



**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-0296

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Schindler Elevator Corporation

Manufacturer's Technical Representative: David Mauldin

Mailing Address: 20 Whippany Road, Morristown, NJ 07960

Telephone: (717) 891-1777 Email: dave.mauldin@schindler.com

Product Information

Product Name: Elevator Components

Product Model Number(s): HX-Series Controllers & E-Series Power Units

Product Category: Elevator Equipment

Product Sub-Category: Elevator Controllers

General Description: _____

Mounting Description: Base mounted-rigid: HX Controller Assembly & Wall mounted-rigid: Hall Fixture Interface Box

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Contact Person: Victoria Ahrens

Mailing Address: 233 SW Wilson Ave, Suite 101, Bend, OR 97702

Telephone: (541) 292-5820 Email: vahrens@structint.com

Title: Certification Engineer





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

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

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.

Name: LACHEZAR HANDZHIYSKI California License Number: S6515

Mailing Address: 5215 Hellyer Avenue, Suite 210, San Jose, CA 95138

Telephone: (669) 437-0200 Email: Lhandzhiyski@StructInt.com

Certification Method

- GR-63-Core
- ICC-ES AC156
- IEEE 344
- IEEE 693
- NEBS 3
- Other (Please Specify): _____

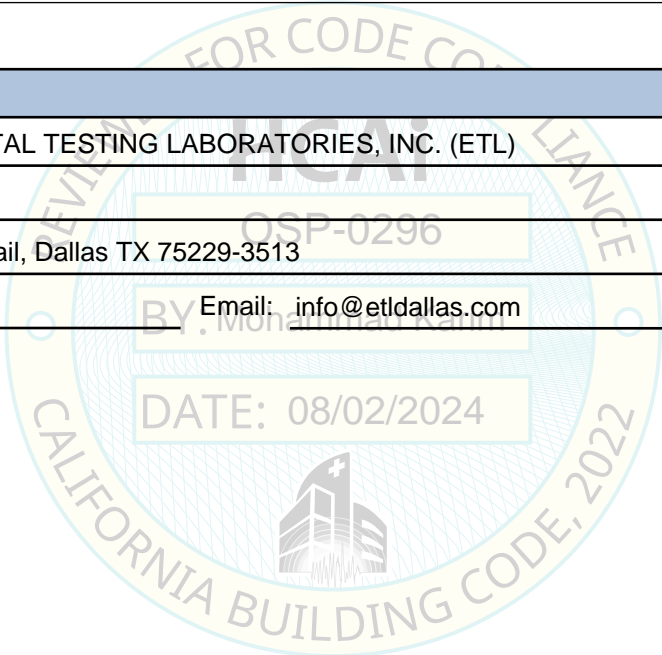
Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

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

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



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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY



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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 0.90

SDS (Design spectral response acceleration at short period, g) = 2.0

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

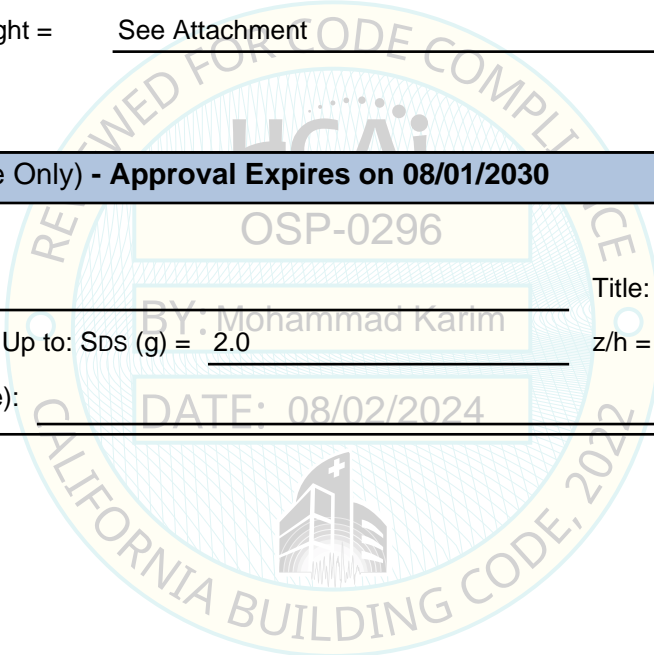
HCAI Approval (For Office Use Only) - Approval Expires on 08/01/2030

