and have passed the qualification tests and inspections specified in section 4, and have been listed on or approved for listing on the applicable Qualified Products List (QPL). The Government testing facility for the General Services Administration reserves the right to test the vault door in accordance with standards that are privileged to the Government.

3.1.1 Qualification suspension.

3.1.1.1 Development of entry techniques. The doors qualified under this specification will be continually tested by the Government during the term of qualification to determine whether the surreptitious, covert or forced entry protection afforded by the doors should or can be improved. If at any time, entry techniques are developed within the framework of the specification which affect a door's security integrity, it shall be removed from the QPL.

3.1.1.2 Change in specification requirements. This specification will be reviewed by the Government to determine whether the specification requirements should or can be changed to improve product quality. If, at any time, requirements are changed and such changes affect the qualification status of a qualified door, it shall be removed from the QPL and the manufacturer will be required to modify the product to the extent necessary to comply with specification changes and have the product requalified.

3.2 Materials. Materials used in the door's construction shall be as specified herein. Materials not specified shall be of good commercial quality, suitable in all respects for the purpose intended.

3.2.1 Steel. Steel used in the door shall be of the type, thickness and strength to meet all applicable requirements of this specification. Steel shall be free from rust, scale, pits, buckles and other imperfections that might adversely affect the appearance or the serviceability of the finished product.

3.2.2 Face hardware. The face hardware, excluding combination locks, shall be satin finished anodized aluminum, type 430 corrosion resistant steel or satin finished chromium plating on steel or on die-cast zinc, brass or bronze. The exposed surfaces of all hardware used on a single unit shall be finished to match each other within the limits of the base material and protective coating used. The exposed surfaces of all face hardware shall be free of sharp edges, burrs, pits, nicks or scratches that penetrate the protective plating or anodizing.

3.2.3 Finishing materials.

3.2.3.1 Enamel and lacquer. The final coat for the door shall be either baked enamel, air dried, textured finish, powder coat finish, nitrocellulose lacquer or water reducible coating. The quality of the final coat and its application shall be in accordance with good commercial standards and practices. The color shall be gray, color No. 26134, of Federal Standard No. 595.

3.2.3.2 Chromium plating. Chromium plating shall be in accordance with Class I, Type II of QQ-C-320.

3.2.3.3 Cadmium plating. Cadmium plating shall be in accordance with Class 1, Type I of QQ-P-416.

3.2.3.4 Zinc plating. Zinc plating shall be in accordance with ASTM B633.

3.3 Construction and design.

3.3.1 Design. The design shall provide for an end product that is practical, durable, and acceptable in general appearance. The doors shall be hinged to swing right or left, as specified (see 6.2).

3.3.2 Assembly. The door frame shall be considered a part of the door for purposes of entry resistance testing and shall afford the same security protection as that of the door. Protection for the extended locking bolts shall be built into the door frame. The overall width of the door frame shall not exceed the width of the clear door opening by more than 410 mm. The door frame for single leaf doors shall be designed to mount in a structural wall opening ranging from 1190 to 1240 mm wide and 2080 to 2110 mm high. The door frame for double leaf doors shall be designed to mount in a structural wall opening of 2210 to 2260 mm wide and 2080 to 2110 mm high. The double leaf door frame shall allow adjustment for variations in the wall opening of 12 mm. The door shall be assembled in such a manner as to preclude the removal or loosening of any of the door's components when the door is closed and locked, except that the hinges shall be removable from the outside. All welding and brazing shall be sound, without porosity and shall accomplish secure and rigid joints in proper alignment. All protruding or depressed welds on the door's exterior surface shall be filled and sanded or ground smooth. The door and frame shall be in perfect alignment and operation of the locking mechanism, including the locking bolts, shall be smooth and positive without binding or jamming of parts. The door shall withstand the test in 4.4.8.1.

3.3.3 Clear door opening. The vault door assembly shall be of one size. When installed, the single leaf door shall have a clear door opening of 1980 mm high and 1015 mm wide. When installed, the double leaf door shall have a clear door opening of 1980 mm high and 2000 mm wide. A forming tolerance of $\pm$3 mm shall be permitted. Other door sizes may be approved at the request of the manufacturer based upon documented agency requirements.

