

New Elevator Installation or Alteration Pre-Inspection Checklist

- Applicable codes: A17.1-2016, IBC 2018, NEC-2017, NFPA72-2019, NFPA13-2019, etc.
- This is a list of common items; however, it is not inclusive of all required code items.

Building Name:	
Building Address:	
_	Unit's Building ID #:

MACHINE / CONTROL ROOM

** Includes machinery / control spaces, as applicable **

	Complete	N/A	Requirement	Applicable Codes
1			Machine / control room fire-rating must match hoistway fire-rating	 A17.1 (2.7.1.1 IBC (3005.4) See IBC exceptions
2			Machine room /control room door fire rating must match hoistway door fire rating.	A17.1(2.7.1.1.2)IBC (3005.4)
3			Machine room, control room door must have the proper lock, (self-locking), set and must self-close	• A17.1 (2.7.3.4)
4			Penetrations are to be sealed	A17.1 (2.1.1.1) (2.7.1.1.1)IBC (714)
5			An ABC fire extinguisher must be provided.	• A17.1 (8.6.1.6.5)
6			No foreign electrical conduits may be run through the machine room/control room.	A17.1 (2.8.2.2)NEC (620.37)
7			No plumbing allowed other than that required for the machine room /control room A/C unit	• A17.1 (2.8.3)
8			No access panels in the ceiling or roof access hatches are allowed.	• A17.1 (2.8.3.1.3)
9			A minimum of 7-foot overhead clearance must be provided	• A17.1 (2.7.4.1)
10			Smoke detector is required. Heat detectors are required within 24" of each sprinkler head.	A17.1 (2.27.3.2.1)NFPA72 (21.4.2)
11			Shunt trip breaker required if machine room /control room or top of hoistway has a sprinkler	A17.1 (2.8.3.3.2)IBC (3005.5)
12			Shunt breaker must have an auxiliary contact to disable battery lowering, if provided, when the mainline disconnect is either shunted off or turned off	NFPA70620.91 (C)
13			Shunt power must be monitored for power loss by a fire alarm supervisory signal	• NFPA72 (21.4.4)

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14		All fire recall and shunt trip devices must be pre-tested and fire alarm panel device descriptions must use terminology such as "elevator # 1 top of hoistway smoke detector".	
15		Fire alarm panel is not allowed in the machine room/control room.	NFPA72 (10.18.3.2)A17.1 (2.8.2.2)
16		If the fire alarm panel is not conspicuously located at the building entrance for emergency personnel, a remote annunciator is required and must located at that entrance.	 IFC w/Phoenix amendments (903.4.4.1) NFPA72 (10.18.3.2)
17		Off-site monitoring of fire alarm devices must receive the device identification i.e.: "elevator # 1 machine room smoke detector"	• IBC (903.4.1)
18		PVC conduit or pipe not allowed in the machine room/control room	NFPA70 620.21
19		Code data tag required i.e., 'built under ASME A17.1-2000 Code'	• A17.1 (8.9)
20		Temperature and humidity data tag required.	• A17.1 (2.7.9.2)
21		Independent air conditioning required. Must not be connected to any other building supply or return.	IBC and Phoenix Building Code Amendment (3005.2)
22		Machine room /control room ventilation air handler must have overcurrent protection located in the Machine Room	• NEC (620.25 (B))
23		Machine room/control room lighting and GFCI receptacle must be on separate dedicated circuit. Test for circuit separation before inspection.	• NEC (620.23 (A)).
24		Lighting must be 19-foot candles throughout as needed	• A17.1 (2.7.9.1).
25		Car lighting circuit must have a current interrupting, lockable, externally operable disconnect switch or circuit breaker that is lockable open and shall be located in the machine room/control room.	• NEC (620.53)
26		Car light circuit must be on a dedicated breaker. Test for circuit separation before inspection	• NEC (620.22)
27		All disconnect switches must have permanent labels noting device being disconnected and panel /breaker number for their power source. Breaker panels must have circuits identified in such a manner that it identifies the device being fed, such as "elevator # 1 machine room lights"	• NEC (620.51(D)) (620.53) (620.55)
28		Proper electrical clearances per NFPA 70 must be verified. Low voltage (0-150 VAC) to any object must have 36" clearance.	• NEC (110.26 (A)(1))

