



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

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

OFFICE USE ONLY

APPLICATION #: OSP-0716

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Healthcare GmbH

Manufacturer's Technical Representative: Dieter Freitag

Mailing Address: Siemensstr. 3, 91301 Forchheim, Germany

Telephone: +49 (9191) 18-5412

Email: freitag.dieter@siemens-healthineers.com

Product Information

Product Name: Fluoroscopy and Radiography Systems

Product Type: NA

Product Model Number: X-Ray and Fluoroscopy Monitor Suspension System

General Description: Ceiling and Wall Mounted Monitor suspension system for Siemens X-Ray and Fluoroscopy systems.

Mounting Description: Rigid, See Certified Product Tables

Tested Seismic Enhancements: None

DATE: 12/13/2021

Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

Contact Person: Travis Soppe

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





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

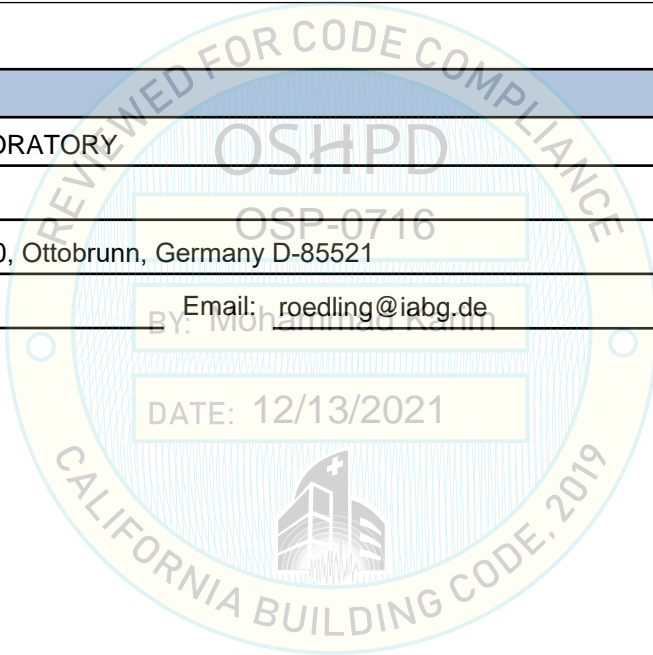
Company Name: W.E. GUNDY & ASSOCIATES INC.
Name: Travis Soppe California License Number: S6115
Mailing Address: P.O. Box 9121, Boise, ID 83707
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Certification Method

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

Testing Laboratory

Company Name: IABG TEST LABORATORY
Contact Person: Steffen Rödling
Mailing Address: Einsteinstrasse 20, Ottobrunn, Germany D-85521
Telephone: +49 (0) 89 / 6088-2052 Email: roedling@iabg.de





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 2.40 at $z/h = 1.0$ and 1.13 at $z/h = 0$

SDS (Design spectral response acceleration at short period, g) = 2.0 at $z/h = 1.0$ and 2.5 at $z/h = 0$

a_p (Amplification factor) = 1

R_p (Response modification factor) = 1.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