3.3.4 Wall thickness. The door assembly shall be adaptable to one of the following wall thicknesses, as specified (see 6.2): 150 mm; 205 mm; 255 mm; or 305 mm. The assembly design shall provide a $\pm$15 mm adjustment to allow for variations in the nominal wall thickness (see 6.4).

3.3.5 Door frame. The door frame shall be non-grout type and the frame and door shall be mounted so that there shall be not more than 3 mm clearance between the door and the door frame. The frame shall be designed so that when attached to the wall, the wall clamping bolts will be exposed only on the inside of the vault. The frame shall have leveling and adjusting screws to compensate for building sag which may occur at any time in the future.

3.3.6 Door pull and throw bolt handles. The door pull and throw bolt handles shall be of the material specified in paragraph 3.2.2. They shall be not less than 100 mm in length and of designs consistent with their intended usage. The handles shall be without burrs, nicks, scratches, and sharp edges. A door pull shall be securely and firmly attached to both the door front and the door interior. Throw bolt handles shall be firmly attached to the front of the door. Door pulls and throw bolt handles shall be attached so they withstand loosening in testing and in operation during the service life of the door. The door pull handle on the front of the door may be integral with the throw bolt handle. Removal of the handle arbor shall be controlled only from the inside of the door. The throw bolt handle shall require not more than 20 Newton-meters torque to engage or disengage the boltwork mechanism, and the initial force required to swing the unlocked door from any position shall not exceed 45 Newtons at the operating handle.

3.3.7 Door stop. A door stop to prevent the door's face hardware from striking wall surfaces shall be furnished with the door. The stop shall be designed to be wall mounted unless otherwise specified (See 6.2). The stop shall be able to withstand hard usage. The stop shall not scratch or scar the door's painted finish when the door is swung open against it.

3.3.8 Door striker. The door shall have a striker on both the front and hinged edges to minimize play or shake in the door when in the locked condition. The fit of the door to the striker on both the front and hinged edges shall be such that there is not more than 1 mm play or shake in the door when the bolts are thrown to the locked position.

3.3.9 Door hinges. The door shall be mounted to the frame by not less than two anti-friction bearing hinges, so designed to allow the door to be opened approximately 180 degrees. The hinges shall be removable from the outside.

3.3.10 Door threshold. The door threshold shall be designed to provide a ramp at the door threshold of approximately 6 mm to permit free swing of the door after its installation. If receptive cups, ports, or grooves are used, they shall be recessed not less than 12 mm below the bolt in its extended position to prevent dirt or other substances from obstructing the locking mechanism.

3.3.11 Back cover plate. Back cover plates of not less than 1.5 mm thickness shall completely enclose the back of the door. The back plates shall be firmly and securely fastened to the door and shall be reinforced or attached by a method to prevent sagging, bulging, or distortion. The back plates shall be easily removed by one person for service purposes by the use of common hand tools and shall weigh less than 20.4 kg (45 lbs). The back shall have an opening covered by an inspection plate. The opening, with the inspection plate removed shall be large enough and positioned so as to allow maintenance of the door's combination lock and cam assembly.

3.4 Lock. The lock shall be in accordance with the following paragraphs:

3.4.1 Combination lock. Class 5V and Class 5B, Design S doors, shall have a Style H or Style K lock, as specified (see 6.2). The lock shall meet the requirements of FF-L-2740. The lock design or installation shall not compromise the integrity of the door.

3.4.2 Armory door lock. Class 5A, Design S doors, shall have a lock which is UL listed in accordance with Group 1 of UL 768. The lock design or installation shall not compromise the integrity of the door.

3.4.3 Lock installation. The lock's dial ring shall be mounted so as to be flush to the surface of the door. The attachment of the dial ring shall be firm and secure without movement or side play. The lock case shall be firmly and securely attached to the door by suitable and effective means so that there is no movement or side play to the lock case. The lock shall not be modified in any manner from the formation supplied by the lock manufacturer, except that the spindle may be cut to proper length.

