



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OSP – 0166 – 10

**OSHPD Special Seismic Certification Preapproval (OSP)**

Type: ☐ New ☒ Renewal

**Manufacturer Information**

Manufacturer: Thyssen Krupp Elevator Manufacturing Inc.

Manufacturer's Technical Representative: Doug Henderson

Mailing Address: 9280 Crestwyn Hills Drive, Memphis, TN 38125

Telephone: 731.376.3004 Email: [Doug.Henderson@thyssenkrupp.com](mailto:Doug.Henderson@thyssenkrupp.com)

**Product Information**

Product Name: Hydraulic Controller

Product Type: Hydraulic Elevator Controller

Product Model Number: Varies, see attachment.

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

General Description: Carbon steel cabinets with internal components. Seismic enhancements made to the test units to address anomalies observed during testing shall be incorporated into the production units.

Mounting Description: Wall mounted - rigid

**Applicant Information**

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

Contact Person: Matthew J. Tobolski, PhD, SE

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

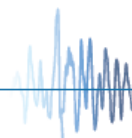
Telephone: 541.205.4064 Email: [mtobolski@structint.com](mailto:mtobolski@structint.com)

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: 10/17/2017

Title: Executive Advisor Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

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





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FACILITIES DEVELOPMENT DIVISION**

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

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

Name: Matthew J. Tobolski, PhD, SE California License Number: S5648

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

Telephone: 541.205.4064 Email: [mtobolski@structint.com](mailto:mtobolski@structint.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): \_\_\_\_\_

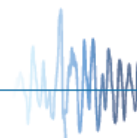
**Testing Laboratory**

Company Name: Wyle Laboratories

Contact Name: Rod Thornberry

Mailing Address: 7800 Highway 20 West, Huntsville, AL 35806

Telephone: 256.716.4229 Email: [Rod.Thornberry@Wyle.com](mailto:Rod.Thornberry@Wyle.com)





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## Seismic Parameters

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

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.08

$S_{DS}$  (Design spectral response acceleration at short period, g) = 1.5

$a_p$  (In-structure equipment or component amplification factor) = 1.0

$R_p$  (Equipment or component response modification factor) = 2.5

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See Attachment

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

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) = \_\_\_\_\_

$\Omega_0$  (System overstrength factor) = \_\_\_\_\_

$C_d$  (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

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

Signature:  Date: January 12, 2018

Print Name: Timothy J. Piland Title: SSE

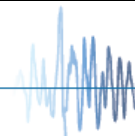
Special Seismic Certification Valid Up to :  $S_{DS}$  (g) = 1.5  $z/h$  = 1

Condition of Approval (if applicable): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

