APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0763

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: ABB Inc.

Manufacturer's Technical Representative: Luke Wowk

Mailing Address: 400 S 4th St, Selmer, TN 38375

Telephone: (860) 747-7349 Email: luke.wowk@us.abb.com

Product Information

Product Name: Electrical Busways

Product Type: NA

Product Model Number: ReliaGear Busway

General Description: Copper and Aluminum busway for distribution of power in industrial, commercial, and institutional environments.

Mounting Description: Rigid or Spring Mounted, See Certified Product Tables

Tested Seismic Enhancements: None

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

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

Company Name: W.E. GUNDY & ASOCIATES 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 ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: UNIVERSITY OF BUFFALO (SEESL)

Contact Person: Yushan Fu

Mailing Address: 212 Ketter Hall, Buffalo NY 14260

Telephone: (716) 645-4377 Email: yushanfu@buffalo.edu

Seismic Parameters

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

S_{DS} (Design spectral response acceleration at short period, g) = 1.25 (Copper Busway), 2.0 (Aluminum Busway)

a_p (Amplification factor) = 1.0 (Rigid), 2.5 (Spring Mounted)

R_p (Response modification factor) = 2.5 (Rigid), 2.5 (Spring Mounted)

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 12/12/2029

Date: 12/12/2023

Name: Mohammad Karim Title: Supervisor, Health Facilities

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

Condition of Approval (if applicable):

ABB RELIAGEAR BUSWAY - ALUMINUM
CERTIFIED PRODUCT LINE MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2, 3	Spectra Identification[1, 2]	Amperage Rating	Width (in)	Height (in)	Weight (lbs/ft) (min - max)	Representative UUT
Aluminum Busway - Rigid Flat Mounted - S_{DS} = 2.0, z/h = 1.0 : F_P = 1.44g - Max Span = 10ft Horizontal						
(SBF/SBP/SBR) 0225 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)QxAAxAZACDxxxx	225A	4.38	4.50	5 - 6	Extrapolated
(SBF/SBP/SBR) 0400 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)AxAAxAZACDxxxx	400A	4.38	4.50	5 - 6	Extrapolated
(SBF/SBP/SBR) 0600 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)BxAAxAZACDxxxx	600A	4.38	4.50	5 - 8	Interpolated
SBP 0600 4H A SD ID STR 00 01 03 04 32 32	FBIAAAAZACDxxxx	600A	4.38	4.50	8	UUT-13.8, 12
(SBF/SBP/SBR) 0800 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)CxAAxAZACDxxxx	800A	5.63	4.50	6 - 8	Interpolated
(SBF/SBP/SBR) 1000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)DxAAxAZACDxxxx	1000A	6.13	4.50	7 - 9	Interpolated
SBF 1000 4H A SD ID STR 00 01 03 04 32 32	EDIAAAAZACDxxxx	1000A	6.13	4.50	9	UUT-13.2, 4, 6, 8, 10, 12
SBP 1000 4H A SD ID STR 00 01 03 04 32 32	FDIAAAAZACDxxxx	1000A	6.13	4.50	9	UUT-13.4, 6, 10
(SBF/SBP/SBR) 1200 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)ExAAxAZACDxxxx	1200A	7.00	4.50	8 - 10	Interpolated
(SBF/SBP/SBR) 1350 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)FxAAxAZACDxxxx	1350A	8.50	4.50	9 - 11	Interpolated
(SBF/SBP/SBR) 1600 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)HxAAxAZACDxxxx	1600A	9.25	4.50	10 - 13	Interpolated
(SBF/SBP/SBR) 2000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)IxAAxAZACDxxxx	2000A	11.00	4.50	12 - 16	Interpolated
(SBF/SBP/SBR) 2500 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)JxAAxAZACDxxxx	2500A	15.50	4.50	17 - 21	Interpolated
(SBF/SBP/SBR) 3000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)KxAAxAZACDxxxx	3000A	18.00	4.50	19 - 25	Interpolated
SBP 3000 4H A SD ID STR 00 01 03 04 32 32	FKIAAAAZACDxxxx	3000A	18.00	4.50	25	UUT-13.7, 11
(SBF/SBP/SBR) 3200 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)LxAAxAZACDxxxx	3200A	19.50	4.50	21 - 27	Interpolated
(SBF/SBP/SBR) 4000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)NxAAxAZACDxxxx	4000A	23.00	4.50	25 - 32	Interpolated
SBF 4000 4H A SD ID STR 00 01 03 04 32 32	ENIAAAAZACDxxxx	4000A	23.00	4.50	32	UUT-13.1, 3ab, 5, 7, 9ab, 11
SBP 4000 4H A SD ID STR 00 01 03 04 32 32	FNIAAAAZACDxxxx	4000A	23.00	4.50	32	UUT-13.3ab, 5, 9ab

General Notes:

1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component with the tested units.