3.5 Locking mechanism. The engaging bolts shall be of a design, size and material strength to withstand the applicable tests in Section 4. The bolts shall operate easily and smoothly, without binding or jamming. The bolts shall not dent or otherwise deface the door frame in their movement. The attaching linkage shall be channeled, strapped or welded. The locking mechanism shall have a detent to lock the bolts in the open position when the bolts are retracted and the door swung open. The detent shall be designed so that it cannot be inadvertently tripped, permitting the bolts to be thrown to the engaged position. The locking mechanism shall be designed such that, with the vault door in the open position, the lock can be locked so when the door is pulled shut from the inside, the vault door will immediately lock in the closed position.

3.6 Locking mechanism and lock mounting drawings. Complete, exploded view drawings of the locking mechanism and lock mounting, with individual parts indexed, shall be furnished by the manufacturer upon specific request of the purchaser.

3.7 Resistance to entry techniques.

3.7.1 Surreptitious, covert and forced entry techniques. The vault door shall withstand the applicable tests in 4.4.8 for not less than the periods of time specified hereunder.

Class 5-V - Vault door shall be resistant to 20 man-hours surreptitious entry, 30 man-minutes covert entry and 10 man-minutes forced entry.

Class 5-A - Armory door shall be resistant to 30 man-minutes covert entry and 10 man-minutes forced entry.

Class 5-B - Ballistic door shall be resistant to 20 man-hours surreptitious entry, 30 man-minutes covert entry and 10 man-minutes forced entry.

3.8 Ballistic resistance. The Class 5B doors shall pass the test in 4.4.8.4.

3.9 Escape device. Each vault door shall have an escape device which shall be permanently installed on the inside face of the door. The device shall permit ready escape for persons locked inside the vault area. Access to the device shall only be from the inside the vault, and its design shall be such that under normal operating conditions it can not be activated from the outside. A decal shall be permanently affixed to the inside face of the door frame outlining, in easily read letters, completely understandable instructions for activating the device to open the door. Neither the design of the device nor its installation shall affect the door's resistance to entry techniques. The escape device shall allow the door to be returned to the fully secure condition following egress from the vault. The escape device shall pass the escape device operational test in paragraph 4.4.8.5.

3.10 Optical device. When specified, the door shall have a wide angle optical device. The purchaser should indicate whether the device should permit observation from inside to outside of the vault or vice versa (See 6.2). The optical device shall be installed in such a manner so as not to affect the door's security protection. The device shall be located in the door approximately five feet above the inside vault floor and as close to the center of the door as practicable. However, in no case shall it be closer than 205 mm to the clear opening edge of the door either on the hinged or front edge.

3.11 Lubrication. Moving parts requiring lubrication shall have a permanent type lubricant applied which is suitable to the varied climatic conditions likely to be encountered during the service of the product.

3.12 Pretreatment and finish.

3.12.1 Pretreatment. All exterior and interior ferrous metal surfaces shall be treated for painting in accordance with any type in TT-C-490. Special attention shall be given to the door's interior to assure all welds are clean and that all slag, spatter, and dirt accumulation is removed.

3.12.2 Finish. The final coat used for the finish shall be as specified in 3.2.3.1 and it shall be applied to all exterior and interior metal surfaces except plated metal. The minimum total finished film thickness of the final coat shall be not less than 0.025 mm. The finish shall level out to produce uniform exposed surfaces without runs, wrinkles, grit, areas of thin or no film, or separation of color. A textured or crinkle finish may be used. Special attention shall be given to insure that all surfaces are adequately protected against rust. The final finish shall withstand the test in 4.4.8.5 without evidence of cracking, flaking, or loss of adhesion of the finish. Two test panels of 0.9 mm thick steel shall be furnished with the sample door for the purpose of the test. One panel shall be prepared to reflect the inner coating and one to reflect the outing coating.

3.12.3 Plating. Bolts, screws, nuts, and similar hardware shall be made to resist rust by electro-galvanizing or by zinc, cadmium, or chromium plating as specified in 3.2.3.

