

SECTION 10 51 61

BUILT-IN COMBINATION LOCKS

*****Since 1921, Master Lock Company has been providing padlocks and other security products for the construction industry. Products include built-in combination and key-operated locks for all types of lockers, combination padlocks for padlock hasp lockers, and lock management software. This product guide specification section can be used to specify the following built-in combination locks to be installed on metal, wire mesh, wood, plastic, and other types of locker:

Combination locks for gravity/lift handle lockers (Article 2.2): Models 1630, 1631, 1630MD, 1631MD, 1636MKADA, 1637MKADA, 1636MKMDADA, and 1637MKMDADA.

Combination locks with slam shut operation and dead bolt locking for single point rotating latch lockers (Article 2.3): Models 1690, 1690MD, 1695MKADA, and 1695MKMDADA.

Combination locks with slam shut operation but without dead bolt locking for single point horizontal latch lockers (Article 2.4): Models 1652, 1653, 1652MD, 1653MD, 1651MKADA, 1656MKADA, 1651MKMDADA, and 1656MKMDADA.

Combination locks for single point horizontal latch box lockers (Article 2.5): Models 1654, 1655, 1654MD, 1655MD, 1651MKADA, 1656MKADA, 1651MKMDADA, and 1656MKMDADA.

Deadbolt combination locks without slam shut operation for all locker types except rotating latch lockers (Article 2.6): Models 1670, 1671, 1670MD, 1671MD, 1676MKADA, 1677MKADA, 1676MKMDADA, and 1677MKMDADA.

The specifier will need to select appropriate products and delete non-applicable models and options. Refer to Master Lock product literature for descriptions and available options. The guide section has been written so that most editing can be accomplished by deleting unnecessary requirements and options. Depending on project requirements, some additional information will need to be added by the specifier. Options are indicated by []. Notes to assist the specifier in selecting options and editing the specification guide are printed in bold and indicated with *****. For final editing, all brackets and notes will need to be deleted from the guide.

For ADA accessible locks, lock operation must meet the requirements of the current edition of the Department of Justice (DOJ) ADA Standards for Accessible Design (ADA Standards) or ICC/ANSI A117.1 – Accessible and Usable Buildings and Facilities. Verify with local jurisdiction which standard has been adopted for the project location.

ADA Standards for Accessible Design; per Chapter 2, Article 2.25 – Storage; requires providing a minimum of 5 percent ADA Accessible lockers (minimum of 1)

Master Lock recommends only ordering ADA compliant lock models to meet the minimum 5 percent ADA requirement, with the remainder of the locks being ordered as the standard models. For example, for a facility using lift handle lockers, a minimum of 5 percent of the locks should be model 1636MKADA and the remaining locks (typically 95%) should be specified as model 1630 locks. ADA locks are slightly more expensive, this recommendation will provide the least cost option to meet the ADA Standards cited above.

PART 1 - GENERAL

1.1 SUMMARY

*******Built-in, combination locks can be factory installed by the locker manufacturer or field installed on either existing or new lockers. Field installed locks can be part of a complete construction project, such as a new school building, or can be purchased directly by the owner and installed by the building maintenance staff. If the locks are to be factory installed, the locks can be specified separately using this guide specification or the lock requirements can be included as part of the locker specification. Edit the following paragraph to reflect project requirements. *******

A. Section includes:

1. Built-in, combination locks to be [factory installed on lockers.] [field installed on existing lockers.] [field installed on lockers specified in other sections.]

*******For both large and small projects, a system to track and manage locks, user assignments, and lock combinations is essential. Master Lock's LockerManager[®] software is an excellent management tool. Include the following paragraph if LockerManager is specified in this section. *******

2. Automated Lock and Locker Database Management System for recording and managing lockers, locks, user assignments, and combinations.

B. Related Sections:

*******List other specification sections dealing with work directly related to this section such as the following. *******

3. [Section 10 51 13 - Metal Lockers] [Section 10 51 16 - Wood Lockers]
 [Section 10 51 26 - Plastic Lockers] [Section 10 51 43 - Wire Mesh Storage Lockers] [insert section number and title]: Lockers to receive built-in combination locks.