OSHPD Approval (For Office Use Only) - Approval Expires on 12/13/2027

Date: 12/13/2021

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = See Above

Condition of Approval (if applicable): DATE: 12/13/2021

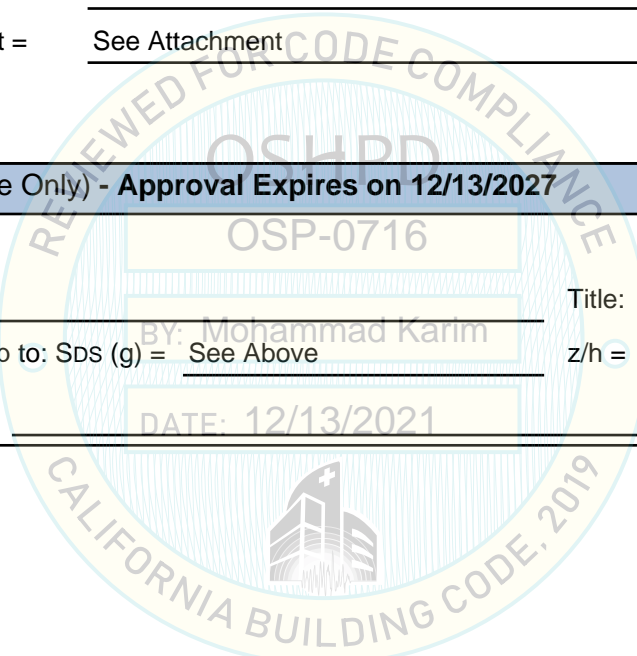


Table 1	SIEMENS HEALTHCARE GmbH SPECIAL SEISMIC CERTIFICATION CERTIFIED SYSTEM AND COMPONENTS					 WEGAI <small>W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING</small>	
	System: X-Ray and Fluoroscopy Systems			Manufacturer: Siemens Healthcare GmbH			

System Component ¹	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT
		Depth	Width	Height			
Display Ceiling Suspension							
Display Ceiling Suspension DCS-1 w/o TUI - 1 Monitor	11371813	20 - 101.0	98.8-140.4	38.2-79.9	154	ceiling	UUT-2
Display Ceiling Suspension DCS-1/1 with TUI - 1 Monitor	11371815	20 - 101.0	98.8-140.4	46.9-88.9	190	ceiling	interpolated
Display Ceiling Suspension DCS-2 w/o TUI - 2 Monitor	11371814	20 - 115.2	98.8-154.5	38.2-79.9	202	ceiling	interpolated
Display Ceiling Suspension DCS-2/1 with TUI - 2 Monitor	11371816	20 - 115.2	98.8-154.5	46.9-88.9	211	ceiling	UUT-1
Display Wall Suspension							
Display Wall Suspension DWS-1 - 1 Monitor	11371817	52 - 90.9	52.0-90.9	35.2-83.5	97	wall	UUT-4
Display Wall Suspension DWS-2 - 2 Monitor	11371818	63 - 105.1	63.0-105.1	43.1-85.0	110	wall	UUT-3

Notes:
¹ All components are manufactured by Siemens Healthcare GmbH. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

SEISMIC CERTIFICATION LIMITS

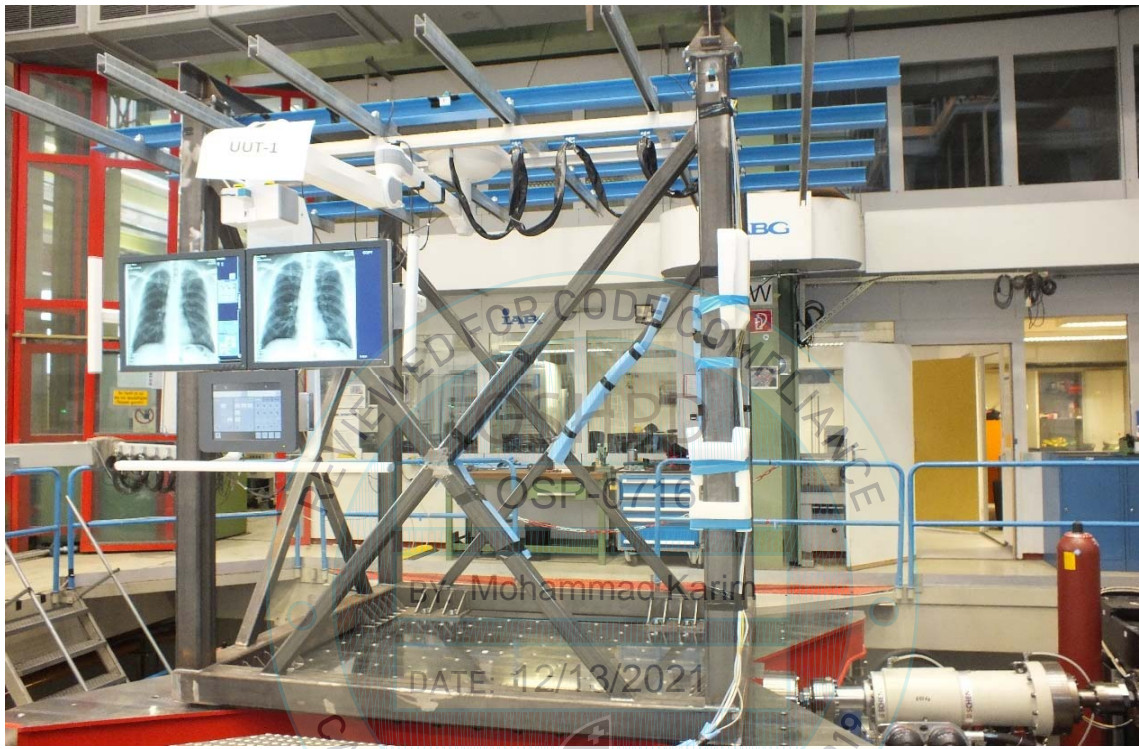
System Component	Code	S _{DS} (g)	z / h	I _P	a _P	R _P	Ω ₀	F _P / W _P
Display Ceiling Suspension	CBC 2019	2.0	1.0	1.50	1.0	1.5	2.0	2.40
		2.5	0					1.13
Display Wall Suspension	CBC 2019	2.0	1.0	1.50	1.0	1.5	2.0	2.40
		2.5	0					1.13