3.13 Labels. Each door furnished under this specification shall bear the applicable labels specified hereunder.

3.13.1 General Services Administration label. The label shall be affixed to the outside face of the door. The label shall have a silver background and red letters not less than 3 mm in height. The label shall show the following:

GENERAL SERVICES ADMINISTRATION
APPROVED SECURITY VAULT DOOR
MANUFACTURER'S NAME

3.13.2 Identification label. The label shall be affixed to the inside face of the door frame. The label shall show the door model and serial number, date of manufacture, and Government contract number.

3.13.3 Certification label. A certified label shall be affixed to the inside face of the door bearing the following certification:

A. For the Class 5-V door:

"This is a U.S. Government Class 5-V vault door which has been tested and approved by the Government under Fed. Spec. AA-D-600D. It affords the following security protection:

"20 man-hours against surreptitious entry.
30 man-minutes against covert entry.
10 man-minutes against forced entry.
The protection certified above applies only to the door and not to the vault proper."

B. For the Class 5-A door:

"This is a U.S. Government Class 5-V vault door which has been tested and approved by the Government under Fed. Spec. AA-D-600D. It affords the following security protection:

"30 man-minutes against covert entry.
10 man-minutes against forced entry.
The protection certified above applies only to the door and not to the vault proper."

C. For the Class 5-B door:

"This is a U.S. Government Class 5-B vault door which has been tested and approved by the Government under Fed. Spec. AA-D-600D. It affords the following security protection:

"20 man-hours against surreptitious entry.
30 man-minutes against covert entry.
10 man-minutes against forced entry.
Ballistic Resistant
The protection certified above applies only to the door and not to the vault proper."

3.13.4 Number label. All vault doors shall have a number label securely affixed to the front face. Regardless of the method used, the label attachment shall not degrade the door security. The label shall be mounted on the door frame, above or to the left side of the door. The label shall be nominal 0.5 mm thick, satin finished aluminum and shall be 63-65 mm by 17-20 mm. The label numbering system shall be established by the manufacturer to provide non-repetitive numbers. The label numbers shall be not less than 4.5 mm high and shall be embossed.

3.14 Workmanship. The workmanship shall be of a quality to produce a serviceable and well finished end item, able to withstand hard daily usage. The edges of all exposed parts and sheets shall be protected by folding, beading, flanging or grinding to eliminate burrs, roughness, and sharp edges. The bending of channels and flanges shall be straight and smooth. Welding and brazing shall produce secure and rigid connections. Lock washers, cotters pins, clips, and other retainers or built-in features shall be used to prevent loosening of screws, bolts, and nuts which may cause disengagement of parts and possible lock-out. Moving parts shall operate smoothly without binding or jamming. The door shall be free of any defects or features which may adversely affect its appearance and serviceability or which may cause personal injury.

Table I - Classification of Preparation for Delivery Defects

Examine	Defect
Markings	Omitted; incorrect; illegible; improper size, location, sequence or method of application.
Materials	Any component missing or damaged.
Workmanship	Incomplete closure of box, loose strapping, distortion of container.

3.15 Replacement of parts. Parts subject to replacement, such as the combination lock and face hardware, shall be capable of identical replacement in the field without the use of special tools or specially qualified personnel and shall be possible without affecting the security integrity of the door.

3.16 Spare parts list. A spare parts list of all door parts which may be subject to subsequent replacement shall be furnished with each door delivered under contract. The parts list shall clearly identify the parts by descriptions and part numbers. The list shall be printed on paper or other suitable material and bonded by glue or adhesive to the inside face of the door frame.

4. QUALITY ASSURANCE PROVISIONS

4.1 Inspection responsibility. Except that testing for qualification shall be performed by an agency designated by the General Services Administration, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own or any other inspection facility or service acceptable to the Government. Inspection records of the examinations and tests shall be kept complete and available to the Government, as specified in the contract or order. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Component and material inspection. In accordance with 4.1, the supplier is responsible for insuring that components and materials used are manufactured, tested, and inspected in accordance with the requirements of referenced subsidiary specifications and standards to the extent specified, or, if none, in accordance with this specification.