		Higher voltages (151-600 VAC) must have 36" to non-grounded, and 42" to grounded		
29		Hot to hot device must have 48" clearance between them	•	NEC (110.26(A)(1))
30		Emergency brakes (i.e.: rope grippers, sheave jammers), must be pre-tested for empty car up direction Unintended Motion, 125% full load down direction		
31		Unintended Motion and empty car Ascending Car Overspeed to ensure that they will work correctly during the acceptance inspection. Car safeties shall be pre-tested with rated load and shall stop and hold the car. Type B safeties are to be overspeed tested. Verify the correct slide distance	•	A17.1 (2.19) see appendix F A17.1 (2.17)
32		All equipment must be properly identified (#1, #2 etc.)	•	A17.1 (2.29)
33		All machine /control room guards, panel covers, and gutter covers must be in place	•	A17.1 (2.10.1)
34		If seismic is required, all required anchors, rope retainers etc. must be in place	•	A17.1 (8.4)
35		The machine room/control room space must be clean and ready to be turned over at the completion of the inspection	•	A17.1 (8.6)
36		Remote machine rooms/control rooms must be provided with communication to the elevator cars.	•	A17.1 (2.7.8.4) see appendix Q and definitions.
37		New Elevator Mainline, lighting, HVAC, Signal, etc. Disconnects require Electrical permits and subsequent Electrical Inspections, (tagged "OK To Energize"), prior to having an Elevator Inspection		

<u>PIT</u>

	Complete N/A Requirement		Applicable Codes	
1			Pit ladder must extend to 48" above the landing or hand grips extended to the same height. Pit ladder must be within 39" on a horizontal plane of the hoistway door release mechanism. Pit light and pit switch must be on the side that the adder is on and be within easy reach from the hoistway entrance. Illuminated Light Switch.	• A17.1 (2.2.4.1- 2.2.4.6)
2			Second pit switch is required if the pit is over 67" deep	• A17.1 (2.2.6.2)
3			Pit light and GFCI receptacle must be on dedicated circuit. Light must not be connected to load side of GFCI. Test for circuit separation before inspection.	
4			Duplex GFCI receptacle must be provided	• NEC (620.24(C))
5			Simplex non GFCI receptacle for the sump pump must be provided.	• NEC (620.85)

6			When sprinklers are used below 24" from pit floor, all	 NFPA70 (406.9)
			elevator electrical equipment within 48" of the pit floor must	
			be NEMA 4 rated. The GFCI receptacle and the sump	
			pump receptacle must have a cover that allows cords to be	
			plugged in with the covers closed.	
7			Pit sprinkler heads shall be within 24" of the pit floor.	• A17.1 (2.8.3.3.4)
8			Elevators with FEO require a sump pump or drain. A sump	• A17.1 (2.2.2.5)
			cover that is secure	
			and flush with the pit floor is required. The cover must be substantial enough to support a person's weight. The pit	
			sump pump/drain shall be pre-tested to ensure that it will	
			discharge a minimum of 3,000 GPH "per elevator".	
9			Drains/Sump Pumps shall have a positive means to	• A17.1 (2.2.2.4)
			prevent water, gases, and	
10			odors from entering the hoistway shall be provided. Discharge piping shall meet the requirements of the	IDO (4444 4 4)
			plumbing code and include a gate valve and full flow check	• IPC (1114.1.4)
44			valve	
11			Oil detection controllers and their alarm systems, or oil separators are not allowed in the elevator pit. Only oil	• A17.1 (2.8.1)
			sensors on the sump pump are allowed in the pit and they	
			must be in the sump area	
12	Ш		If an oil separator is provided outside of the pit, check that the oil separator capacity is sized correctly to the sump	• IPC (1003.4.2.1)
			pump discharge capacity	
13			Pit lighting must be a minimum of 10-foot candles at the pit	• A17.1 (2.2.5.1)
14			floor Pit machinery space lighting shall be a minimum of 19-foot	• A17.1 (2.7.9.1)
]		candles for the equipment.	• ATT.1 (2.1.5.1)
15			Counterweight guards if required must extend from the	• A17.1 (2.3.2.2)
			lowest part of the counterweight when it is resting on its fully compressed buffer to a point not less than 83" and not	
			more than 96" above the pit floor.	
16			A data plate must be permanently and securely attached in	• A17.1
			the vicinity of the counterweight buffer indicating the designed maximum counterweight runby.	(2.4.5)
17			Hydraulic elevators in Seismic zones not provided with car	• A17.1
	_ _		safeties shall be provided with an overspeed valve that is	(8.4.11.12)
10		 	properly located and pre-tested	. 474
18			If seismic protection is required, provide proper hydraulic feed line support spacing	• A17.1 (8.4.11.13)
				(0)
19			Where pressure piping is buried underground or extends	• A17.1
			beyond the building with the hydraulic machine the elevator shall conform to	(3.19.2.8)
20			For a hydraulic elevator, verify that when the elevator is	• A17.1 (3.18.3.3)
			resting on its' fully compressed buffer, the piston still has	(/
21			over travel available. All hydraulic oil collection containers must be in place and	Α Λ17 1
4			all covers must be installed.	• A17.1 (8.6.5.5.2)
				(-)