UUT-1

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rails and connecting parts of the Display Ceiling Suspension bolt with M10 bolts torqued at 36 ft-lb to unistrut grid spaced at 26.6" on center. The unistrut grid consisted of MURPO#150969 MPR-41/82/2.0 H-Profiles (Unistrut P1001 equivalent) anchored with 2 - M10 bolts with clamping claws (MURPO 157219) at each intersection to the ceiling fixture framing spaced at 23.6" on center.



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG - Munich, Germany
Component: DCS-2/1 with TUI - 2 Monitor	Test Date: April 2021
Model Number: 11371816	Report Number: TAB3-PB-21-057-V1
UUT Function: Ceiling suspension of monitors used for X-Ray and Fluoroscopy systems	
UUT Description: Ceiling monitor suspension system	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Depth	Width	Height	FB	SS	V
211	115.2	154.5	46.9	N/A	N/A	N/A

The ceiling suspended monitor support moves laterally, rotates, and extends up and down to accommodate different patients and procedures. The system was tested in the normal operating position with the system horizontally centered, no rotation, and the arm fully extended.

SEISMIC TEST PARAMETERS

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 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
	2.50	0.0	1.5	-	-	1.68	0.68

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-2

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rails and connecting parts of the Display Ceiling Suspension bolt with M10 bolts torqued at 36 ft-lb to unistrut grid spaced at 26.6" on center. The unistrut grid consisted of MURPO#150969 MPR-41/82/2.0 H-Profiles (Unistrut P1001 equivalent) anchored with 2 - M10 bolts with clamping claws (MURPO 157219) at each intersection to the ceiling fixture framing spaced at 23.6" on center.



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG - Munich, Germany
Component: DCS-1 w/o TUI - 1 Monitor	Test Date: April 2021
Model Number: 11371813	Report Number: TAB3-PB-21-057-V1
UUT Function: Ceiling suspension of monitors used for X-Ray and Fluoroscopy systems	
UUT Description: Ceiling monitor suspension system	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Depth	Width	Height	FB	SS	V
154	101	140.4	38.2	N/A	N/A	N/A

The ceiling suspended monitor support moves laterally, rotates, and extends up and down to accommodate different patients and procedures. The system was tested in the normal operating position with the system horizontally centered, no rotation, and the arm fully extended.

SEISMIC TEST PARAMETERS

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 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
	2.50	0.0	1.5	-	-	1.68	0.68