2 Maximum unsupported span of 10ft for horizontal bus runs and 11' maximum vertical clear span/16' maximum spring hanger to spring hanger for vertical bus runs, see ABB seismic restraint drawings 212C1041 (sheet 28).

3 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY - ALUMINUM
CERTIFIED PRODUCT LINE MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2, 3	Spectra Identification[1, 2]	Amperage Rating	Width (in)	Height (in)	Weight (lbs/ft) (min - max)	Representative UUT
Aluminum Busway - Rigid Edge Mounted - S_{DS} = 2.0, z/h = 1.0 : F_P = 1.44g - Max Span = 10ft Horizontal						
(SBF/SBP/SBR) 0225 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)QxAAxAZACDxxxx	225A	4.38	4.50	5 - 6	Extrapolated
(SBF/SBP/SBR) 0400 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)AxAAxAZACDxxxx	400A	4.38	4.50	5 - 6	Extrapolated
(SBF/SBP/SBR) 0600 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)BxAAxAZACDxxxx	600A	4.38	4.50	5 - 8	Extrapolated
(SBF/SBP/SBR) 0800 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)CxAAxAZACDxxxx	800A	5.63	4.50	6 - 8	Extrapolated
(SBF/SBP/SBR) 1000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)DxAAxAZACDxxxx	1000A	6.13	4.50	7 - 9	Extrapolated
SBF 1000 4H A SD ID STR 00 01 03 04 32 32	EDIAAAAZACDxxxx	1000A	6.13	4.50	9	UUT-13.4, 6, 8
SBP 1000 4H A SD ID STR 00 01 03 04 32 32	FDIAAAAZACDxxxx	1000A	6.13	4.50	9	UUT-13.4, 12
(SBF/SBP/SBR) 1200 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)ExAAxAZACDxxxx	1200A	7.00	4.50	8 - 10	Interpolated
(SBF/SBP/SBR) 1350 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)FxAAxAZACDxxxx	1350A	8.50	4.50	9 - 11	Interpolated
(SBF/SBP/SBR) 1600 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)HxAAxAZACDxxxx	1600A	9.25	4.50	10 - 13	Interpolated
(SBF/SBP/SBR) 2000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)IxAAxAZACDxxxx	2000A	11.00	4.50	12 - 16	Interpolated
(SBF/SBP/SBR) 2500 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)JxAAxAZACDxxxx	2500A	15.50	4.50	17 - 21	Interpolated
(SBF/SBP/SBR) 3000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)KxAAxAZACDxxxx	3000A	18.00	4.50	19 - 25	Interpolated
(SBF/SBP/SBR) 3200 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)LxAAxAZACDxxxx	3200A	19.50	4.50	21 - 27	Interpolated
(SBF/SBP/SBR) 4000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)NxAAxAZACDxxxx	4000A	23.00	4.50	25 - 32	Interpolated
SBF 4000 4H A SD ID STR 00 01 03 04 32 32	ENIAAAAZACDxxxx	4000A	23.00	4.50	32	UUT-13.3ab, 5, 7, 11

General Notes:

1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component with the tested units.

2 Maximum unsupported span of 10ft for horizontal bus runs and 11' maximum vertical clear span/16' maximum spring hanger to spring hanger for vertical bus runs, see ABB seismic restraint drawings 212C1041 (sheet 28).