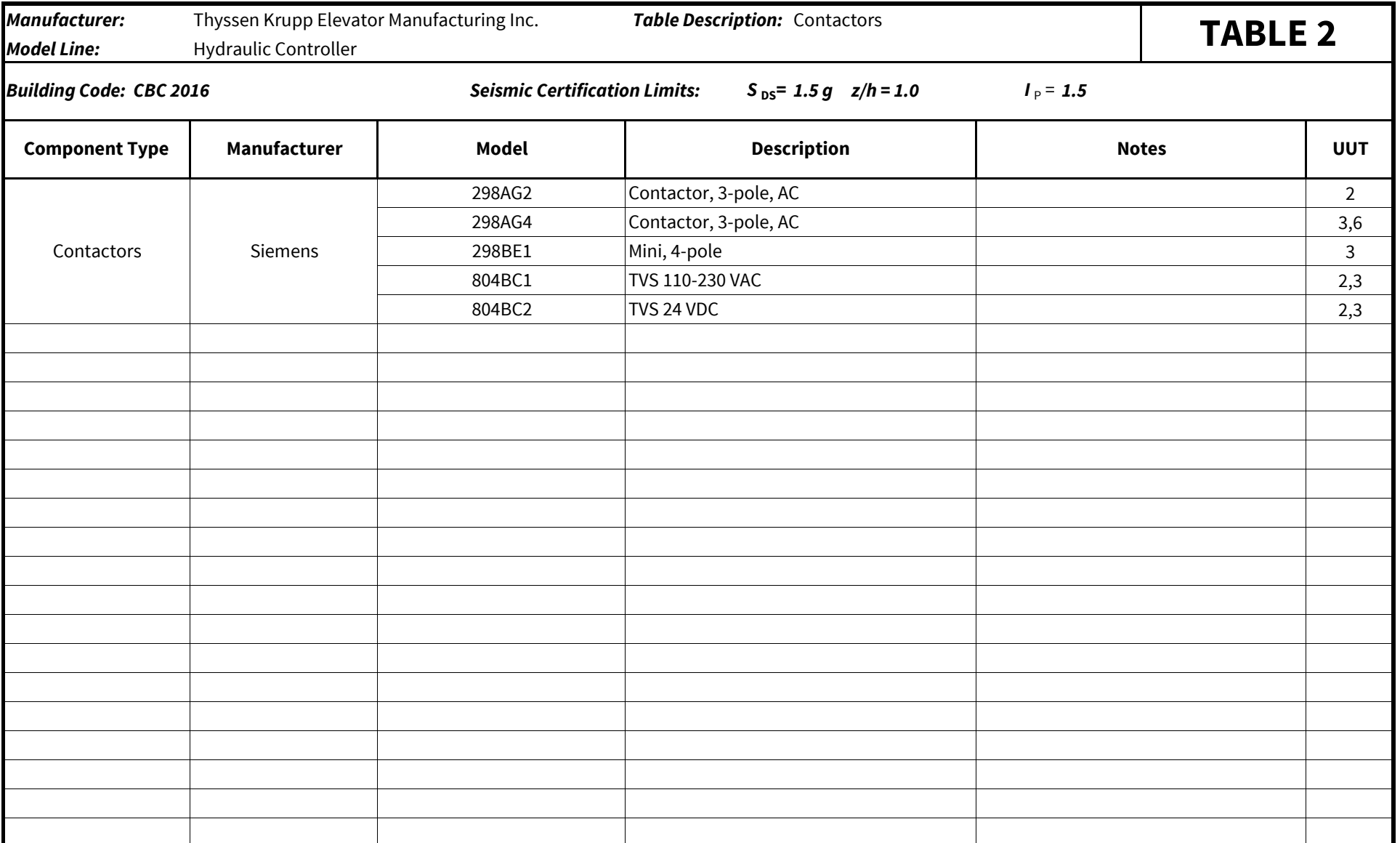


**TRU PROJECT NO. 1700693**

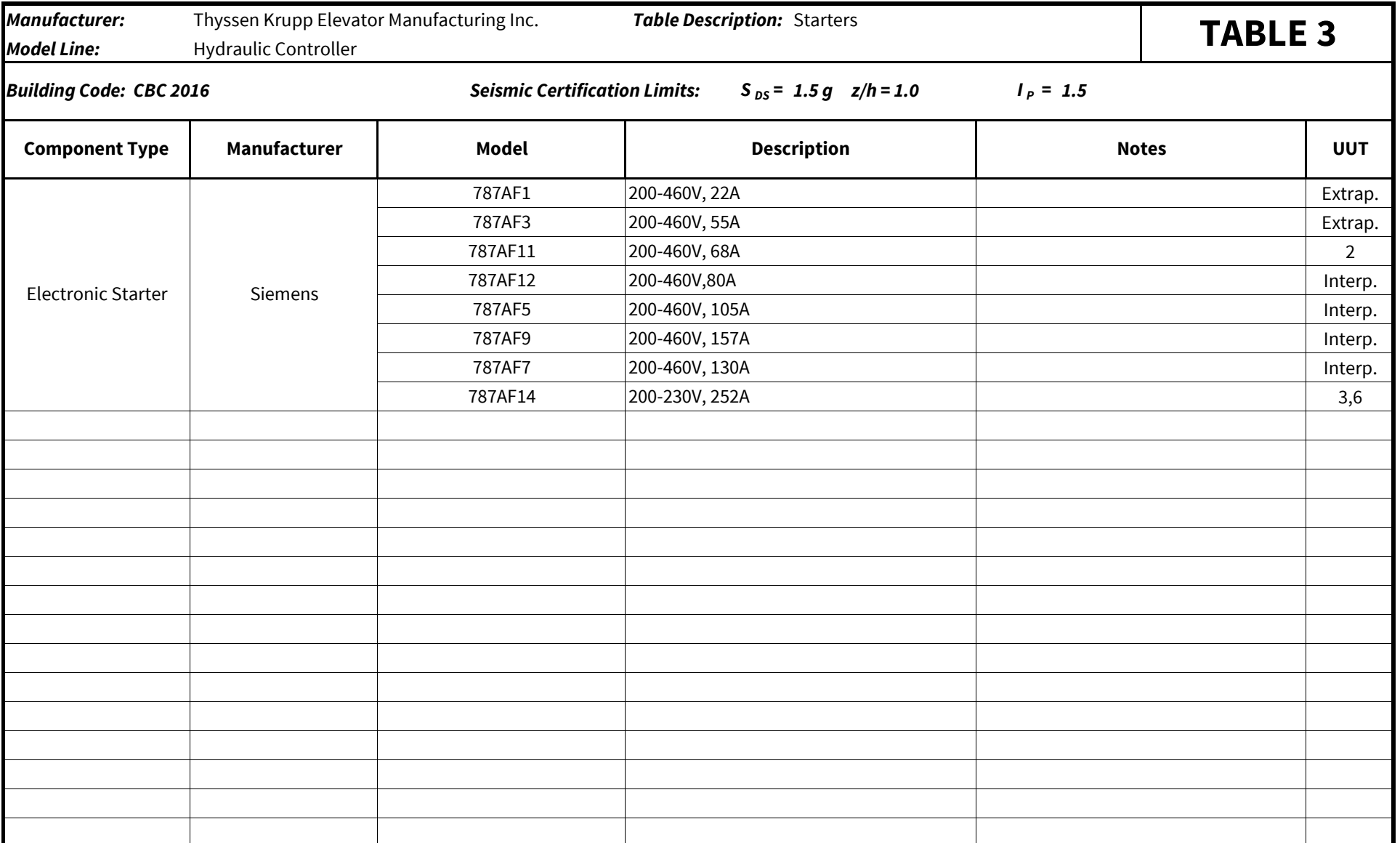


TRU Compliance, by Structural Integrity Associates, Inc.  
844.TRU.0200 | [info@trucompliance.com](mailto:info@trucompliance.com)