4.3 Inspection of preparation for delivery requirements. An inspection shall be made to determine that the packing and marking comply with the requirements in Section 5 of this specification. Defects shall be in accordance with Table I. The sample unit shall be one shipping container fully prepared for delivery.

4.4 Testing procedures and tests.

4.4.1 Testing agency. Qualification tests on doors submitted for approval for inclusion on the applicable Qualified Products List (QPL) and any re-testing that may be required shall be performed by a testing agency specifically designated by the General Services Administration.

4.4.2 Testing costs. All testing costs entailed in determining the qualification of the supplier's product, including costs of re-testing of a qualified product if subsequently disqualified under 3.1.1, shall be borne by the supplier, and shall be paid prior to the commencement of testing. Test fees shall be payable to the testing agency or the General Services Administration, as directed by the General Services Administration.

4.4.3 Test procedures. The following procedures shall govern the testing of all doors submitted for qualification under this specification.

(a) Samples shall be submitted for qualification only after the supplier has obtained written authorization from the General Services Administration.
(b) A qualification test may be discontinued at the Government's testing facility at any time the product fails to meet any one or more of the requirements set forth in this specification. The manufacturer may be permitted to make modifications on the sample during the testing phase where such modifications, in the judgement of the General Services Administration and the testing facility, are clearly in the interest of the Government.
(c) In case of failure of the sample, consideration will be given to the request of the manufacturer for resubmission for retest only after it has been clearly shown that changes have been made in the product which the Government considers sufficient to warrant retest.

(d) The manufacturer or his representative will not be permitted to observe the actual tamper resistance tests conducted on his product at the testing facility. However, when samples tested fail to comply with the requirements of this specification, the sample may be examined by the manufacturer or his representative and full details of the failure may be made known to them in a manner which, for reasons of security, will be in the best interest of the Government.

4.4.4 Test samples. Qualification test sample representative of the classes, types and designs of the class the supplier proposes to furnish shall be forwarded at a time and to a place designated by the General Services Administration. During testing, in the event the sample is destroyed or damaged to such an extent that the testing cannot be completed, the Government reserves the right to require the manufacturer to furnish additional samples to complete the testing.

4.4.5 Drawings and material specifications. The manufacturer shall furnish two complete sets of construction and assembly drawings and material specifications with the sample submitted for qualification. When samples have been tested and are approved for inclusion on the applicable QPL, the manufacturer shall furnish three additional complete sets of the assembly and construction drawings and material specifications lists to the General Services Administration for the Government's use in inspection and acceptance of the product after award of contract. All material so furnished by the manufacturer will be held in proprietary confidence.

4.4.5.1 Changes in drawings and material specifications. Once the door has been tested and approved for QPL, no change of any kind shall be made in its construction or in the construction drawings unless prior written authorization to make the change is obtained from the Federal Supply Service, General Services Administration. Upon receipt of a request for a change, the General Services Administration will determine whether additional testing is required for approval.

4.4.6 Qualification testing. Qualification testing shall consist of the following tests and inspections. Failure of the sample to withstand these tests shall provide reason to consider the product as having failed to meet qualification requirements.

(a) Inspections - 4.4.9
(b) Door test - 4.4.8.1
(c) Surreptitious, covert and forced entry test - 4.4.8.2
(d) Ballistic Test - 4.4.8.3
(e) Finish Test - 4.4.8.4
(f) Escape Device Operational Test – 4.4.8.5

4.4.7 Acceptance after award of contract. The Government reserves the right to inspect and test each door, including all component parts thereof, delivered for acceptance under this specification after award of contract.

4.4.8 Test methods.

4.4.8.1 Door test. The vault door shall be suspended in a test frame and swung open 90 degrees from its closed position. Ninety kilograms shall be loaded on the top edge of the door opposite and furthermost from the hinged side. The door shall be allowed to hang in this position for approximately 24 hours. At the end of this period, the door shall be examined for ease of operation. The door shall not stick or jam in its frame and the lock and locking mechanism shall operate easily and smoothly.