3 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY - ALUMINUM
CERTIFIED PRODUCT LINE MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2, 3	Spectra Identification[1, 2]	Amperage Rating	Width (in)	Height (in)	Weight (lbs/ft) (min - max)	Representative UUT
Aluminum Busway - Spring Vertically Mounted - S_{DS} = 2.0, z/h = 1.0 : F_P = 3.6g - Max Span = 11ft Lateral / 16 Vertical						
(SBF/SBP/SBR) 0225 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)QxAAxAZACDxxxx	225A	4.38	4.50	5 - 6	Extrapolated
(SBF/SBP/SBR) 0400 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)AxAAxAZACDxxxx	400A	4.38	4.50	5 - 6	Extrapolated
(SBF/SBP/SBR) 0600 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)BxAAxAZACDxxxx	600A	4.38	4.50	5 - 8	Extrapolated
(SBF/SBP/SBR) 0800 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)CxAAxAZACDxxxx	800A	5.63	4.50	6 - 8	Extrapolated
(SBF/SBP/SBR) 1000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)DxAAxAZACDxxxx	1000A	6.13	4.50	7 - 9	Extrapolated
SBF 1000 4H A SD ID STR 00 01 03 04 32 32	EDIAAAAZACDxxxx	1000A	6.13	4.50	9	UUT-13.2, 10
SBP 1000 4H A SD ID STR 00 01 03 04 32 32	FDIAAAAZACDxxxx	1000A	6.13	4.50	9	UUT-13.2
(SBF/SBP/SBR) 1200 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)ExAAxAZACDxxxx	1200A	7.00	4.50	8 - 10	Interpolated
(SBF/SBP/SBR) 1350 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)FxAAxAZACDxxxx	1350A	8.50	4.50	9 - 11	Interpolated
(SBF/SBP/SBR) 1600 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)HxAAxAZACDxxxx	1600A	9.25	4.50	10 - 13	Interpolated
(SBF/SBP/SBR) 2000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)IxAAxAZACDxxxx	2000A	11.00	4.50	12 - 16	Interpolated
(SBF/SBP/SBR) 2500 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)JxAAxAZACDxxxx	2500A	15.50	4.50	17 - 21	Interpolated
(SBF/SBP/SBR) 3000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)KxAAxAZACDxxxx	3000A	18.00	4.50	19 - 25	Interpolated
(SBF/SBP/SBR) 3200 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)LxAAxAZACDxxxx	3200A	19.50	4.50	21 - 27	Interpolated
(SBF/SBP/SBR) 4000 xx A SD xx STR 00 01 03 04 xx xx	(E/F/G)NxAAxAZACDxxxx	4000A	23.00	4.50	25 - 32	Interpolated
SBF 4000 4H A SD ID STR 00 01 03 04 32 32	ENIAAAAZACDxxxx	4000A	23.00	4.50	32	UUT-13.1, 9
SBP 4000 4H A SD ID STR 00 01 03 04 32 32	FNIAAAAZACDxxxx	4000A	23.00	4.50	32	UUT-13.1

General Notes:

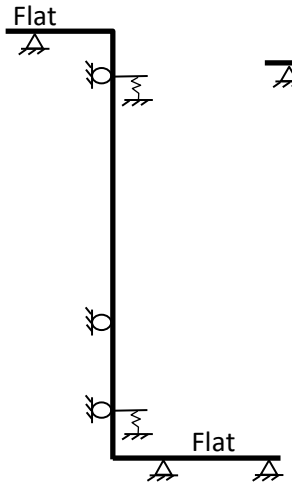
1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component with the tested units.

2 Maximum unsupported span of 10ft for horizontal bus runs and 11' maximum vertical clear span/16' maximum spring hanger to spring hanger for vertical bus runs, see ABB seismic restraint drawings 212C1041 (sheet 28).

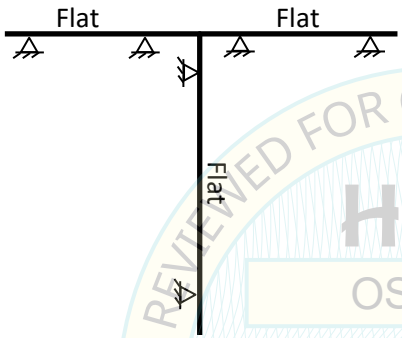
3 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY - ALUMINUM
CERTIFIED PRODUCT LINE MATRIX

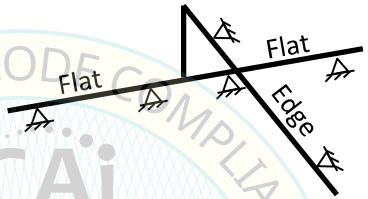
General Notes: The bus was tested in the following vertical and horizonal runs as is representative of a typical installation configuration. The tested bus was supported using a ceiling suspsention restraint as is detailed in the ABB sesimic restraint drawings 212C1041 (sheet 28).