Date: 8/2/2024

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 0

Condition of Approval (if applicable): DATE: 08/02/2024



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2400512-CR-001-R0



Manufacturer: Schindler Elevator Corporation	TABLE 1
Model Line: HX-Series Controllers & E-Series Power Units	

Certified Product Construction Summary:
Carbon Steel Enclosures

Certified Options Summary:
See Tables 3 - 5 for a complete listing of certified components.

Mounting Configuration:
Base mounted - rigid
Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2022 **Seismic Certification Limits:** $S_{DS} = 2.0g$ $z/h = 0.0$ $I_p = 1.5$

Assembly (Components)	Subcomponents	Model Number ¹	Dimension (in)			Weight (lbs.) ²	Notes	UUT
			Depth	Width	Height			
HX Controller Assembly (w/ E1B Power Unit)	HX-Series Controllers	HX-NI	32.3	44.0	57.0	731		1
	Power Unit	E1B						
HX Controller Assembly (w/ E1B Power Unit)	HX-Series Controllers	HX-###	32.3	44.0	57.0	768		Interp.
	Power Unit	E1B						
HX Controller Assembly (w/ E2B Power Unit)	HX-Series Controllers	HX-###	32.3	50.6	57.0	820		Interp.
	Power Unit	E2B						
HX Controller Assembly (w/ E3B Power Unit)	HX-Series Controllers	HX-###	34.3	50.6	63.1	945		Interp.
	Power Unit	E3B						
HX Controller Assembly (w/ E3B Power Unit)	HX-Series Controllers	HX-MOD	34.3	50.6	63.1	945		2
	Power Unit	E3B						

Notes:
1. ###: indicates NI or MOD. HX-NI and HX-MOD are physically identical.
2. Dry weights shown and excludes the weight of hydraulic fluid present under typical operating conditions.

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2400512-CR-001-R0



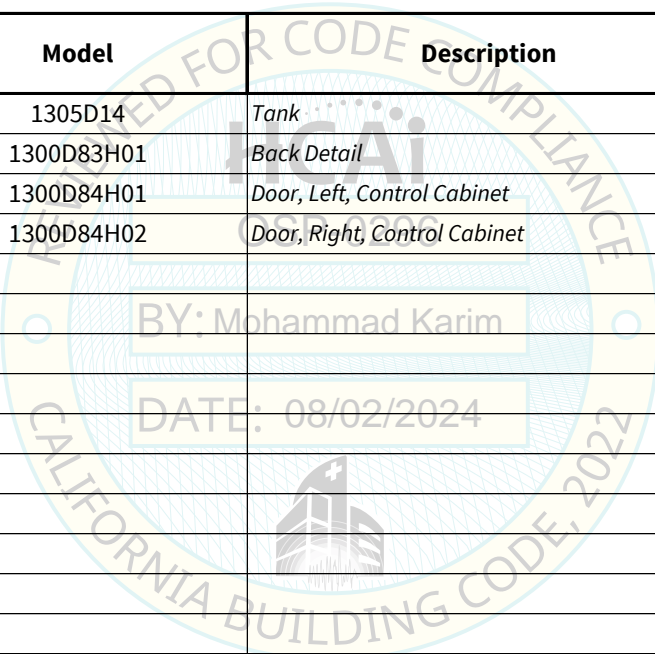
Manufacturer: Schindler Elevator Corporation						TABLE 2	
Model Line: HX-Series Controllers & E-Series Power Units							
Certified Product Construction Summary: Carbon Steel Enclosures							
Certified Options Summary: N/A							
Mounting Configuration: Wall mounted - rigid Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2022		Seismic Certification Limits:			$S_{DS} = 2.0\text{g}$	$z/h = 0.0$	$I_P = 1.5$
Model Line	Model ¹	Dimensions (in)			Weight (lbs.)	Notes	UUT
		Depth	Width	Height			
Hall Fixture Interface (HFI) Box	MICONIC HX ###-HFI Box	11.5	17.4	14.0	30		Interp.
	MICONIC HX MOD-HFI Box	11.5	17.4	14.0	30		3
Notes: 1. ###: indicates NI or MOD. HX-NI and HX-MOD are physically identical.							