22		Any conduit or pipe penetrations must be sealed.	• A17.1 (2.2.2.1) • IBC (713 & 714)
23		Hydraulic piston/cylinder data tags must be provided.	• A17.1 (3.18.6)
24		Bottom floor hoistway access key switch if required must be pre-tested. The bottom of the car platform apron should be level with the bottom of the hoistway door head jamb when the car is on the access upper limit.	• A17.1 (2.12.7)
25		The pit must be clean.	• A17.1 (8.6)

HOISTWAY

	Complete	N/A	Requirement	Applicable Codes
1			If using NFPA72-2019 requirement for access to devices in hoistway, must adhere to ASME a17.1-2019 Section (2.8.2.4) related requirement.	NFPA72-2019ASME A17.1-2019Section (2.8.2.4)
2			All penetrations are to be sealed. The hoistway surfaces are to be substantially flush.	• A17.1 (2.1.1.1) IBC (713 & 714)
3			All hoistway doors are to be sealed around door jambs and headers inside the hoistway	• A17.1 (2.1.1.1) IBC (713 & 714)
4			All ledges over 4" are to be eliminated or beveled to an angle of 70 degrees.	• A17.1 (2.1.6)
5			No foreign piping or wiring is allowed in the hoistway.	• A17.1 (2.8.1)
6			Electrical feeders may not be run through the hoistway. Feeders shall be permitted in the hoistway for elevators with driving machine motors located in the hoistway.	• NEC (620.37)
7			Fire alarm device wiring and conduits may not be run through the hoistway except to devices in the hoistway.	• A17.1 (2.8.2.2)
8			If the hoistway is sprinkled a smoke detector is required at the top of the hoistway. A17.1-2016 (2.237.3.2.1(c)) If sprinkled at the top, a heat detector is required within 24" of the sprinkler head.	 A17.1-2016 (2.237.3.2.1(c)) NFPA72 (21.4.2)
9			Smoke detectors at the top of the hoistway must be within 12" of the ceiling. NFPA72 (17.7.3.2) If the top of the hoistway has beam pockets over 10% deeper than floor height, a smoke detector, if required, must be on the ceiling in each beam pocket.	NFPA72 (17.7.3.2)NFPA72 (17.7.3.2.4.2)
10			Sprinklers if required must penetrate the hoistway only at the floor being sprinkled. Sprinklers must only branch into the hoistway.	• A17.1 (2.8.3.3.1)
11			All hoistway door top and bottom retainers must be in place.	• A17.1 (2.11.11.8)
12			Inside of the hoistway, all hoistway doors must be	• A17.1 (2.29.2)