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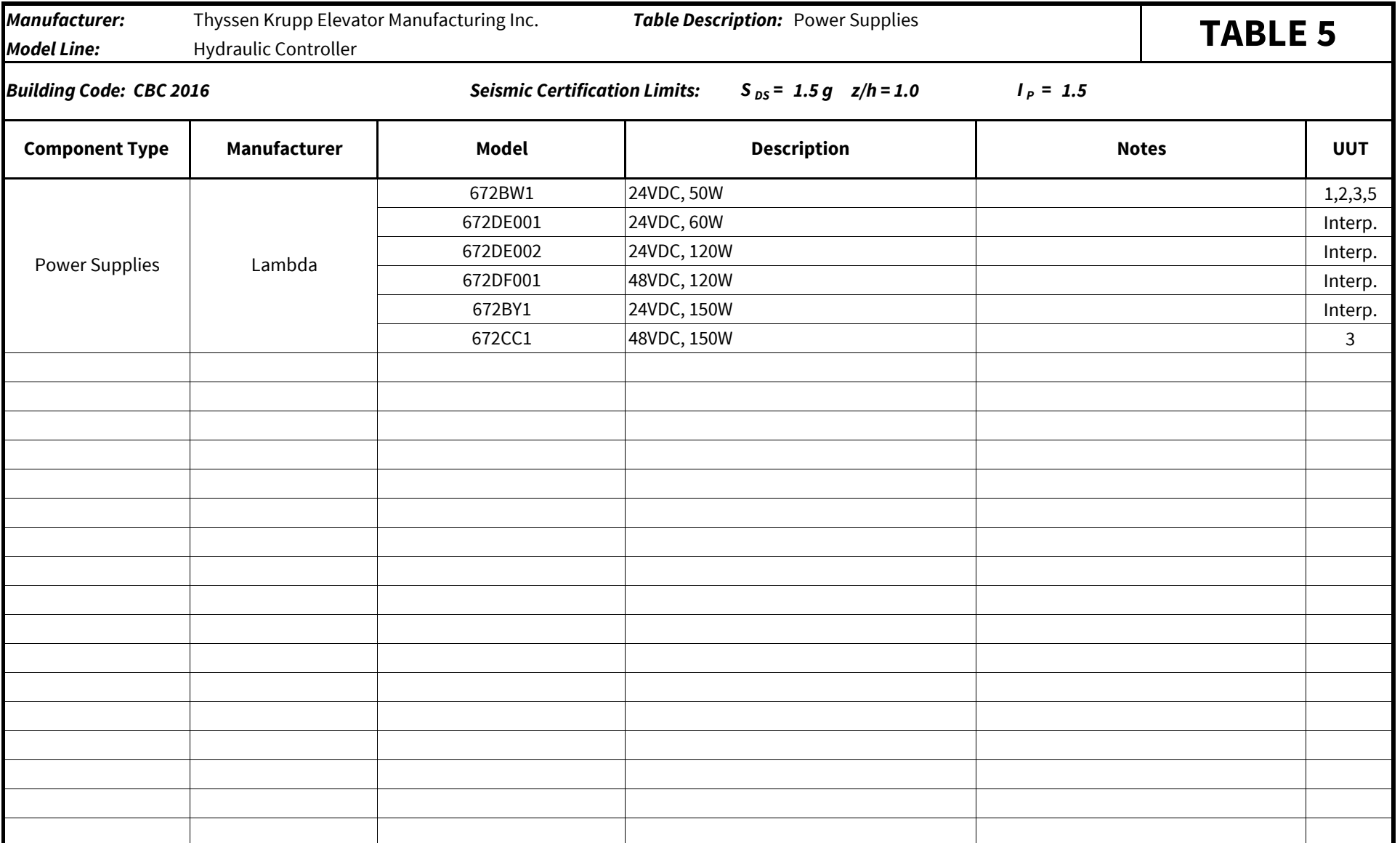
# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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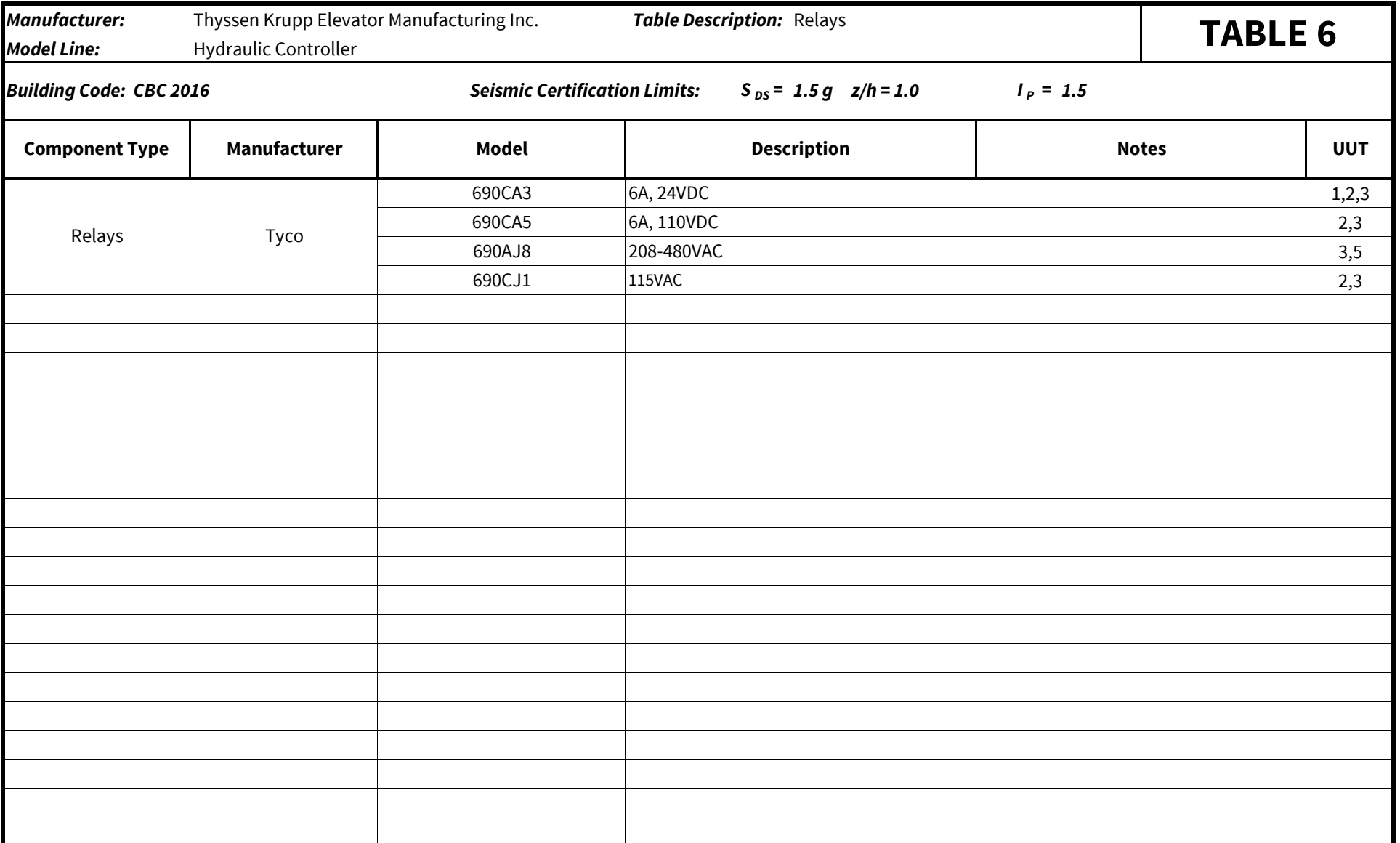


