



Standard Classification for Bank and Mercantile Vault Construction¹

This standard is issued under the fixed designation F 1090; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

^{ε1} NOTE—Keywords were added editorially in July 1998.

1. Scope

1.1 This classification is for the use and guidance of those who purchase, design, construct, install, approve, or modify storage vault enclosures, intended for the protection of assets against loss due to forced entry.

1.2 This classification is a systematic arrangement of constructed products, based on similar intrusion resistance characteristics, as derived from available test data.

1.3 This classification does not address fire resistivity.

1.4 This classification does not address the methods of interfacing vault components.

1.5 Nothing in this classification is intended to prevent the use of systems, methods, or devices that provide a level of intrusion resistance equivalent to that prescribed herein.

1.5.1 Any system, method, or device different from that detailed herein may be examined, in accordance with the intent of this standard, and if found equivalent, may be included.

1.6 Nothing in this classification shall be construed to prohibit better or safer conditions than the requirements specified herein.

1.7 Each standard designation cited shall be meant to be the edition in effect on the date this classification was published.

1.8 A rationale is given in Appendix X1.

NOTE 1—For more information on the construction of bank and mercantile vaults, refer to the following documents: ASTM Specifications A 184/A 184M, A 615, A 615M, A 635, C 33, C 94, C 150, C 494, C 618, C 685; American Concrete Institute Building Requirements ACI 318, and American Welding Society Structural Welding Code D 1.4.

1.9 The values stated in inch-pound units are to be regarded as the standard. The values in parentheses are given for information only.

2. Referenced Documents

2.1 ASTM Standards:

A 184/A 184M Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement²

A 615 Specification for Deformed and Plain Billet-Steel

Bars for Concrete Reinforcement²

A 615M Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement [Metric]²

A 635 Specification for Steel, Sheet and Strip, Heavy Thickness Coils, Carbon, Hot-Rolled³

C 31 Practice for Making and Curing Concrete Test Specimens in the Field⁴

C 33 Specification for Concrete Aggregates⁴

C 39 Test Method for Compressive Strength of Cylindrical Concrete Specimens⁴

C 42 Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete⁴

C 94 Specification for Ready-Mixed Concrete⁴

C 150 Specification for Portland Cement⁵

C 172 Practice for Sampling Freshly Mixed Concrete⁴

C 192 Practice for Making and Curing Concrete Test Specimens in the Laboratory⁴

C 494 Specification for Chemical Admixtures for Concrete⁴

C 496 Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens⁴

C 618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete⁴

C 685 Specification for Concrete Made by Volumetric Batching and Continuous Mixing⁴

2.2 Underwriters Laboratories Standards:

UL 608 Burglary-Resistant Vault Doors and Modular Panels⁶

UL 680 Emergency Vault Ventilators and Vault Ventilating Ports⁵

2.3 American Concrete Institute Document:

ACI 318 Building Code Requirements for Reinforced Concrete⁷

2.4 American Welding Society Document:

³ Annual Book of ASTM Standards, Vol 01.03.

⁴ Annual Book of ASTM Standards, Vol 04.02.

⁵ Annual Book of ASTM Standards, Vols 04.01 and 04.02.

⁶ Available from Underwriters Laboratories, Inc., 333 Pingston Road, Northbrook, IL 60062.

⁷ Available from American Concrete Institute, P.O. Box 19150, Redford Station, Detroit, MI 48219.

¹ This classification is under the jurisdiction of ASTM Committee F-12 on Security Systems and Equipment and is the direct responsibility of Subcommittee F12.80 on Protective Containment Structures.

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² Annual Book of ASTM Standards, Vol 01.04.