1.2 DEFINITIONS

- A. **ADA Compliant Locks:** Locks designed to meet the ADA requirements cited in the current edition of the DOJ ADA Standards for Accessible Design or ICC/ANSI A117.1 – Accessible and usable Buildings and Facilities.
- B. **Control Key:** Key provided by lock manufacturer for use with Standard Lock models that will open any lock in a designated Standard Lock system.
- C. **Dead bolt lock:** Type of lock that once locked, the latch or bolt cannot be retracted or moved until the lock is properly unlocked by either dialing the correct combination, or turning a key.
- D. **Master Key:** Key provided by lock manufacturer for use with Three-Ways-to-Open ADA Compliant Locks that will open any Three-Ways-to-Open ADA compliant lock in a designated lock system.
- E. **Slam Shut Operation:** Indicates that the locker door will automatically lock by simply shutting the locker door. No further action is required.
- F. **Standard Locks:** Locks designed for standard use and are not designed to meet ADA Standards.
- G. **Student Key:** Is a key provided with an ADA lock that allows the user to open one designated ADA lock.
- H. **Supervisory Key Access:** A key provided by lock manufacturer that provides access to any lock in a lock system. Standard locks and ADA compliant locks cannot use the same supervisory key. Standard locks are provided with a Control Key and ADA compliant locks are provided with a Master Key.
- I. **Three-Ways– to-Open operation:** Indicates that the combination lock can be opened by use of the correct combination, use of a master key, or use of a student key.

1.3 SUBMITTALS

- C. Provide in accordance with Section [01 33 00 - Submittal Procedures] [insert section number and title]:
 - 1. Product data for locks.
 - 2. Lock Installation instructions.

*******Include the following paragraph if LockerManager system is being specified. *******

3. Product data for lock management system describing functions, capacities, and requirements.
- D. Provide in accordance with Section 01 78 00 - Closeout Submittals:
 1. Printed control chart and text file on disc of serial numbers and lock combinations.

******* For supervisory key access, a designated lock system with both standard locks and ADA compliant locks will require a control key for opening any standard lock and a master key for opening any ADA compliant lock. ADA complaint locks and standard locks cannot use the same supervisory key.*******

*******For standard lock systems, Master Lock recommends a minimum of 2 control keys be provided per facility. Each control key opens any standard lock in a designated lock system. *******

2. [2] [_____] each control keys.

*******For ADA compliant locks, Master Lock recommends a minimum of 2 master keys be provided per facility. Each master key opens any ADA compliant lock in a designated lock system. In addition a minimum of 2 student keys should be provided for each ADA compliant lock in a designated lock system.*******

3. [2] [_____] each master keys.
4. [2] [_____] each Student keys with removable ADA compliant keyheads for each ADA compliant lock.

*******Include the following paragraph if LockerManager system is being specified. *******

5. Electronic copy of manual for lock management system.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Master Lock Company, 137 West Forest Hill Avenue, P.O. Box 100367, Oak Creek, Wisconsin 53154; 800-308-9244; www.masterlock.com.
- B. Requests to use equivalent products of other manufacturers shall be submitted in accordance with Section 01 25 13 - Product Substitution Procedures.

*******Master Lock built-in, combination locks can be factory or field installed on lockers manufactured by numerous manufacturers. Refer to Master Lock product literature for charts listing appropriate locks for various manufacturer's lockers. Select required lock from the following articles and delete articles for nonapplicable models. If locks are being specified as part of the locker specification, these articles can be inserted into the locker specification section. *******

2.2 COMBINATION LOCKS FOR LIFT HANDLE LOCKERS

*******These eight models of built-in combination locks are provided for lift handle lockers.**

Standard Locks:

Model 1630: Right-handed with plastic dial.

Model 1631: Left-handed with plastic dial.

Model 1630MD: Right-handed with metal dial (MD).

Model 1631MD: Left-handed with metal dial (MD).