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2400512-CR-001-R0



Manufacturer: Schindler Elevator Corporation Model Line: HX-Series Controllers & E-Series Power Units			Table Description: Enclosures		TABLE 3
Building Code: CBC 2022			Seismic Certification Limits: $S_{DS} = 2.0 g$ $z/h = 0.0$		
Component Type	Manufacturer	Model	Description	Notes	UUT
Enclosures	Schindler	1305D14	Tank		1, 2
		1300D83H01	Back Detail		1, 2
		1300D84H01	Door, Left, Control Cabinet		1, 2
		1300D84H02	Door, Right, Control Cabinet		1, 2



SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2400512-CR-001-R0



Manufacturer: Schindler Elevator Corporation Model Line: HX-Series Controllers & E-Series Power Units		Table Description: Electrical Components		TABLE 4	
Building Code: CBC 2022		Seismic Certification Limits: $S_{DS} = 2.0 g$ $z/h = 0.0$		$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Hydraulic Pump	IMO Industries	40USNP41	16.7 GPM / 63.2 LPM @ 600 psi		Interp.
		40USNP49	22.0 GPM / 83.3 LPM @ 600 psi		Interp.
		80USNP42	37.0 GPM / 140.0 LPM @ 600 psi		Interp.
		80USNP46	44.0 GPM / 166.0 LPM @ 600 psi		Interp.
		*4PIC-187AJ	48.2 GPM / 182.4 LPM @ 600 psi		Interp.
		*4PIC-187Y	52.8 GPM / 200.0 LPM @ 600 psi		Interp.
		*4PIC-187P	57.5 GPM / 218.0 LPM @ 600 psi		Interp.
		*4PIC-187M	62.6 GPM / 237.0 LPM @ 600 psi		Interp.
		*4PIC-187	73.3 GPM / 277.0 LPM @ 600 psi		1
		*4PIC-217Y	82.5 GPM / 312.2 LPM @ 600 psi		Interp.
		*4PIC-217P	92.5 GPM / 350.0 LPM @ 600 psi		Interp.
		*4PIC-217M	99.8 GPM / 378.0 LPM @ 600 psi		Interp.
		*4PIC-217	117.0 GPM / 443.0 LPM @ 600 psi		Interp.
		*4PIC-236G	136.4 GPM / 516.0 LPM @ 600 psi		Interp.
		*4PIC-236	155.3 GPM / 588.0 LPM @ 600 psi		Interp.
		*4PIC-236AS	179.6 GPM / 680.0 LPM @ 600 psi		2
Motor	United States Electric Motors	15 HP			Interp.
		20 HP			1
		25 HP			Interp.
		30 HP			Interp.
		40 HP			Interp.
		50 HP			2