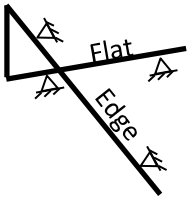
Configuration 1: Vertical
UUT-13.1 / UUT-13.2 /
UUT-13.9ab / UUT-13.10



Configuration 2: Horizontal
UUT-13.3ab / UUT-13.4



Configuration 3: Horizontal
UUT-13.5 / UUT-13.6



Configuration 4: Horizontal
UUT-13.7 / UUT-13.8 /
UUT-11 / UUT-12

Vertical Spring Restraint

Horizontal Restraint

Horizontal / Vertical Restraint

ABB RELIAGEAR BUSWAY - COPPER
CERTIFIED PRODUCT LINE MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2, 3	Spectra Identification[1, 2]	Amperage Rating	Width (in)	Height (in)	Weight (lbs/ft) (min - max)	Representative UUT
Copper Busway - Rigid Flat Mounted - S_{DS} = 1.25, z/h = 1.0 : F_P = 0.90g - Max Span = 10ft Horizontal						
(SBF/SBP/SBR) 0225 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)QxBAxAZACDxxxx	225A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 0400 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)AxBAxAZACDxxxx	400A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 0600 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)BxBAxAZACDxxxx	600A	4.38	4.50	8 - 10	Interpolated
SBP 0600 4H B SD ID STR 00 01 03 04 32 32	FBIBAAAZACDxxxx	600A	4.38	4.50	10	UUT-29.8, 12
(SBF/SBP/SBR) 0800 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)CxBAxAZACDxxxx	800A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 1000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)DxBAxAZACDxxxx	1000A	5.00	4.50	10 - 12	Extrapolated
SBF 1000 4H B SD ID STR 00 01 03 04 32 32	EDIBAAAZACDxxxx	1000A	5.00	4.50	12	UUT-29.2, 4ab, 6, 8, 10ab, 12
SBP 1000 4H B SD ID STR 00 01 03 04 32 32	FDIBAAAZACDxxxx	1000A	5.00	4.50	12	UUT-29.4ab, 6, 10b
(SBF/SBP/SBR) 1200 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)ExBAxAZACDxxxx	1200A	5.63	4.50	12 - 16	Interpolated
(SBF/SBP/SBR) 1350 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)FxBAxAZACDxxxx	1350A	6.13	4.50	14 - 19	Interpolated
(SBF/SBP/SBR) 1600 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)HxBAxAZACDxxxx	1600A	7.00	4.50	16 - 22	Interpolated
(SBF/SBP/SBR) 2000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)IxBAxAZACDxxxx	2000A	8.50	4.50	21 - 29	Interpolated
(SBF/SBP/SBR) 2500 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)JxBAxAZACDxxxx	2500A	10.25	4.50	26 - 37	Interpolated
(SBF/SBP/SBR) 3000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)KxBAxAZACDxxxx	3000A	14.50	4.50	32 - 44	Interpolated
SBP 3000 4H B SD ID STR 00 01 03 04 32 32	EKIBAAAZACDxxxx	3000A	14.50	4.50	32 - 44	UUT-29.7, 11
(SBF/SBP/SBR) 3200 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)LxBAxAZACDxxxx	3200A	15.50	4.50	34 - 47	Interpolated
(SBF/SBP/SBR) 4000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)NxBAxAZACDxxxx	4000A	18.00	4.50	42 - 58	Interpolated
(SBF/SBP/SBR) 5000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)PxBAxAZACDxxxx	5000A	21.50	4.50	52 - 73	Interpolated
SBF 5000 4H B SD ID STR 00 01 03 04 32 32	EPIBAAAZACDxxxx	5000A	21.50	4.50	73	UUT-29.1, 3, 5, 7, 9, 11
SBP 5000 4H B SD ID STR 00 01 03 04 32 32	FPIBAAAZACDxxxx	5000A	21.50	4.50	73	UUT-29.3, 5, 9

General Notes:

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2 Maximum unsupported span of 10ft for horizontal bus runs and 11' maximum vertical clear span/16' maximum spring hanger to spring hanger for vertical bus runs, see ABB seismic restraint drawings 212C1041 (sheet 28).