ADA Compliant Locks:

ADA compliant locks offer Three-Ways-To-Open Operation

These locks meet the Department of Justice (DOJ) ADA Standards for Accessible Design (ADA Standards) and ICC/ANSI A117.1: Operation of the lock shall not require tight grasping, pinching, or twisting of the wrist. The force required to operate component shall be 5 pounds maximum.

ADA Standards for Accessible Design; per Chapter 2, Article 2.25 – Storage; requires providing a minimum of 5 percent ADA Accessible lockers (minimum of 1)

Master Lock recommends only ordering ADA compliant locks to meet the 5 percent minimum ADA Standard, with the remainder of the locks ordered as standard locks.

Model 1636MKADA: Right-handed with plastic dial.

Model 1637MKADA: Left-handed with plastic dial.

Model 1636MKMDADA: Right-handed with metal dial (MD).

Model 1637MKMDADA: Left-handed with metal dial (MD).

Edit the following to reflect required model. *****

A. General:

1. Description: Built-in, combination lock with steel body for mounting in gravity lift handle lockers.
2. Operation: Vertical travel locking bolt engages lift handle locker mechanism. This type of mechanism offers Slam Shut Operation.
3. Mounting: Concealed in [right] [and] [left] handed door(s).

B. Standard lock:

1. Lock Description: 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder for access using control key.
2. Model: [1630] [1631] [1630MD] [1631MD]

C. ADA compliant lock:

1. Lock Description: Provide 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder which is master keyed to a master key and student key.
2. Model: [1636MKADA] [1637MKADA] [1636MKMDADA] [1637MKMDADA]

D. Dial:

- [1. Durable plastic dial.
 - a. Color: Black]
- [2. Metal dial.
 - a. Color: [Black] [Red] [Blue] [Green] [Purple]]
- [3. Provide dial with brass escutcheon plate.]

******* Locker doors which are 11/16 to 3/4 inch thick require an extension set. Include the following paragraph if extension is required. *******

- E. Extension set: Provide for locker doors 11/16 to 3/4 inch thick.

2.3 COMBINATION LOCKS WITH SLAM SHUT OPERATION AND DEAD BOLT LOCKING FOR SINGLE POINT ROTATING LATCH LOCKERS

*****This type of lock utilizes Slam Shut Operation combined with a rotating latch that wraps around the latch plate making the lock more difficult to force open. Deadbolt locking provides a high level of security since the latch cannot be moved once the lock is locked.

These four models of built-in combination locks with wrap around dead bolt latch and Slam Shut Operation are provided for single point rotating latch lockers

Standard Locks:

Model 1690: Right-handed with plastic dial.

Model 1690MD: Right-handed with metal dial (MD).

ADA Compliant Locks:

ADA compliant locks offer Three-Way-To-Open Operation

These locks meet the Department of Justice (DOJ) ADA Standards for Accessible Design (ADA Standards) and ICC/ANSI A117.1: Operation of the lock shall not require tight grasping, pinching, or twisting of the wrist. The force required to operate component shall be 5 pounds maximum.

ADA Standards for Accessible Design; per Chapter 2, Article 2.25 – Storage; requirers providing a minimum of 5 percent ADA Accessible lockers (minimum of 1)

Master Lock recommends only ordering ADA compliant lock models to meet the 5 percent minimum ADA Standard, with the remainder of the locks ordered as standard locks.

Model 1695MKADA: Right-handed with plastic dial.

Model 1695MKMDADA: Right-handed with metal dial (MD).

Edit the following to reflect required model. *****

A. General:

1. Description: Built-in combination lock with cast zinc body for single point latch lockers.
2. Operation: Lock provides enhanced security by using rotational operating deadbolt latch that wraps around a stationary latch plate or post. Lock uses slam shut operation.

B. Standard lock:

1. Lock Description: 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder for access using control key.
2. Model: [1690] [1690MD]

C. ADA compliant lock:

1. Lock Description: Provide 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder which is master keyed to a master key and student key.
2. Model: [1695MKADA] [1695MKMDADA]

D. Dial:

- [1. Durable plastic dial with textured lip for non-slip, one-handed, grip-and-pull operation.
 - a. Color: Black]
- [2. Metal dial with textured lip for non-slip, one-handed, grip-and-pull operation.
 - a. Color: [Black] [Red] [Blue] [Green] [Purple]]

*******Locker doors which are 11/16 to 3/4 inch thick require an extension set. Include the following paragraph if extension is required. *******

- E. Extension set: Provide for locker doors 11/16 to 3/4 inch thick.

