

### DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)	OFFICE USE ONLY APPLICATION #: OSP-0559
HCAI Special Seismic Certification Preapproval (OSP)	
Type: New X Renewal	
Manufacturer Information	
Manufacturer: OTIS Elevator Company	
Manufacturer's Technical Representative: Eric Mayer	
Mailing Address: 212 West Newberry Road, Bloomfield, CT 06002	
Telephone: (860) 286-4497 Email: Eric.Mayer@otis.	com
Product Information	
Product Name: 416 Drive, 428 Drive & other elevator components	
Product Model Number(s): See Attachments	E.
Product Category: Elevator Equipment OSP-0559	I G
Product Sub-Category: Elevator Control Panels	
General Description: Elevator variable frequency drives for the control of by attachment of external steel brace frame availab Elevator Company. Also includes transformers and	le as a standardized option provided by Otis
Mounting Description: Base Mounted Rigid -	
Tested Seismic Enhancements: Seismic enhancements made to the test anomalies during the tests shall be incorr	units and/or modifications required to address porated into the production units.
Applicant Information	
Applicant Company Name: EASE Co.	
Contact Person: Jonathan Roberson	
Mailing Address: 5877 Pine Ave Suite 210, Chino Hills, CA 91709	
Telephone:       (909)       606-7622       Email:       j.roberson@ease	co.com
Title: Principal Structural Engineer	



STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY

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OSP-0559



### DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

California Licensed Structural Engine	er Responsible for the Engineering and Test Report(s)
Company Name: EASE LLC	
Name: Jonathan Roberson	California License Number: S4197
Mailing Address: 5877 Pine Ave., Suite 210	, Chino Hills, CA 91709
Telephone: (951) 295-1892	Email: jon@EASECo.com
Certification Method	
GR-63-Core X ICC-ES AC	C156 IEEE 344 IEEE 693 NEBS 3
Other (Please Specify):	
	EOR CODE CON
Testing Laboratory	
Company Name: ENVIRONMENTAL TEST	ING LABORATORIES, INC. (ETL)
Contact Person: Jeremy Lange	2
Mailing Address: 11034 Indian Trail, Dallas	TX 75229-3513
Telephone: (972) 247-9657	Email: jeremy@etIdallas.com
C	DATE: 05/28/2025
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CALIFO	BUILDING



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OSP-0559



### DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

#### Seismic Parameters

Desig	n Basis of Equipment or Components	(Fp/Wp) =	1.50 (SDS=2.00 @ z/h	=1) & 1.13 (	SDS=2.50 @ z/h=0)
	SDS (Design spectral response accele	eration at sh	hort period, g) = $2.00 (z/h$	n=1) & 2.50	(z/h=0)
	ap (Amplification factor) =	2.5			
	Rp (Response modification factor) =	6			
	$\Omega_0$ (System overstrength factor) =	2.0			
	Ip (Importance factor) =	1.5			
	z/h (Height ratio factor) =	1 and 0			
	Natural frequencies (Hz) =	See Attach	nment 2		
	Overall dimensions and weight =	See Attach	ment ODF		
	3	JED FO	OM		
HCAI	Approval (For Office Use Only) -	Approval	Expires on 05/28/203	1	
Date:	5/28/2025		OSP-0559	G	
Name	: Mohammad Karim			Title:	Supervisor, Health Facilities
Specia	al Seismic Certification Valid Up to: SE	os (g) = 2.0	ohammad Karim	z/h =	1
Condit	ion of Approval (if applicable):	DATE	· 05/28/2025		
		PRNIA E	BUILDING CO	202	



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OSP-0559



## **ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS**

# **OTIS ELEVATOR**

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#### TABLE 1:

Manufacturer         Otis Elevator Company           Product Type         Elevator Components									S <sub>DS</sub> = 2.0 at z/h = 1 S <sub>DS</sub> = 2.5 at z/h = 0			
COMPONEN	r /	OTIS IDENTIFICATION NO.	APPROX W	. DIMENS	ONS (IN.)	APPROX. WT. (LB.)	MOUNT	BASIS <sup>[1]</sup>	Fp/Wp	a₽	R₽	Ω₀
428 Drive	[2]	JAA21310ACK7#	29.5	24	80.75	1047.5 <sup>[6]</sup>	Rigid Base	UUT-1705-1	1.50 1.13	2 ½	6	2
416 Drive	[3]	GAA21310GJ	23.6	F 15	63	427.5 [6]	Rigid Base	UUT-1705-2	1.50 1.13	2 1⁄2	6	2
OVF428G-R2 AC Drive Ass	Drive 280 Amp embly <sup>[4]</sup>	JAA21310ADB102	41.3	26	84	1049 <sup>[6]</sup>	Rigid Base	UUT-2405-1	1.50 1.13	2 1⁄2	6	2
OVFR02E-41 AC Drive Ass	6 Drive 160 Amp embly <sup>[5]</sup>	GGA21310GJ999	35.3	17.6	65 P_055	427 [6]	Rigid Base	UUT-2405-2	1.50 1.13	2 1⁄2	6	2
DC Ripple Filt Drives (Mfr.: Macro Ma	ter (190 Amp) for DC	AAA21799E25-2122	36.13	24.31	34.25	715 Karim	Rigid Base	UUT-2405-3	1.50 1.13	2 1⁄2	6	2
Otis Mainline (111A 480V) (Mfr.: Macro Ma	Isolation Transformer [6] agnetics)	AAA21799B10-233	42.25	29.38	43	879	Rigid Base	UUT-2405-4	1.50 1.13	2 1⁄2	6	2
(66.5 kVA 3-P	Auto-Transformer Phase) her Technology, Inc.)	AAA21799L21	26.75	20.25	34.25		Rigid Base	UUT-2405-5	1.50 1.13	2 1⁄2	6	2
Mount	, <b>,</b>	anding, base-mounted tov	ver configu	ration with t	the compon	ent rigidly attache	d to a supportir	ng structure and	no lateral s	upport abo	ove the b	ase.
Notes	<ol> <li>Requires use of</li> <li>Requires use of</li> <li>Requires use of</li> </ol>	tes that a test specimen r OTIS Seismic Kit P/N: A OTIS Seismic Kit P/N: A OTIS Seismic Kit P/N: A OTIS Seismic Kit P/N: A	AA374AEW AA374AEV AA374AEW	///401	teristics wa	s tested as part o	f this testing pro	ogram.				

## ATTACHMENT 2: TEST SPECIMEN SUMMARY

EASE

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**OTIS ELEVATOR** 

THUT 4705 4						
UUT-1705-1	428 Drive					
MANUFACTURER:	Otis Elevator Compa	/				
IDENTIFICATION:	Part No.: JAA21310 Serial No.: N/A	ACK7#				
DESCRIPTION:	150A adjustable spe Input: 480V 60Hz 3F Output: 150A 0-520		50A Rated	-		
	frame bolted to the c with M10 serrated fla Following completion new standardized se (15) – M6-Class 4.6	n Otis-provided exterr cabinet. Frame memb ange bolts and serrate n of testing, Otis assig eismic option kit # AA screws attaching cab por) were replaced by	ers bolted together ed flange nuts. gned the frame to a A374AEW. pinet to base			
	10.9 screws. (5 each cabinet)	n on left & right sides	& 5 at rear of			
MOUNTING:		29 Grade 8 bolts to ca 29 Grade 8 bolts to ex				
	Dimensions (in.)	RV·Mo	hammad Kar	Lowes	t Resonant Freque	ncy (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 Shak	e Table Test Paramet	ters				Code: 2022 CBC
S <sub>DS</sub> (G)	z/h	IP III	A <sub>FLX-H</sub> (G)	A <sub>RIG-H</sub> (G)	A <sub>FLX-V</sub> (G)	A <sub>RIG-V</sub> (G)
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit maintained st	ructural integrity and re	emained functional pe	r manufacturer requiren	nent after AC156 tes	t.	