3 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY - COPPER
CERTIFIED PRODUCT LINE MATRIX

WEGAI
W.E. Gundy & Associates, Inc.
Structural & Earthquake Engineering

ReliaGear Identification1, 2, 3	Spectra Identification[1, 2]	Amperage Rating	Width (in)	Height (in)	Weight (lbs/ft) (min - max)	Representative UUT
Copper Busway - Rigid Edge Mounted - S_{DS} = 1.25, z/h = 1.0 : F_P = 0.90g - Max Span = 10ft Horizontal						
(SBF/SBP/SBR) 0225 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)QxBAxAZACDxxxx	225A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 0400 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)AxBAxAZACDxxxx	400A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 0600 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)BxBAxAZACDxxxx	600A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 0800 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)CxBAxAZACDxxxx	800A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 1000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)DxBAxAZACDxxxx	1000A	5.00	4.50	10 - 12	Extrapolated
SBF 1000 4H B SD ID STR 00 01 03 04 32 32	EDIBAAAZACDxxxx	1000A	5.00	4.50	12	UUT-29.6, 8, 12
(SBF/SBP/SBR) 1200 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)ExBAxAZACDxxxx	1200A	5.63	4.50	12 - 16	Interpolated
(SBF/SBP/SBR) 1350 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)FxBAxAZACDxxxx	1350A	6.13	4.50	14 - 19	Interpolated
(SBF/SBP/SBR) 1600 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)HxBAxAZACDxxxx	1600A	7.00	4.50	16 - 22	Interpolated
(SBF/SBP/SBR) 2000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)IxBAxAZACDxxxx	2000A	8.50	4.50	21 - 29	Interpolated
(SBF/SBP/SBR) 2500 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)JxBAxAZACDxxxx	2500A	10.25	4.50	26 - 37	Interpolated
(SBF/SBP/SBR) 3000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)KxBAxAZACDxxxx	3000A	14.50	4.50	32 - 44	Interpolated
(SBF/SBP/SBR) 3200 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)LxBAxAZACDxxxx	3200A	15.50	4.50	34 - 47	Interpolated
(SBF/SBP/SBR) 4000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)NxBAxAZACDxxxx	4000A	18.00	4.50	42 - 58	Interpolated
(SBF/SBP/SBR) 5000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)PxBAxAZACDxxxx	5000A	21.50	4.50	52 - 73	Interpolated
SBF 5000 4H B SD ID STR 00 01 03 04 32 32	EPIBAAAZACDxxxx	5000A	21.50	4.50	73	UUT-29.3, 5, 7, 11

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1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component with the tested units.
2 Maximum unsupported span of 10ft for horizontal bus runs and 11' maximum vertical clear span/16' maximum spring hanger to spring hanger for vertical bus runs, see ABB seismic restraint drawings 212C1041 (sheet 28).
3 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY - COPPER
CERTIFIED PRODUCT LINE MATRIX

ReliaGear Identification1, 2, 3	Spectra Identification[1, 2]	Amperage Rating	Width (in)	Height (in)	Weight (lbs/ft) (min - max)	Representative UUT
Copper Busway - Spring Vertical Mounted - S_{DS} = 1.25, z/h = 1.0 : F_P = 2.25g - Max Span = 11ft Lateral / 16 Vertical						
(SBF/SBP/SBR) 0225 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)QxBAxAZACDxxxx	225A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 0400 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)AxBAxAZACDxxxx	400A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 0600 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)BxBAxAZACDxxxx	600A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 0800 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)CxBAxAZACDxxxx	800A	4.38	4.50	8 - 10	Extrapolated
(SBF/SBP/SBR) 1000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)DxBAxAZACDxxxx	1000A	5.00	4.50	10 - 12	Extrapolated
SBF 1000 4H B SD ID STR 00 01 03 04 32 32	EDIBAAAZACDxxxx	1000A	5.00	4.50	12	UUT-29.2, 10ab
SBP 1000 4H B SD ID STR 00 01 03 04 32 32	FDIBAAAZACDxxxx	1000A	5.00	4.50	12	UUT-29.2
(SBF/SBP/SBR) 1200 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)ExBAxAZACDxxxx	1200A	5.63	4.50	12 - 16	Interpolated
(SBF/SBP/SBR) 1350 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)FxBAxAZACDxxxx	1350A	6.13	4.50	14 - 19	Interpolated
(SBF/SBP/SBR) 1600 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)HxBAxAZACDxxxx	1600A	7.00	4.50	16 - 22	Interpolated
(SBF/SBP/SBR) 2000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)IxBAxAZACDxxxx	2000A	8.50	4.50	21 - 29	Interpolated
(SBF/SBP/SBR) 2500 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)JxBAxAZACDxxxx	2500A	10.25	4.50	26 - 37	Interpolated
(SBF/SBP/SBR) 3000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)KxBAxAZACDxxxx	3000A	14.50	4.50	32 - 44	Interpolated
(SBF/SBP/SBR) 3200 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)LxBAxAZACDxxxx	3200A	15.50	4.50	34 - 47	Interpolated
(SBF/SBP/SBR) 4000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)NxBAxAZACDxxxx	4000A	18.00	4.50	42 - 58	Interpolated
(SBF/SBP/SBR) 5000 xx B SD xx STR 00 01 03 04 xx xx	(E/F/G)PxBAxAZACDxxxx	5000A	21.50	4.50	52 - 73	Interpolated
SBF 5000 4H B SD ID STR 00 01 03 04 32 32	EPIBAAAZACDxxxx	5000A	21.50	4.50	73	UUT-29.1, 9
SBP 5000 4H B SD ID STR 00 01 03 04 32 32	FPIBAAAZACDxxxx	5000A	21.50	4.50	73	UUT-29.1

