



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY	
APPLICATION #:	OSP – 0559 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: OTIS Elevator Company

Manufacturer's Technical Representative: John Kleine

Mailing Address: 1500 Otis Way., Florence, South Carolina 29501

Telephone: 843-432-4134 Email: john.kleine@otis.com

Product Information

Product Name: 416 Drive / 428 Drive

Product Type: Elevator drive controls

Product Model Number: 428 Drive: JAA21310ACK7-O with AAA374AEW bracket kit
416 Drive: GAA21310GJ999 with AAA374AEV bracket kit

(List all unique product identification numbers and/or part numbers)

General Description: Elevator drive cabinet for the control of elevator machines. Standard drive cabinet modified by attachment of external steel brace frame available as a standardized option provided by Otis Elevator Company.

Mounting Description: Rigid base mount

Applicant Information

Applicant Company Name: EASE Co.

Contact Person: Jonathan Roberson, S.E.

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

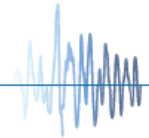
Telephone: (909) 606-7622 Email: j.roberson@easeco.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 4/20/2017

Title: Principal Structural Engineer Company Name: EASE Co.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: EASE Co.

Name: Jonathan Roberson, S.E. California License Number: S4197

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622 Email: j.roberson@easeco.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

BY: Timothy J. Piland

DATE: 07/27/2018

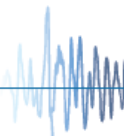
Testing Laboratory

Company Name: Environmental Testing Laboratory, Inc.

Contact Name: Brady Richard

Mailing Address: 11034 Indian Trail, Dallas, TX. 75229-3513

Telephone: (972) 247-9657 Email: brady@etldallas.com





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: Yes No

Design Basis of Equipment or Components (F_p/W_p) = 1.50 ($S_{DS}=2.00$ @ $z/h=1$) & 1.13 ($S_{DS}=2.50$ @ $z/h=0$)

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 ($z/h=1$) & 2.50 ($z/h=0$)

a_p (In-structure equipment or component amplification factor) = 2 1/2

R_p (Equipment or component response modification factor) = 6

Ω_0 (System overstrength factor) = 2

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1 ($S_{DS}=2.00$) & 0 ($S_{DS}=2.50$)

Equipment or Component Natural Frequencies (Hz) = See Attachment 1

Overall dimensions and weight (or range thereof) = See Attachment 1

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: Yes No

Design Basis of Equipment or Components (V/W) = _____

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1-second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = BY: Timothy J. Piland

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): Attachment 1

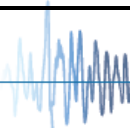
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: July 27, 2018


Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable): _____



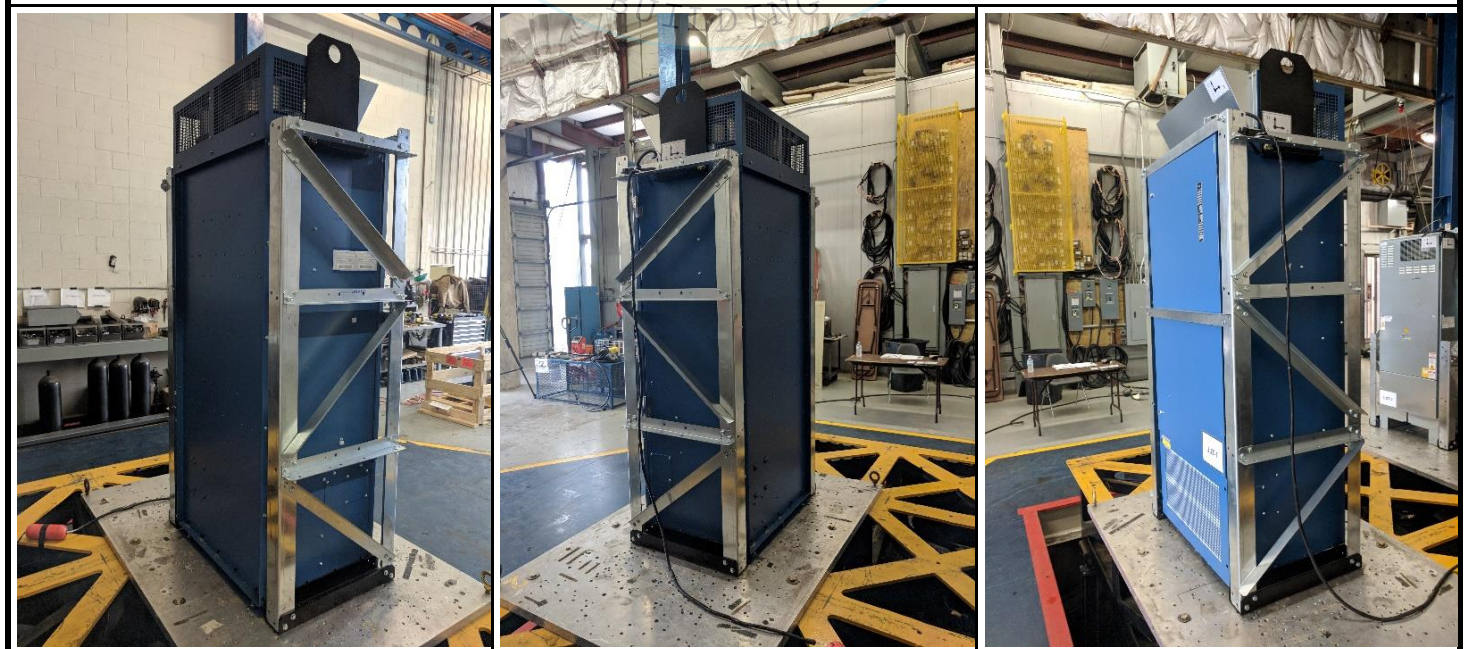
ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

UUT-1	428 Drive	
MANUFACTURER:	OTIS Elevator Company	
IDENTIFICATION:	Model No.: JAA21310ACK7# Serial No.:	
DESCRIPTION:	<p>150A adjustable speed elevator drive Input: 480V 60Hz 3PH AC 95A Rated Output: 150A 0-520V 0-68.8Hz 3PH AC 150A Rated</p> <p>Test unit included an Otis-provided external steel brace frame bolted to the cabinet. Frame members bolted together with M10 serrated flange bolts and serrated flange nuts. Following completion of testing, Otis assigned the frame to a new standardized seismic option kit # AAA374AEW.</p> <p>(15) – M6-Class 4.6 screws attaching cabinet to base (approx. 3" above floor) were replaced by (15) – M6-Class 10.9 screws. (5 each on left & right sides & 5 at rear of cabinet)</p>	
MOUNTING:	<p>Rigid Base (Floor) Mounted using: (4)- ½" diameter J429 Grade 8 bolts to cabinet base & (4)- ½" diameter J429 Grade 8 bolts to external frame. (Torque = 40 ft-lb).</p>	


DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis
29.5	24	80.75	891.5 (drive) 1047.5 (w/ frame)	12.6	20.7	24.5

ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						
S _{Ds} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					

Unit maintained structural integrity and remained functional per manufacturer requirement after AC156 test.



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

UUT-2	416 Drive	
MANUFACTURER:	OTIS Elevator Company	
IDENTIFICATION:	Model No.: GAA21310GJ Serial No.:	
DESCRIPTION:	<p>80A adjustable speed elevator drive: Input: 380-480V 50/60Hz 3PH AC Output: 80A 0-513V 0-100Hz 3PH AC</p> <p>Test unit included an Otis-provided external steel brace frame bolted to the cabinet. Frame members bolted together with M10 serrated flange bolts and serrated flange nuts. Following completion of testing, the frame became part of a standardized seismic option kit # AAA374AEV</p> <p>Connection of cabinet to pedestal base: hollow shank rivets replaced w/ M5 thread rolling screws all locations.</p>	
MOUNTING:	Rigid Base (Floor) Mounted using (4)- 1/2" diameter J429 Grade 8 bolts to cabinet base & (4)- 1/2" diameter J429 Grade 8 bolts to external frame. (Torque = 40 ft-lb).	

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis
23.6	15	63	335.5 (Drive) 427.5 (w/ Frame)	10.8	12.6	>50

ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						
S _{Ds} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					

Unit maintained structural integrity and remained functional per manufacturer requirement after AC156 test.