<b>Manufacturer:</b> Thyssen Krupp Elevator Manufacturing Inc.		<b>Table Description:</b> Fuses			<b>TABLE 4</b>
<b>Model Line:</b> Hydraulic Controller					
<b>Building Code:</b> CBC 2016		<b>Seismic Certification Limits:</b> $S_{DS} = 1.5\text{ g}$ $z/h = 1.0$ $I_p = 1.5$			
Component Type	Manufacturer	Model	Description	Notes	UUT
Fuseblock DIN Rail	Bussman	412BF1	Fuseblock, DIN rail, 1 pole		2,3
		412BC1	Fuseblock, DIN rail, 1 pole		2,3
		412BE2	600V, 30A, 2-Pole		5,6
Fuse Panel FNQ	Bussman	409BP20	600V, 3A		3
		409BP23	600V, 4A		1,2,5
		409BP24	600V, 5A		Interp.
		409BP25	600V, 6A		Interp.
		409BP28	600V, 8A		6
Fuse Panel 2AG	Bussman	409CW500	250V, 0.5A		Extrap.
		409CW1000	250V, 1A		Extrap.
		409CW2000	250V, 2A		5
		409CW3000	250V, 3A		6
Fuse Panel MDA	Bussman	409BR5	1A		2,3
		409BR7	2A		1,2,3
		409BR9	3A		3
		409BR10	4A		5,6
		409BR11	5A		1,3
Fuse	Bussman	118763	0.5A Fuse, 250V, AGC		1