General Notes:

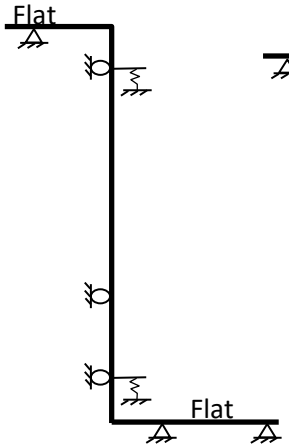
1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component with the tested units.

2 Maximum unsupported span of 10ft for horizontal bus runs and 11' maximum vertical clear span/16' maximum spring hanger to spring hanger for vertical bus runs, see ABB seismic restraint drawings 212C1041 (sheet 28).

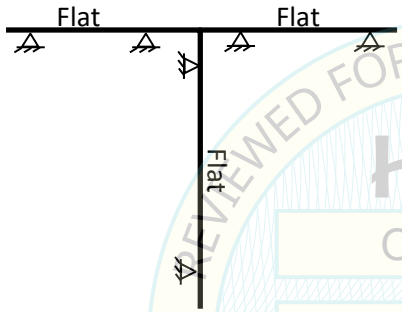
3 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY - COPPER
CERTIFIED PRODUCT LINE MATRIX

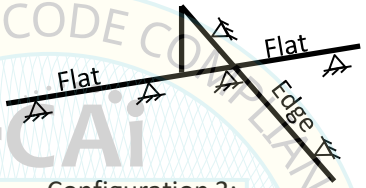
General Notes: The bus was tested in the following vertical and horizonal runs as is representative of a typical installation configuration. The tested bus was supported using a ceiling suspsention restraint as is detailed in the ABB sesimic restraint drawings 212C1041 (sheet 28).



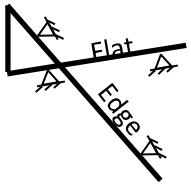
Configuration 1: Vertical
UUT-29.1 / UUT-29.2 /
UUT-29.9 / UUT-29.10ab