2.4 COMBINATION LOCKS WITH SLAM SHUT OPERATION WITHOUT DEAD BOLT LOCKING FOR SINGLE POINT HORIZONTAL LATCH LOCKERS

*******These eight models of built-in combination locks with slam shut operation and without dead bolt locking are provided for single point latch lockers.**

Standard Locks:

Model 1652: Right-handed with plastic dial.

Model 1653: Left-handed with plastic dial.

Model 1652MD: Right-handed with metal dial (MD).

Model 1653MD: Left-handed with metal dial (MD).

ADA Compliant Locks:**ADA Compliant locks offer Three-Way-To-Open Operation**

These locks meet the Department of Justice (DOJ) ADA Standards for Accessible Design (ADA Standards) and ICC/ANSI A117.1: Operation of the lock shall not require tight grasping, pinching, or twisting of the wrist. The force required to operate component shall be 5 pounds maximum.

ADA Standards for Accessible Design; per Chapter 2, Article 2.25 – Storage; requires providing a minimum of 5 percent ADA Accessible lockers (minimum of 1)

Master Lock recommends only ordering ADA compliant locks to meet the 5 percent minimum ADA Standard, with the remainder of the locks ordered as standard locks.

Model 1651MKADA: Left-handed with plastic dial.

Model 1656MKADA: Right-handed with plastic dial.

Model 1651MKMDADA: Left-handed with metal dial (MD).

Model 1656MKMDADA: Right-handed with metal dial (MD).

Edit the following to reflect required model. *****

A. General:

1. Description: Built-in combination lock with steel body for single point horizontal latch lockers.
2. Operation: Lock provides high security by using an extra long locking bolt without dead bolt locking. Lock uses slam shut operation.
3. Mounting: Concealed in [right] [and] [left] handed locker door.

B. Standard lock:

1. Lock Description: 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder for access using control key.
2. Model: [1652] [1653] [1652MD] [1653MD]

C. ADA compliant lock:

1. Lock Description: Provide 3 digit combination and 5 preset combinations changes with 5 pin tumbler lock cylinder which is master keyed to a master key and student key.
2. Model: [1651MKADA] [1656MKADA][1651MKMDADA]
[1656MKMDADA]

D. Dial:

- [1. Durable plastic dial with textured lip for non-slip, one-handed, grip-and-pull operation.
 - a. Color: Black]
- [2. Metal dial with textured lip for non-slip, one-handed, grip-and-pull operation.
 - a. Color: [Black] [Red] [Blue] [Green] [Purple]]
- [3. Provide dial with brass escutcheon plate.]

*******Locker doors which are 11/16 to 3/4 inch thick require an extension set. Include the following paragraph if extension is required. *******

- E. Extension set: Provide for locker doors 11/16 to 3/4 inch thick.

2.5 COMBINATION LOCKS FOR SINGLE POINT HORIZONTAL LATCH BOX LOCKERS

*******These eight models of built-in combination locks are provided for multi-tier and box lockers with pull or friction latch handles.**

Standard Locks:

Model 1654: Right-handed with plastic dial.

Model 1655: Left-handed with plastic dial.

Model 1654MD: Right-handed with metal dial (MD).

Model 1655MD: Left-handed with metal dial.

ADA Compliant Locks:

ADA Compliant locks offer Three-Way-To-Open Operation

These locks meet the Department of Justice (DOJ) ADA Standards for Accessible Design (ADA Standards) and ICC/ANSI A117.1: Operation of the lock shall not require tight grasping, pinching, or twisting of the wrist. The force required to operate component shall be 5 pounds maximum.

ADA Standards for Accessible Design; per Chapter 2, Article 2.25 – Storage; requirers providing a minimum of 5 percent ADA Accessible lockers (minimum of 1)

Master Lock recommends only ordering ADA compliant locks to meet the 5 percent minimum ADA Standard, with the remainder of the locks ordered as standard locks.