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

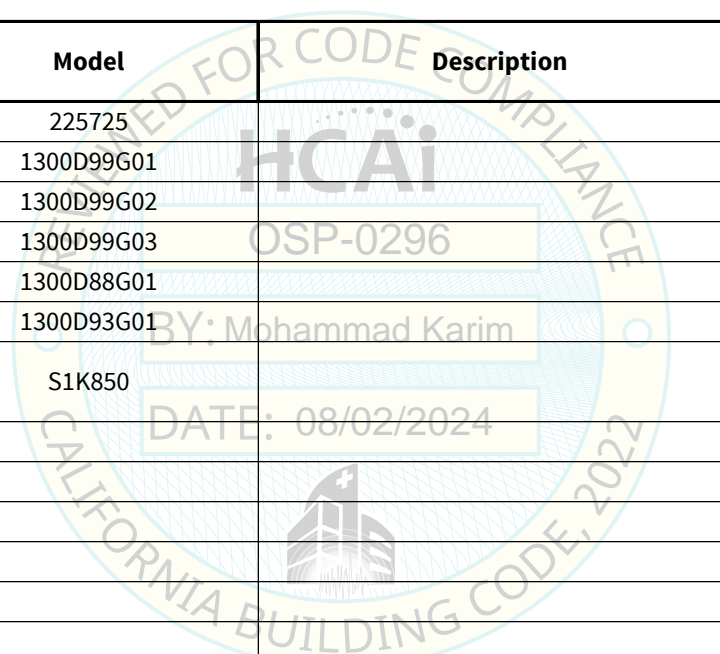
2400512-CR-001-R0



Manufacturer: Schindler Elevator Corporation	Table Description: Miscellaneous Subcomponents	TABLE 5
Model Line: HX-Series Controllers & E-Series Power Units		

Building Code: CBC 2022	Seismic Certification Limits: $S_{DS} = 2.0 g$ $z/h = 0.0$	$I_P = 1.5$
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Component Type	Manufacturer	Model	Description	Notes	UUT
Criphna Board	Schindler	225725			1, 2
GC10360 Assembly	Schindler	1300D99G01			1, 2
Elboni Assembly	Schindler	1300D99G02			1, 2
EBCOM68 Assembly	Schindler	1300D99G03			1, 2
Softstart Assembly	Schindler	1300D88G01			1, 2
LONIOHI6 Assembly	Schindler	1300D93G01			1, 2
Anto-Personnel Entrapment	Sola Hevi-Duty	S1K850			1, 2



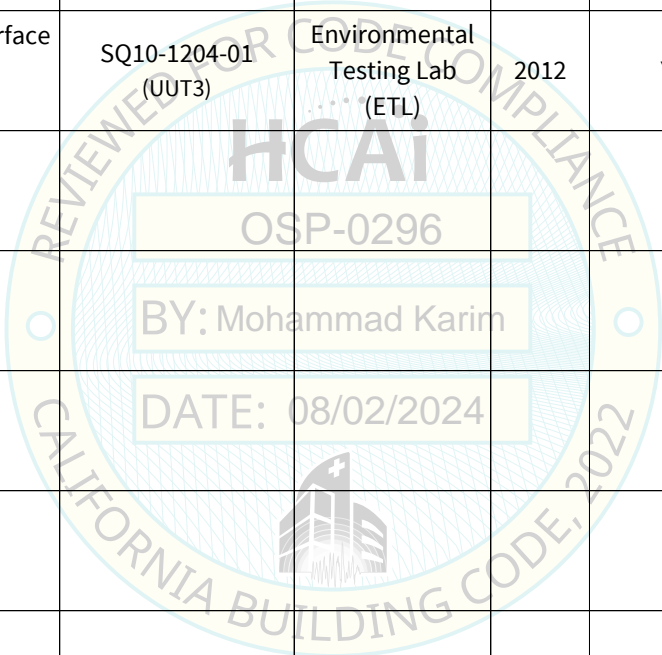
UNIT UNDER TEST (UUT) SUMMARY SHEET

2400512-CR-001-R0



Manufacturer: Schindler Elevator Corporation
Model Line: HX-Series Controllers & E-Series Power Units

UUT	Unit Description (mounting)	Report Number (UUT#)	Testing Lab	Year Tested	ISO 17025 Accredited?	S _{DS}	z/h	I _P
1	HX-NI Controller w/ E1B Power Unit (base mounted - rigid)	SQ10-1204-01 (UUT1)	Environmental Testing Lab (ETL)	2012	Yes	2.0	0.0	1.5
2	HX-MOD Controller w/ E3B Power Unit (base mounted - rigid)	SQ10-1204-01 (UUT2)	Environmental Testing Lab (ETL)	2012	Yes	2.0	0.0	1.5
3	HX-MOD Hall Fixture Interface (HFI) Box (wall mounted - rigid)	SQ10-1204-01 (UUT3)	Environmental Testing Lab (ETL)	2012	Yes	2.0	0.0	1.5



Notes:

UNIT UNDER TEST (UUT) SUMMARY SHEET

2400512-CR-001-R0



Manufacturer:	Schindler Elevator Corporation	UUT 1
Model Line:	HX-Series Controllers & E-Series Power Units	
Model Number:	HX-NI (Controller) and E1B (Power Unit)	
Serial Number:	GS227-01	
Test Report:		SQ10-1204-01 (UUT1)

UUT Properties							
Weight (lbs.)		Dimension (in)			Lowest Natural Frequency (Hz)		
Wet	Dry	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,527	731	32.3	44.0	57.0	11.94	11.17	17.18

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2022	ICC-ES AC156	2.0	0.0	1.5	2.00	0.80	1.33	0.53	

Product Construction Summary:			Test Mounting Details:						
<p>Carbon Steel Enclosures. Schindler HX Hydraulic Elevator Controller mounted to the exterior wall of an E1B Power Unit. Controller included a Softstarter rated at 20HP/25HP/50HP at 200V/230V/480V. Unit was tested with 110 gallons of Kincheloe (ISO 46) hydraulic fluid.</p>									
Options/Subcomponent Summary:									
Description	Mfr.	Part Number							
Anti-Personnel Entrapment	Sola Hevi-Duty	S1K850							
Criphna Board	Schindler	225725							
EBCOM68 Assembly	Schindler	1300D99G03							
Elboni Assembly	Schindler	1300D99G02							
Enclosures	Schindler	1305D14, 1300D83H01, 1300D84H01, 1300D84H02							
GC10360 Assembly	Schindler	1300D99G01							
Hydraulic Pump	IMO Industries	*4PIC-187							
LONIOHI6 Assembly	Schindler	1300D93G01							
Motor	United States Electric Motors	20 HP							
Softstart Assembly	Schindler	1300D88G01							
			<p>UUT1 was base mounted - rigid using four (4) 5/8" Grade 8 bolts with 1-3/4" O.D. washers to interface plate. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.</p>						

UNIT UNDER TEST (UUT) SUMMARY SHEET

2400512-CR-001-R0



Manufacturer:	Schindler Elevator Corporation	UUT 2
Model Line:	HX-Series Controllers & E-Series Power Units	
Model Number:	HX-MOD(Controller) and E3B (Power Unit)	
Serial Number:	29925-01	
Test Report:		SQ10-1204-01 (UUT2)

UUT Properties							
Weight (lbs.)		Dimension (in)			Lowest Natural Frequency (Hz)		
Wet	Dry	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,115	945	34.3	50.6	63.1	10.49	10.57	18.21

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2022	ICC-ES AC156	2.0	0.0	1.5	2.00	0.80	1.33	0.53	

Product Construction Summary:	Test Mounting Details:																																	
<p>Carbon Steel Enclosures. Schindler HX Hydraulic Elevator Controller mounted to the exterior wall of an E3B Power Unit. Controller included a Softstarter rated at 20HP/25HP/50HP at 200V/230V/480V. Unit was tested with 220 gallons of Kincheloe (ISO 46) hydraulic fluid.</p>																																		
Options/Subcomponent Summary:																																		
<table border="1"> <thead> <tr> <th>Description</th> <th>Mfr.</th> <th>Part Number</th> </tr> </thead> <tbody> <tr> <td>Anti-Personnel Entrapment</td> <td>Sola Hevi-Duty</td> <td>S1K850</td> </tr> <tr> <td>Criphna Board</td> <td>Schindler</td> <td>225725</td> </tr> <tr> <td>EBCOM68 Assembly</td> <td>Schindler</td> <td>1300D99G03</td> </tr> <tr> <td>Elboni Assembly</td> <td>Schindler</td> <td>1300D99G02</td> </tr> <tr> <td>Enclosures</td> <td>Schindler</td> <td>1305D14, 1300D83H01, 1300D84H01, 1300D84H02</td> </tr> <tr> <td>GC10360 Assembly</td> <td>Schindler</td> <td>1300D99G01</td> </tr> <tr> <td>Hydraulic Pump</td> <td>IMO Industries</td> <td>*4PIC-236AS</td> </tr> <tr> <td>LONIOH16 Assembly</td> <td>Schindler</td> <td>1300D93G01</td> </tr> <tr> <td>Motor</td> <td>United States Electric Motors</td> <td>50 HP</td> </tr> <tr> <td>Softstart Assembly</td> <td>Schindler</td> <td>1300D88G01</td> </tr> </tbody> </table>		Description	Mfr.	Part Number	Anti-Personnel Entrapment	Sola Hevi-Duty	S1K850	Criphna Board	Schindler	225725	EBCOM68 Assembly	Schindler	1300D99G03	Elboni Assembly	Schindler	1300D99G02	Enclosures	Schindler	1305D14, 1300D83H01, 1300D84H01, 1300D84H02	GC10360 Assembly	Schindler	1300D99G01	Hydraulic Pump	IMO Industries	*4PIC-236AS	LONIOH16 Assembly	Schindler	1300D93G01	Motor	United States Electric Motors	50 HP	Softstart Assembly	Schindler	1300D88G01
Description		Mfr.	Part Number																															
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LONIOH16 Assembly	Schindler	1300D93G01																																
Motor	United States Electric Motors	50 HP																																
Softstart Assembly	Schindler	1300D88G01																																
<p>UUT2 was base mounted - rigid using four (4) 5/8" Grade 8 bolts with 1-3/4" O.D. washers to interface plate. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.</p>																																		