4.4.8.2 Surreptitious, covert and forced entry test. There shall be sufficient time and opportunity to study the design and construction of the vault door and to develop testing methods prior to the start of testing. There shall be no limit to the number of methods of surreptitious, covert and forced entries attempted. No more than two men shall be used simultaneously during each attempt at entry. The man-minute working time shall cover the period during which an entry test on the cabinet is in progress and shall be exclusive of time required for safety precautions and rest periods.

4.4.8.2.1 Surreptitious, covert and forced entry tools and devices.

4.4.8.2.1.1 Surreptitious entry tools and devices. Tools and devices used in the surreptitious entry tests are unlimited, except that the total weight of the tools used for a single test shall not exceed 70 kilograms. The test tools and devices selected for a particular attempt shall be weighed prior to commencement of the test.

4.4.8.2.1.2 Covert entry tools and devices. The tools and devices used in the covert entry tests shall be limited as specified below. Power tools, electrically or battery powered shall be commercially available equipment, and shall be limited to drills not exceeding 5000 rpm. Pressure rigs may be used, with a lever arm not exceeding 762 mm. Tools may be reasonably modified, i.e., special chucks on drills, ground or shaped chisels or pry bars, etc. Electrical tools shall be able to operate on electricity available in normal office space. Tools and devices shall be capable of being carried in two cases or bags, each case or bag not exceeding 0.042 cubic meters in volume. The total weight of the tools used in a single test shall not exceed 70 kilograms, exclusive of the weight of the case. Devices for the application of heat shall be limited to single tank propane, butane or equivalent devices which fall with the weight and dimension limits specified above. Acetylene, MAPP or equivalent shall not be used. Electric arc or any form of burn bars, oxidizer assisted products or explosives shall not be used. The test tools and devices selected for a particular attempt shall be weighed prior to commencement of the test.

4.4.8.2.1.3 Forced entry tools and devices. The tools and devices used for forced entry tests shall be limited to non-powered tools only. The test tools and devices selected for a particular attempt shall be weighed prior to commencement of the test.

4.4.8.2.2 Surreptitious, covert and forced entry test timing. The time clock shall be started when the test equipment is picked up to approach the sample and shall not be stopped during the test except as specified above. Any change or repair of tools taken from the carrying case during a test shall only be done while the clock is running. The tests must be conducted in a manner that is repeatable. Any surreptitious, covert, or forced entry through the vault door under the above conditions, within the time specified for the door's class, shall provide reason to consider the door as having failed to meet the requirement.

4.4.8.3 Ballistic resistance test. The vault door shall be tested in accordance with level 2 small arms ballistic protection testing in accordance with the procedures specified in paragraph 3.2 of state department standard SD-STD-01.01, Revision G (Amended) dated November 30, 1992 amended April 30, 1993. Any failure of the tested item to comply with the criteria of paragraph 3.4.1 Ballistic Rejection Criteria of SD-STD-01.01 shall be cause for rejection.

4.4.8.4 Finish test. The two panels, prepared as specified in 3.13.2 shall, at room temperature, be bent around a 6.4 mm rod to an angle of 180 degrees. The panels shall then be examined for compliance with 3.13.2.

4.4.8.5 Escape device operational test. The escape device shall be subjected to 10,000 cycles of operation without addition of lubricants and without replacements of any component. One cycle shall consist of using the escape device to throw the bolts and open the vault door, and then close and lock the vault door. Any failure of the escape device during test shall be cause for rejection.

4.4.9 Inspection. A visual inspection shall be made of the product to determine compliance with the requirements specified in Section 3.

5. PREPARATION FOR DELIVERY

5.1 Packing. Packing shall be level A, B or C, as specified (see 6.2).

5.1.1 Level A. Each complete door shall be packed in a crate or in a box . When packed in a crate, the contents shall be waterproof shielded with a shroud. When packed in a box, the contents shall be shrouded and the box shall be modified with addition of reinforcing members and skids. The contents of the crate or box shall be blocked, braced and cushioned to prevent movement during multiple shipments.