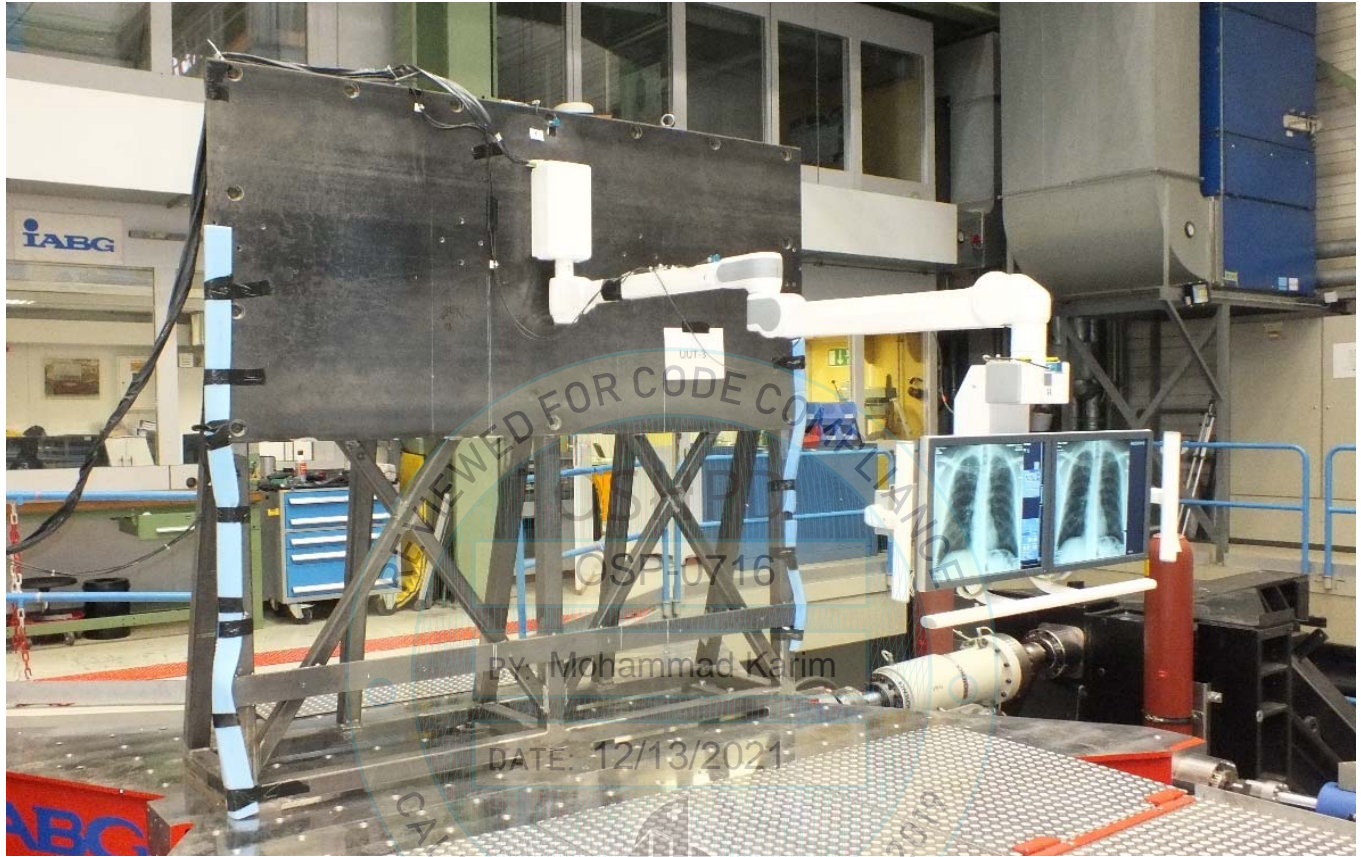
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-3

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid wall mounted with 4 - M10 grade 8 bolts and washers.



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG - Munich, Germany
Component: DWS-2 - 2 Monitor	Test Date: April 2021
Model Number: 11371818	Report Number: TAB3-PB-21-057-V1
UUT Function: Wall suspension of monitors used for X-Ray and Fluoroscopy systems	
UUT Description: Wall monitor suspension system	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Depth	Width	Height	FB	SS	V
110	63.0	105.1	43.1	N/A	N/A	N/A

The wall suspended monitor support rotates, and extends up and down to accommodate different patients and procedures. The system was tested in the normal operating position with no rotation and the arm fully extended.