## ATTACHMENT 2: TEST SPECIMEN SUMMARY

EASE

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**OTIS ELEVATOR** 

UUT-1705-2	416 Drive					
MANUFACTURER:	Otis Elevator Compa	any				
IDENTIFICATION:	Part No.: GAA21310 Serial No.: N/A	GJ			0.11	
DESCRIPTION:	80A adjustable spee Input: 380-480V 50/ Output: 80A 0-513V	60Hz 3PH AC				
	frame bolted to the o with M10 serrated fla Following completion a standardized seisr Connection of cabin	n Otis-provided exten cabinet. Frame memb ange bolts and serrat n of testing, the frame nic option kit # AAA3 et to pedestal base: h ad rolling screws all h	pers bolted together ed flange nuts. e became part of a 74AEV nollow shank rivets			
MOUNTING:	(4)- ½" diameter J42 (Torque = 40 ft-lb).	Nounted using 19 Grade 8 bolts to ca 19 Grade 8 bolts to ex	abinet base & ternal frame.			
	Dimensions (in.)	BV: Mo		Lowes	t Resonant Frequen	cv (Hz)
Width	Depth	Height	hammad Kar Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis
23.6	15		335.5 (Drive) 427.5 (w/ Frame)	10.8	12.6	>50
ICC-ES AC156 Shal	e Table Test Paramet	ers DAIL.				Code: 2022 CBC
S <sub>DS</sub> (G)	z/h	IP	A <sub>FLX-H</sub> (G)	A <sub>RIG-H</sub> (G)	A <sub>FLX-V</sub> (G)	A <sub>RIG-V</sub> (G)
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
	ructural integrity and re	mained functional pe	r manufacturer require	ment after AC156 test	ł	