Model 1651MKADA: Left-handed with plastic dial.

Model 1656MKADA: Right-handed with plastic dial.

Model 1651MKMDADA: Left-handed with metal dial (MD).

Model 1656MKMDADA: Right-handed with metal dial (MD).

Edit the following to reflect required model. *****

A. General:

1. Description: Built-in, combination lock with steel body for mounting in multiple-tier and box lockers with pull or friction latch handles.
2. Operation: Horizontal operating spring bolt which retracts flush with locker body. Locks automatically when door is closed.
3. Mounting: Concealed in [right] [and] [left] handed door(s).

B. Standard lock:

1. Lock Description: 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder for access using control key.
2. Model: [1654] [1655] [1654MD] [1655MD]

C. ADA compliant lock:

1. Lock Description: Provide 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder which is master keyed to a master key and student key.
2. Model: [1651MKADA] [1656MKADA] [1651MKMDADA] [1656MKMDADA]

D. Dial:

- [1. Durable plastic dial with textured lip for non-slip, one-handed, grip-and-pull operation.
 - a. Color: Black]
- [2. Metal dial with textured lip for non-slip, one-handed, grip-and-pull operation.
 - a. Color: [Black] [Red] [Blue] [Green] [Purple]]
- [3. Provide dial with brass escutcheon plate.]

*******Locker doors which are 11/16 to 3/4 inch thick require an extension set. Include the following paragraph if extension is required. *******

E. Extension set: Provide for locker doors 11/16 to 3/4 inch thick.

2.6 HIGH SECURITY COMBINATION DEADBOLT LOCKS WITHOUT SLAM SHUT OPERATION

*******Eight models of built-in combination deadbolt locks are provided for all locker styles including lift handle, turn handle, single point latch, and box lockers except rotating latch lockers. Deadbolt locking provides the highest level of security and is ideal for open mesh and ventilated lockers with access to back of lock.**

Standard Locks:

Model 1670: Right-handed with plastic dial.

Model 1671: Left-handed with plastic dial.

Model 1670MD: Right-handed with metal dial (MD).

Model 1671MD: Left-handed with metal dial (MD).

ADA Compliant Locks:

ADA Compliant locks offer Three-Way-To-Open Operation

These locks meet the Department of Justice (DOJ) ADA Standards for Accessible Design (ADA Standards) and ICC/ANSI A117.1: Operation of the lock shall not require tight grasping, pinching, or twisting of the wrist. The force required to operate component shall be 5 pounds maximum.

ADA Standards for Accessible Design; per Chapter 2, Article 2.25 – Storage; requires providing a minimum of 5 percent ADA Accessible lockers (minimum of 1)

Master Lock recommends only ordering ADA compliant locks to meet the 5 percent minimum ADA Standard, with the remainder of the locks ordered as standard locks.

Model 1676MKADA: Right-handed with plastic dial.

Model 1677MKADA: Left-handed with plastic dial.

Model 1676MKMDADA: Right-handed with metal dial (MD).

Model 1677MKMDADA: Left-handed with metal dial (MD).

Edit the following to reflect required model. *****

A. General:

1. Description: Built-in, high security, combination lock with steel body for mounting in lift handle, turn handle, single point horizontal latch, box, and open mesh style lockers.
2. Operation: Horizontal operating deadbolt which engages latch mechanism. Dial must be turned to relock door.
3. Mounting: Concealed in [right] [and] [left] handed door(s).

B. Standard lock:

1. Lock Description: 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder for access using control key.
2. Model: [1670] [1671] [1670MD] [1671MD]

C. ADA compliant lock:

1. Lock Description: Provide 3 digit combination and 5 preset combination changes with 5 pin tumbler lock cylinder which is master keyed to a master key and student key.
2. Model: [1676MKADA] [1677MKADA] [1676MKMDADA]
[1677MKMDADA]

D. Dial:

- [1. Durable plastic.
 - a. Color: Black]
- [2. Metal dial.