SEISMIC TEST PARAMETERS

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 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
	2.50	0.0	1.5	-	-	1.68	0.68

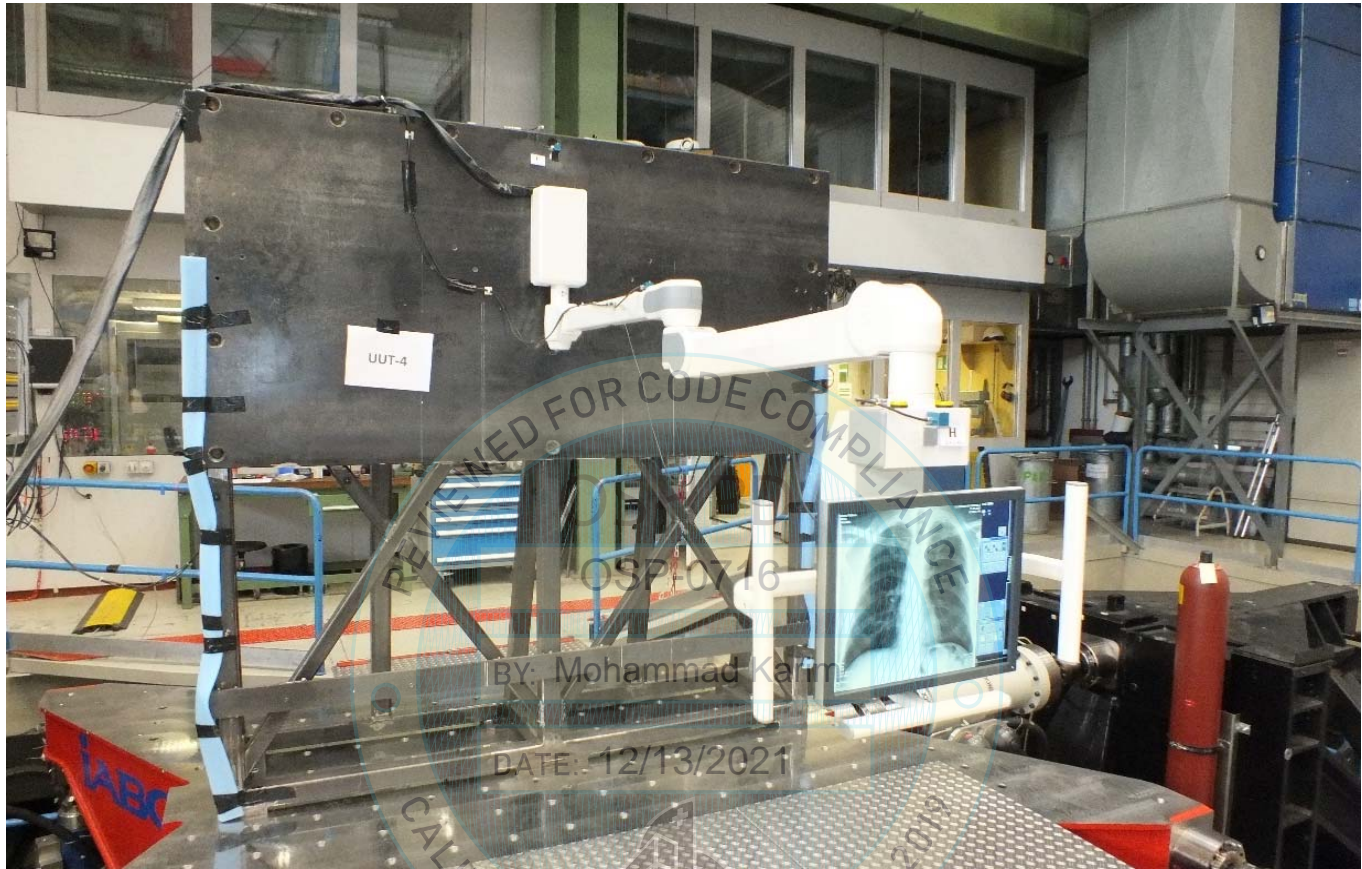
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-4

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid wall mounted with 4 - M10 grade 8 bolts and washers.



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG - Munich, Germany
Component: DWS-1 - 1 Monitor	Test Date: April 2021
Model Number: 11371817	Report Number: TAB3-PB-21-057-V1
UUT Function: Wall suspension of monitors used for X-Ray and Fluoroscopy systems	
UUT Description: Wall monitor suspension system	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Depth	Width	Height	FB	SS	V
97	52.0	90.9	35.2	N/A	N/A	N/A

The wall suspended monitor support rotates, and extends up and down to accommodate different patients and procedures. The system was tested in the normal operating position with no rotation and the arm fully extended.

SEISMIC TEST PARAMETERS

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 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
	2.50	0.0	1.5	-	-	1.68	0.68

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.