		numbered.		
13		If seismic is required, all safety retaining devices and counterweight displacement devices must be installed and tested.	•	A17.1 (8.4)
14		If an elevator is the MRL type, a work light with bulb protection, a light switch on a dedicated circuit, and a stop switch must be provided in the vicinity of the drive machine.	•	A17.1 (2.7.9.1), (2.7.3.5) NEC (620.23)
15		If an elevator is the MRL type with an access panel provided for the brake release mechanism, this panel must have a self-closing/self-locking door with Group 1 security lock. A light switch for the work light located in the vicinity of the drive machine must be provided. An expanded metal covering on the hoistway side of this panel must be provided to prevent reaching into the hoistway through this panel.	•	A17.1 (2.7.6.4) (2.7.6.5.2) (2.1.1.1.2)
16		Top floor access switches must be provided if the distance from the top landing to the top of the car is over 35" when the car is level with the landing directly below the top landing.	•	A17.1 (2.12.7)
17		Temperature and humidity data tags shall be posted in the machine room, control room, control space or when specified by the equipment manufacturer, in the machinery space.	•	A17.1 (2.7.9.2)
18		Means to maintain temperature not greater than 90 degrees and humidity in the range specified by the manufacturer in machine rooms, machinery spaces, control rooms, and control spaces of elevators shall be provided, and it must be independent of other building supplies and returns	•	IBC (3005.2) Amended
19		Glass in hoistways shall meet the requirements of ANSI Z97.1 or CFR Part 1201 and must be laminated. Each piece must be permanently and legibly marked (i.e.: ANSI Z97.1, CFR Part 1201 Laminated)	•	A17.1 (2.1.1.2.2(e)) IBC (2409)

<u>CAR</u>

	Complete	N/A	Requirement	Applicable Codes
1			Car top railing must be installed if clearance from the car top to the hoistway enclosure exceeds 12", and on sides that have not hoistway enclosure.	• A17.1 (2.14.1.7)
2			Car top work lights must have bulb protection.	• A17.1 (2.14.7.1.4.)
3			Emergency exit must be secured from the car top and the electrical contact must be working.	• A17.1 (2.14.1.5.1)
4			Door operator closing speed data tags must be provided, completed, and attached to the power door operator or to the car crosshead.	• A17.1(2.13.4.2.4)
5			Suspension Means data shall be on	• A17.1 (2.20.2)

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			the crosshead data plate and a tag		
			attached to the suspension means		
			fastening.		
6		Ш	Governor ropes data tags must be	•	A17.1 (2.18.5.3)
<u> </u>			installed and completed.		
7		ΙШ	Hoist rope anti rotation devices must	•	A17.1 (2.20.9.8)
			be installed where suspension		
			member rotation can occur.		
8		Ш	Hoist rope dead end clips on wedge	•	A17.1 (2.20.9.5.4)
			type rope connections must be		
			properly space to prevent the		
			disengagement of the wedge should		
			the rope be slackened. The first clip		
			shall be located no more than 4		
			times the diameter of the rope from		
			the wedge shackle basket. The		
			second clip must be no more than 8		
			times the diameter of the rope from		
			the first clip.		
9			Text to Talk communications with	•	IBC (3001.2)
			camera.		
10			When the building rise is 60' or more,	•	A17.1 (2.27.1.1.4)
			a two-way communication means		,
			within the building accessible to		
			emergency personnel shall be		
			provided.		
11			Two Way Communications must	•	A17.1 (2.27.1.1.5)
			work for 4 hours without normal		
			power and the alarm for at least 1hr.		
12			Car flooring must be installed to	•	A17.1 (2.14.1.9.2)
			eliminate a tripping hazard.		
13			Car door closing speed must be	•	A17.1 (2.13.4.2.4)
			within the parameters set by the door		
			operator data- plate.		
14			Ceiling panels and light guards must	•	A17.1 (2.14.7.4)
			be in place.		
15			Capacity plates must be installed.	•	A17.1(2.16.3)
					,
16			Car data plate must be installed.	•	A17.1 (2.16.3.2)
17			Counterweight runby data plate must	•	A17.1 (2.4.5)
			be installed.		(-)
18		П	Car door restrictor devices must be	•	A17.1
			working.		(2.14.5.7)
					,
19	П		Car enclosures constructed of glass	•	A17.1 (2.14.1.8)
			panels must be laminated and meet		71111 (2.111.0)
			the requirements of CFR Part 1201,		
			Sections 1201.1 and 1202. Each		
			panel must be permanently and		
			legibly marked (i.e. CFR Part 1201,		
			Section 1201.1, 1202 Laminated)		
20	П	П	Glass used for lining cab walls or	•	ANSI Z97.1
			ceilings shall be laminated or may		16 CFR Part 1201, Sections 1201.1
			be tempered glass provided it		and 1201.2.
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		conforms to ANSI Z97.1, 16 CFR Part 1201, Sections 1201.1 and 1201.2. and the glass is bonded to a non-polymeric coating, sheeting, or film backing having a physical integrity to hold the fragments when the glass breaks and the glass is tested and conforms to the acceptance criteria for laminated glass as specified in ANSI Z 97.1, or CFR Part 1201, section 1201.4.	•	ANSI Z 97.1 CFR Part 1201, section 1201.4.
21		Each piece shall be permanently and legibly marked, i.e., ANSI Z97.1, CFR Part 1201, Sections 1201.1 and 1202 tempered	•	A17.1 (2.14.1.8.3) ANSI Z97.1 CFR Part 1201, Sections 1201.1 and 1202