# **OTIS ELEVATOR**

# ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2405-1	OVF428G-R2 [	Drive 280 Amp	AC Drive Asse	mbly		
Manufacturer:	Otis Elevator Com	ipany				
Identification:	Part No.: JAA213 Serial No.: N/A	10ADB102				
Description:	Input: 480V 60Hz 3F	djustable Speed Elev PH AC 112A √ 0-68 8Hz 3PH AC <sup>-</sup>				
	Production Equivale	nt Prototype				
	Includes Seismic Kit skeleton) Weight includes exte	P/N AAA374AEW40	)1 (external			
Mounting:		nounted using (8) – 1 Bolts w/ Standard Wa			2	
	Dimensions (in.)			Lowe	st Resonant Freque	ncy (Hz)
Width	Depth	Height	Weight (lb.)	Front - Axis	Side - Axis	Vert - Axis
41.3	26	84	1049	16.10	12.22	>50
CC-ES AC156 Sh	ake Table Test Parame	ters	)SP_0550	6		Code: 2022 CB
S <sub>DS</sub> (G)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (G)	A <sub>RIG-H</sub> (G)	A <sub>FLX-V</sub> (G)	A <sub>RIG-V</sub> (G)
2.0 2.5	1	1.5/• Mo	onamn <sup>3.20</sup> d Kar	2.40	1.68	0.68
Jnit satisfied AC15	6 requirements for struct	tural integrity and ma	nufacturer requiremen	5	er AC156 test.	
Jnit satisfied AC15	6 requirements for struct	tural integrity and ma	nufacturer requiremen	5	er AC156 test.	
Unit satisfied AC15	6 requirements for struct OVFR02E-416	DATE Drive 160 Amp	nufacturer requiremen	5	er AC156 test.	3
UUT-2405-2 Manufacturer: Identification:	6 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive	Drive 160 Amp pany 310GJ999 Jjustable Speed Eleva 60Hz 3PH AC	AC Drive Asso	5	er AC156 test.	
Jnit satisfied AC15 UUT-2405-2 Manufacturer: Identification:	6 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive 80A (continuous) Ad Input: 380-480V 50/6	Lural integrity and ma Drive 160 Amp apany B10GJ999 Jjustable Speed Eleva 60Hz 3PH AC 0-100Hz 3PH AC	AC Drive Asso	5	Pr AC156 test.	
UUT-2405-2 Manufacturer:	66 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive 80A (continuous) Ad Input: 380-480V 50/6 Output: 80A 0-513V Production Equivaled Includes seismic kit A	tural integrity and ma Drive 160 Amp apany 10GJ999 Ijustable Speed Eleva 60Hz 3PH AC 0-100Hz 3PH AC nt Prototype AAA374AEV401 (ext	AC Drive Asse	5	r AC156 test.	
Jnit satisfied AC15 UUT-2405-2 Manufacturer: Identification:	66 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive 80A (continuous) Ad Input: 380-480V 50/6 Output: 80A 0-513V Production Equivaled Includes seismic kit J Weight includes exter Rigid Base (Floor) m	tural integrity and ma Drive 160 Amp apany 10GJ999 Ijustable Speed Eleva 60Hz 3PH AC 0-100Hz 3PH AC nt Prototype AAA374AEV401 (ext	AC Drive Asso AC Drive Asso ator Drive The Asso ator Drive 100 (2" dia. SAE J429	5	r AC156 test.	
Jnit satisfied AC15 UUT-2405-2 Manufacturer: Identification: Description:	66 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive 80A (continuous) Ad Input: 380-480V 50/6 Output: 80A 0-513V Production Equivaled Includes seismic kit J Weight includes exter Rigid Base (Floor) m Grade 5 Hex Head E	tural integrity and ma Drive 160 Amp apany B10GJ999 Ijustable Speed Eleva 60Hz 3PH AC 0-100Hz 3PH AC nt Prototype AAA374AEV401 (ext ernal skeleton. nounted using (8) – 1	AC Drive Asso AC Drive Asso ator Drive The Asso ator Drive 100 (2" dia. SAE J429	embly	er AC156 test.	ncy (Hz)
UUT-2405-2 UUT-2405-2 Manufacturer: Identification: Description:	66 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive 80A (continuous) Ad Input: 380-480V 50/6 Output: 80A 0-513V Production Equivaler Includes seismic kit A Weight includes exter <u>Rigid Base (Floor)</u> m Grade 5 Hex Head E (Torque =40-ft-lb)	tural integrity and ma Drive 160 Amp apany B10GJ999 Ijustable Speed Eleva 60Hz 3PH AC 0-100Hz 3PH AC nt Prototype AAA374AEV401 (ext ernal skeleton. nounted using (8) – 1	AC Drive Asso AC Drive Asso ator Drive The Asso ator Drive 100 (2" dia. SAE J429	embly		ncy (Hz)
UUT-2405-2 Manufacturer: Identification: Description: Mounting:	66 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive 80A (continuous) Ad Input: 380-480V 50/6 Output: 80A 0-513V Production Equivalent Includes seismic kit A Weight includes exter <u>Rigid Base (Floor)</u> m Grade 5 Hex Head E (Torque =40-ft-lb) <b>Dimensions (in.)</b>	tural integrity and ma Drive 160 Amp apany 10GJ999 Jjustable Speed Eleva 60Hz 3PH AC 0-100Hz 3PH AC 0-100Hz 3PH AC int Prototype AAA374AEV401 (ext ernal skeleton. nounted using (8) – 1 30Its w/ Standard Wa	anufacturer requirement AC Drive Associated and the second	embly	the Resonant Frequer	
UUT-2405-2 Manufacturer: Identification: Description: Mounting: Width 35.3	6 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive 80A (continuous) Ad Input: 380-480V 50/6 Output: 80A 0-513V Production Equivaler Includes seismic kit / Weight includes exter Rigid Base (Floor) m Grade 5 Hex Head E (Torque =40-ft-lb) Dimensions (in.) Depth	tural integrity and ma         Drive 160 Amp         apany         blogj999         blustable Speed Eleva         60Hz 3PH AC         0-100Hz 3PH AC         nt Prototype         AAA374AEV401 (ext         ernal skeleton.         nounted using (8) – 1         3olts w/ Standard Wa         Height         65	AC Drive Asso AC Drive Asso ator Drive Dive ternal skeleton) /2" dia. SAE J429 ashers.	embly	t Resonant Frequer Side - Axis	Vert - Axis 15.48
UUT-2405-2 Manufacturer: Identification: Description: Mounting: Width 35.3	6 requirements for struct OVFR02E-416 Otis Elevator Com Part No.: GGA213 Serial No.: N/A 160Amp AC Drive 80A (continuous) Ad Input: 380-480V 50/6 Output: 80A 0-513V Production Equivalent Includes seismic kit A Weight includes exter Rigid Base (Floor) m Grade 5 Hex Head E (Torque =40-ft-lb) Dimensions (in.) Depth 17.6	tural integrity and ma         Drive 160 Amp         apany         blogj999         blustable Speed Eleva         60Hz 3PH AC         0-100Hz 3PH AC         nt Prototype         AAA374AEV401 (ext         ernal skeleton.         nounted using (8) – 1         3olts w/ Standard Wa         Height         65	AC Drive Asso AC Drive Asso ator Drive Dive ternal skeleton) /2" dia. SAE J429 ashers.	embly	t Resonant Frequer Side - Axis	Vert - Axis