UNIT UNDER TEST (UUT) SUMMARY SHEET

2400512-CR-001-R0



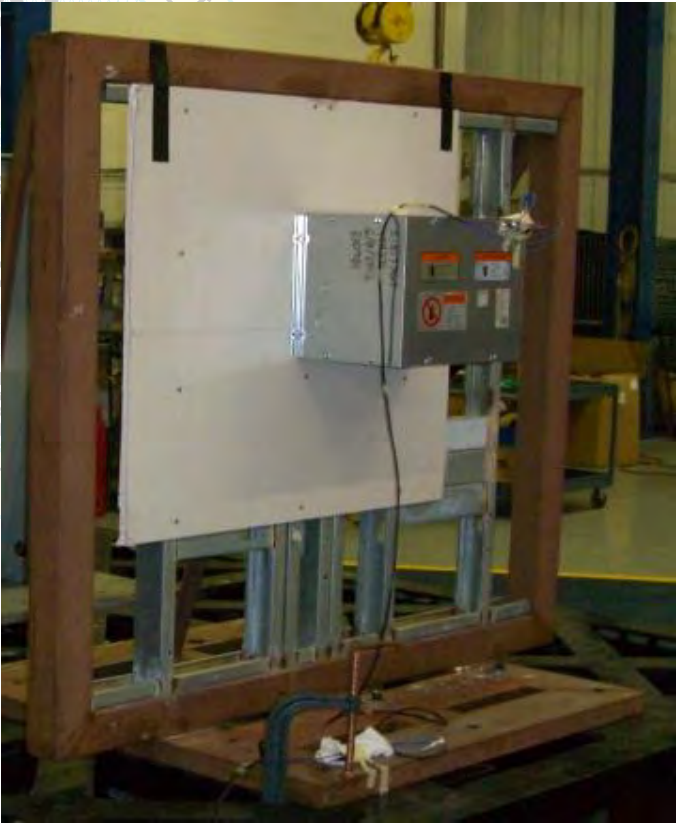
Manufacturer: Schindler Elevator Corporation		<h2>UUT 3</h2>
Model Line: HX-Series Controllers & E-Series Power Units		
Model Number: Miconic HX MOD-HFI BOX		
Serial Number: N/A	Test Report: SQ10-1204-01 (UUT3)	

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
30	11.5	17.4	14.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	0.0	1.5	2.00	0.80	1.33	0.53

Product Construction Summary: Carbon Steel Enclosures	Test Mounting Details: 
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Options/Subcomponent Summary:		
Description	Mfr.	Part Number
N/A	N/A	N/A

UUT3 was wall mounted - rigid to the fixture using four (4) #10 Tek screws with 1" O.D. fender washer through 5/8" wallboard to 16ga carbon steel backing plate.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.