GENERAL REQUIREMENTS

	Complete	N/A	Requirement	Applicable Codes
1			Lobby flooring at an entrance must be flush with the hoistway sill to eliminate trip hazards.	• A17.1 (2.11.11.1)
2			Firefighters' Operation key switches must use an AZFS key per R20-5-513.	ICA Elevator act (R20-5-513), Amended A17.1 (2.27.8)
3			Standby power if supplied, must have all cars in a group supplied with standby power.	• IBC(3003.1.3)
4			If all elevators in a group supplied with standby power cannot be run simultaneously, then a selector switch must be provided in sight of the elevator group at the designated level.	• A17.1 (2.27.2.4)
5			Cars running on standby power must be capable of safely lowering and stopping a car traveling in the down direction with 125% of rated load in the car. Verify load test.	• A17.1 (2.27.2.1) (2.16.8(i))
6			Standby power selection switches must be keyed the same as fire service (AZFS per ARS R20-5-513).	• A17.1 (2.27.8)
7			If all elevators in a group can be run on standby power simultaneously, then the standby power source must be tested with the building load and have run in the down direction with 125% of rated load in the car.	• A17.1 (2.27.2.1) (2.16.8 (i))
8			Standby power required loads for the elevator must continue to be powered while on standby power.	• IBC (Amended 3003.1.4) (403.4.8) A17.1 (2.27.1)
9			Fire recall devices must be provided at all elevator entrances.	• A17.1(2.27.3.2.1(a))
10			All lobby ceilings must be in place with recall devices located within 21' of the centerline of	• NFPA72 (21.3.5)

		each elevator door within the elevator bank.	
11		Flexible hydraulic lines may not project into or through any wall or be in the hoistway.	• A17.1 (3.19.3.3.1(a))
12		Hydraulic feed lines located outside of the machine room or hoistway must be marked "Elevator Hydraulic Line".	• A17.1 (3.19.2.6)
13		When hydraulic piping extends beyond the building the elevator machine is located in or is buried underground the elevator shall be fitted with either a car safety, overspeed valve, or piston gripper.	• A17.1 (3.19.2.8)
14		All new technology ropes or belts not meeting the prescriptive code must have rope or belt maintenance guidelines on site and must remain in the machine or control room.	• A17.1 (8.6.1.2.2(b)(5))
15		Written guidelines for the performance of all products specific testing must be maintained in the machine room or control room.	• A17.1 (8.6.1.2.2)
16		A Maintenance Control Program must be in the machine/control room.	• A17.1 (8.6.1.2)
17		Multiple elevators in a building must be identified at the designated level and inside each elevator.	• A17.1 (2.29)
18		"Star of Life" must be provided at all elevator entrances of the designated car if required.	• IBC (3002.4)