# **OTIS ELEVATOR**

## ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2405-3	DC Ripple Fil	ter (190 Amp) fo	or DC Drives			
Manufacturer:	Macro Magnetics	6		A THORNE AND		
Identification:	Otis Model No.: A Serial No.: N/A	AAA21799E25-2122		R.		
Description: Mounting:	DC Resistance: 0. Inductance: 5 mH Peak Current: 605 DC Filter Voltage: Rigid Base (Floor)	F-R252122-29 E-29  25°C @ 40°C Ambient 010 OHMS @ 235 ADC	2" dia. SAE J429			
	(Torque =40-ft-lb)		CODE	In the second second		
	Dimensions (in.	FOI	CODEC	Lowes	st Resonant Frequen	cy (Hz)
Width	Depth	Height	Weight (lb.)	Front - Axis	Side - Axis	Vert - Axis
36.13	24.31	34.25	715	>50	22.41	23.40
ICC-ES AC156 Sh	nake Table Test Param	neters				Code: 2022 CBC
S <sub>DS</sub> (G)	z/h	l⊳ C	S A <sub>FLX-H</sub> (G)	A <sub>RIG-H</sub> (G)	A <sub>FLX-V</sub> (G)	A <sub>RIG-V</sub> (G)
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit satisfied AC15	56 requirements for stru	uctural integrity and ma	nufacturer requiremer	ts for functionality afte	r AC156 test.	•

UUT-2405-4	Otis Mainline Isolation Transformer (111A 48	
Manufacturer:	Macro Magnetics	O SALE
Identification:	Otis Part No.: AAA21799B10-233 Serial No.: N/A	
Description:	Isolation Transformer for Mainline Power and/or DC Field Voltage.	
	3-Phase Isolation Transformer	
	Model No. TRF480064N210 INPUT: 111A. 480V. 80 1-HR KVA. 60hz	
	OUTPUT: 210V, 209A, 75.9 1-HR KVA	1 × 200
	Dry type transformer, Copper windings, Open Core Coil	
	NEMA 1 Enclosure	A A

<u>Rigid Base (Floor)</u> mounted using (4) - 1/2" dia. SAE J429 Grade 5 Hex Head Bolts w/ Standard Washers.

(Torque =40-ft-lb)



						No. Charles		
	Dimensions (in.)			Lowes	ncy (Hz)			
Width	Depth	Height	Weight (lb.)	Front - Axis	Side - Axis	Vert - Axis		
42.25	29.38	43	879	35.36	17.28	16.16		
ICC-ES AC156 Shak	e Table Test Parame	eters				Code: 2022 CBC		
S <sub>DS</sub> (G)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (G)	A <sub>RIG-H</sub> (G)	A <sub>FLX-V</sub> (G)	A <sub>RIG-V</sub> (G)		
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68		
Unit satisfied AC156 r	nit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.							

Mounting:



# **OTIS ELEVATOR**

### ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2405-5	Otis Mainline	Auto-Transform	ner (66.5 kVA 3	8-Phase)		
Manufacturer:	Transformer Teo	chnology, Inc.				
Identification:	Otis Part No.: A Serial No.: L211	/				
Description:				-		
	(Torque =40-ft-lb)		CODE			
	Dimensions (in	) FUT		Lowes	st Resonant Frequen	cy (Hz)
Width	Depth	Height	Weight (lb.)	Front - Axis	Side - Axis	Vert - Axis
26.75	20.25	34.25	478	18.50	10.17	18.57
ICC-ES AC156 Sh	nake Table Test Paran	neters			•	Code: 2022 CBC
S <sub>DS</sub> (G)	z/h	<u> </u>	S A <sub>FLX-H</sub> (G)	A <sub>RIG-H</sub> (G)	A <sub>FLX-V</sub> (G)	A <sub>RIG-V</sub> (G)
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit satisfied AC15	56 requirements for stru	uctural inte <mark>grity and ma</mark>	nufacturer requiremer	nts for functionality afte	r AC156 test.	-