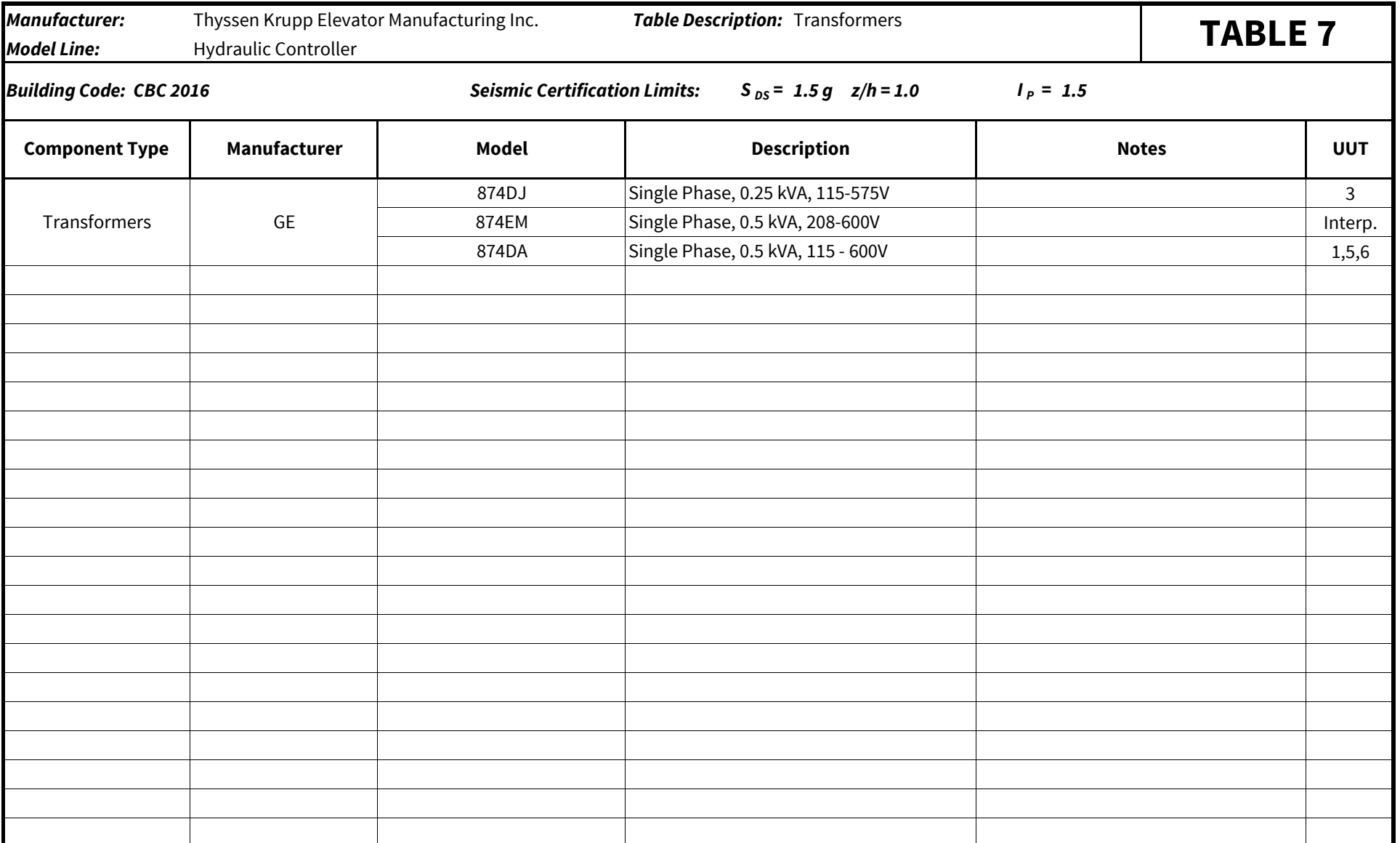
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[illegible]

# UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1700693



<b>Manufacturer:</b>	Thyssen Krupp Elevator Manufacturing Inc.	<b>UUT 1</b>
<b>Model Line:</b>	Hydraulic Controller	
<b>Model Number:</b>	TAC20	
<b>Serial Number:</b>		N/A

**Product Construction Summary:**  
NEMA 1 Enclosure Type

**Options/Subcomponent Summary:**  
**Fuse Panels:** 409BP23, 409BR7, 409BR11 **Power Supply:** 672BW1; **Relay:** 690CA3

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
116	12	33	33	N/A	N/A	N/A			
UUT Highest Passed Seismic Run Information									
Building Code		Test Criteria	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)
CBC 2016		ICC-ES AC156	1.5	1	1.5	2.4	1.8	1.0	0.4

**Test Mounting Details:**



The UUT was mounted to a wall mounting fixture using (6) 3/8" Grade 5 bolts.  
Unit maintained structural integrity and remained functional per manufacturer requirement.  
Contents were included in testing per operating conditions.

# UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1700693



<b>Manufacturer:</b>	Thyssen Krupp Elevator Manufacturing Inc.	<b>UUT 2</b>
<b>Model Line:</b>	Hydraulic Controller	
<b>Model Number:</b>	TAC22	
<b>Serial Number:</b>		N/A

**Product Construction Summary:**

NEMA 1 Enclosure Type

**Options/Subcomponent Summary:**

**Contactors:** 298AG2, 804BC1, 804BC2; **Starter:** 787AF11; **Fuse Blocks:** 412BF1, 412BC1; **Fuse Panels:** 409BP23, 409BR5, 409BR7;  
**Power Supply:** 672BW1; **Relays:** 690CA3, 690CA5, 690CJ1;

**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
165	12	33	33	N/A	N/A	N/A

**UUT Highest Passed Seismic Run Information**

Building Code	Test Criteria	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)
CBC 2016	ICC-ES AC156	1.5	1	1.5	2.4	1.8	1.0	0.4

**Test Mounting Details:**



The UUT was mounted to a wall mounting fixture using (6) 3/8" Grade 5 bolts.  
Unit maintained structural integrity and remained functional per manufacturer requirement.  
Contents were included in testing per operating conditions.

# UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1700693



<b>Manufacturer:</b>	Thyssen Krupp Elevator Manufacturing Inc.	<b>UUT 3</b>
<b>Model Line:</b>	Hydraulic Controller	
<b>Model Number:</b>	TAC22 Tall	
<b>Serial Number:</b>		N/A

<b>Product Construction Summary:</b>
NEMA 1 Enclosure Type

<b>Options/Subcomponent Summary:</b>
<b>Contactors:</b> 298AG4, 298BE1, 804BC1, 804BC2; <b>Starter:</b> 787AF14; <b>Fuse Blocks:</b> 412BF1, 412BC1; <b>Fuse Panels:</b> 409BP20, 409BR5, 409BR7; 409BR9, 409BR11 <b>Power Supplies:</b> 672BW1, 672CC1; <b>Relays:</b> 690CA3, 690CA5, 690AJ8, 690CJ1

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
168	10.625	33	42	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	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)
CBC 2016	ICC-ES AC156	1.5	1	1.5	2.4	1.8	1.0	0.4

<b>Test Mounting Details:</b>

<p>The UUT was mounted to a wall mounting fixture using (6) 3/8" Grade 5 bolts.</p> <p>Unit maintained structural integrity and remained functional per manufacturer requirement.</p> <p>Contents were included in testing per operating conditions.</p>

# UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1700693




<b>Manufacturer:</b>	Thyssen Krupp Elevator Manufacturing Inc.	<b>UUT 5</b>
<b>Model Line:</b>	Hydraulic Controller	
<b>Model Number:</b>	TAC32	
<b>Serial Number:</b>		N/A

**Product Construction Summary:**  
NEMA 1 Enclosure Type

**Options/Subcomponent Summary:**  
**Starter:** 787AF11; **Fuse Blocks:** 412BE2; **Fuse Panels:** 409BP23, 409CW2000, 409BR10; **Power Supply:** 672BW1; **Relay:** 690AJ8

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
133	9	33	28	N/A	N/A	N/A			
UUT Highest Passed Seismic Run Information									
Building Code		Test Criteria	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)
CBC 2016		ICC-ES AC156	1.5	1	1.5	2.4	1.8	1.0	0.4

**Test Mounting Details:**



The UUT was mounted to a wall mounting fixture using (6) 3/8" Grade 5 bolts.  
Unit maintained structural integrity and remained functional per manufacturer requirement.  
Contents were included in testing per operating conditions.

# UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1700693



<b>Manufacturer:</b>	Thyssen Krupp Elevator Manufacturing Inc.	<b>UUT 6</b>
<b>Model Line:</b>	Hydraulic Controller	
<b>Model Number:</b>	TAC32	
<b>Serial Number:</b>		N/A

<b>Product Construction Summary:</b>
NEMA 1 Enclosure Type

<b>Options/Subcomponent Summary:</b>
<b>Contactor:</b> 298AG4; <b>Starter:</b> 787AF14; <b>Fuse Block:</b> 412BE2; <b>Fuse Panels:</b> 409BP28, 409CW3000, 409BR10; <b>Transformer:</b> 874DA

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
170	9	33	28	N/A	N/A	N/A			
UUT Highest Passed Seismic Run Information									
Building Code		Test Criteria	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)
CBC 2016		ICC-ES AC156	1.5	1	1.5	2.4	1.8	1.0	0.4

<b>Test Mounting Details:</b>

<p>The UUT was mounted to a wall mounting fixture using (6) 3/8" Grade 5 bolts.</p> <p>Unit maintained structural integrity and remained functional per manufacturer requirement.</p> <p>Contents were included in testing per operating conditions.</p>