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- a. Color: [Black] [Red] [Blue] [Green] [Purple]]

[3. Provide dial with brass escutcheon plate.]

*******Locker doors which are 11/16 to 3/4 inch thick require an extension set. Include the following paragraph if extension is required. *******

- E. Extension set: Provide for locker doors 11/16 to 3/4 inch thick.

2.7 LOCKER MANAGEMENT SYSTEM

******* School and other facility owners must maintain some form of locker and lock management. Often these have been printed paper documents which are time consuming to update and keep current. Lock Master Company supplies locks with an accompanying printed control chart and a text file on disc of serial numbers and lock combinations. In addition, Master Lock's LockerManager software is an excellent management tool for tracking and managing locks, user assignments, and lock combinations. Include and edit this article to specify LockerManager as part of the built-in, combination lock package. *******

- A. Provide computerized lock and locker management system consisting of licensed operating software, quick start guide, and user manual; LockerManager as developed and published by Lock Master Company.
- B. Software: Once purchased, software is permanently activated.
- C. Support: Each license purchased shall include 1 year "Support Subscription" which is web based and offers resources to help user achieve most from LockerManager System. Support Subscription shall include questions and answers, training videos, update downloads, and E-mail based technical support.
- D. System shall be password protected and run on desktop personal computer (PC) with capability to provide mobile information via handheld computers.
- E. System functions:
1. System shall have capacity to register and track the following with search, retrieve, and edit capabilities.
 - a. Locker numbers and locations.
 - b. Locker assignments for both individuals and groups.
 - c. Lock combinations.

- d. Portable combination padlocks.
 - e. Locker repairs.
 - f. Other user defined data such as schedules, emergency contact information, and fees.
2. Automatically assign lockers and randomize assignments to improve traffic flow.
 3. Automatically assign lock combinations.
 4. Maintain complete, searchable data files.
 5. System shall be capable of expansion.
- F. System requirements:
1. Windows 98, 98SE, ME, NT 2000, XP, or Vista.
 2. 50 MB hard drive space.
 3. Designed for SGA resolution at 1024 X 768 or higher.
 4. Pentium III Class PC (5000 MHz or higher) recommended.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locks shall be installed in accordance with lock manufacturer's instructions.
- B. Coordinate provision of built-in combination locks with fabrication of lockers to ensure proper, compatible strike plate is accurately installed on lockers.

*******Include the following paragraph if locks are to be factory installed on lockers prior to delivery to site. *******

- C. Factory install built-in combination locks on lockers as part of [Section 10 51 13 - Metal Lockers] [Section 10 51 16 - Wood Lockers] [Section 10 51 26 - Plastic Lockers] [Section 10 51 43 - Wire Mesh Storage Lockers] [insert section number and title]].

*******Include the following paragraph if locks are to be field installed in either existing or new lockers. Typically most locks are installed in the field.*******

- D. Field install built-in combination locks in [existing lockers.] [new lockers specified in [Section 10 51 13 - Metal Lockers] [Section 10 51 16 - Wood Lockers] [Section 10 51 26 - Plastic Lockers] [Section 10 51 43 - Wire Mesh Storage Lockers] [insert section number and title].]

*******Per ADA Standards and ICC/ANSI A117.1: ADA Compliant Locks shall be located within the allowable height and reach requirements of the ADA Standards; Chapter 3, article 308 – Reach Ranges or ICC/ANSI A117.1; Chapter 3, article 308 – Reach Ranges. *******

- E. ADA compliant locks shall be installed on lockers that meet the [Department of Justice ADA Standards for Accessible Design] [ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities] for space allowance and reach ranges for the physically impaired.
- F. After installation operate each lock to ensure proper operation. Correct deficiencies and adjust for smooth operation. Verify combination and locker number are as scheduled and recorded in lock management data. Verify functional operation.
- G. Demonstrate to Owner's representative:
1. Use of preset lock combinations, supervisory access, and other maintenance activities.

*******Include the following paragraph if LockerManager system is being specified. *******

2. Locker management system: Cover data input, search, retrieve, edit, assignment, and other system functions.

END OF SECTION