5.1.2 Level B. Each complete door shall be packed in a crate or in a box. Unless otherwise specified (see 6.2), shrouding of the contents shall not be required. The contents of the crate or box shall be blocked, braced, and cushioned to prevent movement during shipment.

5.1.3 Level C. Each complete door shall be packed to assure carrier acceptance and safe delivery to destination in containers complying with the rules and regulations applicable to the mode of transportation.

5.2 Marking.

5.2.1 Civil agencies. In addition to the marking required in the contract or order, the shipping containers shall be marked in accordance with Fed. Std. No. 123.

5.2.2 Military activities. In addition to markings required by the contract or order, the shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The doors are intended for use in storage vaults and strong-rooms to protect against unauthorized passage of a person or persons through the doorway into the vault proper.

6.2 Ordering data. Purchasers should exercise any desired options offered herein, and procurement documents should specify the following:

(a)Title, symbol and date of this specification.
(b)Class, type, style, and design required.
(c)Thickness and composition of the vault wall.
(d)Door stop requirements if other than wall mount.
(e)Levels of packing and marking required.

6.3 Qualification. With respect to products requiring qualification, awards will be made only for such products as have, prior to the time set for opening of bids, been tested and approved for inclusion on the applicable Federal Qualified Products List, whether or not such products have actually be so listed by that date. The attention of suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification so that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Furniture Commodity Center, Federal Supply Service, General Services Administration, Washington, D.C. 20406, and information pertaining to qualification may be obtained from that activity.

6.4 Composition of vault wall. Examples of materials commonly used in vault construction are reinforced concrete, interlocked hard brick, steel alloy, or a combination of these. In order that the door manufacturer can insure a proper fit, the purchaser should stipulate in the purchase order (see 6.2) the thickness and the type of material used in the vault wall.

6.5 Definition of terms used in this specification.

6.5.1 Entry. For the purpose of this specification, entry means: (1) opening the door, (2) creating an opening to allow passage through the vault door or wall opening in which the door is mounted.

6.5.2 Surreptitious entry. For the purpose of this specification, surreptitious entry means a method of entry, such as lock manipulation or radiological attack on the combination lock, which would not be detectable during normal use or during inspection by a qualified person.

6.5.3 Covert entry. For the purpose of this specification, covert entry is defined as a method of entry which causes physical damage to the door or lock such that the damage can be repaired to the point where it would not be detectable by a user during normal use. However, the damage would be detectable during inspection by a qualified person. If replacement parts, including replacement lock parts, or paint, are necessary to conceal the damage caused by the entry attempt so it cannot be detected during normal use, the entry method shall be considered covert.

6.5.4 Forced entry. For the purpose of this specification, forced entry means a method of entry which would leave evidence of the act and which would be readily discernible in the normal use of the door. Forced entry is considered to be an attack in which the attacker has no concern over leaving evidence that the vault door has been penetrated.

6.5.5 Lock manipulation. For the purpose of this specification, lock manipulation is defined as the opening of the combination lock without alteration of the physical structure, or disarranging of parts. Ordinarily, manipulation would be accomplished by movement of the lock dial.

6.6 Samples. All samples required for test purposes shall be furnished at no expense to the Government and the manufacturer shall pay all transportation charges to and from the point where the tests are performed. All tested samples shall become the property of the Government but may be released to the manufacturer at the option of the Government. Upon request, the manufacturer shall furnish to the Government a door equal in every respect to that of the qualified sample for use of inspection during the term of the contract. The door shall be furnished at no expense to the Government and will be returned to the manufacturer at his request upon expiration of his contract.

6.7 Special techniques. Information relating to special techniques used in the testing of vault doors will be disclosed to qualified suppliers and personnel of the Federal agencies on an official, need-to-know basis.

MILITARY INTERESTS:

PREPARING ACTIVITY
GSA-FSS

REVIEW ACTIVITIES:
Army
Navy
Air Force

CIVIL AGENCY COORDINATING ACTIVITIES:
State Department
CIA
NSA
Department of Justice
Department of Transportation
Department of Commerce
Department of Treasury