Configuration 2:
Horizontal
UUT-29.3 / UUT-29.4ab



Configuration 3:
Horizontal
UUT-29.5 / UUT-29.6



Configuration 4:
Horizontal
UUT-29.7 / UUT-29.8 /
UUT-29 / UUT-29

Vertical Spring Restraint

Horizontal Restraint

Horizontal / Vertical Restraint

ABB RELIAGEAR BUSWAY
CERTIFIED COPPER SUBCOMPONNENT MATRIX

ReliaGear Identification1, 2	Spectra Identification[1]	Manufacturer	Description	Auxilary Bracing	Weight (lbs)	Representative UUT
Joint Elbows Stacks - S_{DS} = 1.25, z/h = 1.0						
SBF 1000 4H C SD ID JTE 00 04 03 03 32 32	212C1194G733	ABB	Flatwise (Left/Right) Joint Elbow	NA	20	UUT-29.6
SBF xxxx 4H C SD xx JTE 00 (04-05) 03 03 xx xx	212C1194(G701-G1071)	ABB	Flatwise (Left/Right) Joint Elbow		20-174	Interpolated
SBF 5000 4H C SD ID JTE 00 04 03 03 32 32	212C1194G1031	ABB	Flatwise (Left/Right) Joint Elbow		174	UUT-29.5
SBF 1000 4H C SD ID JTE 00 02 03 03 32 32	212C1190G853	ABB	Edgewise (Up/Down) Joint Elbow	NA	21	UUT-29.12
SBF xxxx 4H C SD xx JTE 00 (02-03) 03 03 xx xx	212C1190(G701-G1079)	ABB	Edgewise (Up/Down) Joint Elbow		20-93	Interpolated
SBF 5000 4H C SD ID JTE 00 02 03 03 32 32	212C1190G1047	ABB	Edgewise (Up/Down) Joint Elbow		93	UUT-29.11
Elbows / Tees / Offsets / Combinations - S_{DS} = 1.25, z/h = 1.0						
SBF 1000 4H C SD ID ELB 00 05 03 04 37 37	EDIBAABxECDxxxx	ABB	Flatwise (Left/Right) Elbow	NA	76 / 37	UUT-29.6 / 12
SBF xxxx xx C SD xx ELB 00 (04-05) 03 04 xx xx	ExxBAxBx(D/E)CDxxxx	ABB	Flatwise (Left/Right) Elbow		37-343	Interpolated
SBF 5000 4H C SD ID ELB 00 05 03 04 37 37	EPIBAABxECDxxxx	ABB	Flatwise (Left/Right) Elbow		290 / 343	UUT-29.5 / 11
SBF 1000 4H C SD ID ELB 00 03 03 04 37 37	EDIBAABxCCDxxxx	ABB	Edgewise (Up/Down) Elbow	NA	66 / 40	UUT-29.2 / 10ab
SBF xxxx xx C SD xx ELB 00 (02-03) 03 04 xx xx	ExxBxxBx(B/C)CDxxxx	ABB	Edgewise (Up/Down) Elbow		40-360	Interpolated
SBF 5000 4H C SD ID ELB 00 03 03 04 37 37	EPIBAABxCCDxxxx	ABB	Edgewise (Up/Down) Elbow		360 / 234	UUT-29.1 / 9
SBF 1000 4H C SD ID TEE 00 04 03 04 37 37	EDIBAAFxDCDDxxx	ABB	Flatwise Tee	NA	45	UUT-29.4
SBF xxxx xx C SD xx TEE 00 (04-05) 03 04 xx xx	ExxBAxFx(D/E)CDDxxx	ABB	Flatwise Tee		45-375	Interpolated
SBF 5000 4H C SD ID TEE 00 04 03 04 37 37	EPIBAAFxDCDDxxx	ABB	Flatwise Tee		375	UUT-29.3
SBF 1000 4H C SD ID TEE 00 02 03 04 37 37	EDIBAAFxBCDDxxx	ABB	Edgewise Tee	NA	115	UUT-29.6
SBF xxxx xx C SD xx TEE 00 (02-03) 03 04 xx xx	ExxBAxFx(B/C)CDDxxx	ABB	Edgewise Tee		115-683	Interpolated
SBF 5000 4H C SD ID TEE 00 02 03 04 37 37	EPIBAAFxBCDDxxx	ABB	Edgewise Tee		683	UUT-29.5
SBF xxxx xx C SD xx OFF 00 (04-05) 03 04 xx xx	ExxBAxDx(D/E)CDDxxx	ABB	Flatwise Offset (Left/Right)	NA	25-346	Interpolated
SBF xxxx xx C SD xx OFF 00 (02-03) 03 04 xx xx	ExxBAxDx(B/C)CDDxxx	ABB	Edgewise Offset (Up/Down)		25-346	Interpolated
SBF 1000 4H C SD ID OFF 00 11 03 04 37 37	EDIBAABxKCxDxxx	ABB	Combination Offset	NA	52	UUT-29.8
SBF xxxx xx C SD xx OFF 00 (06-13) 03 04 xx xx	ExxBAxBx(F-M)CxDxxx	ABB	Combination Offset		52-401	Interpolated
SBF 5000 4H C SD ID OFF 00 10 03 04 37 37	EPIBAABxKCxDxxx	ABB	Combination Offset		401	UUT-29.7

General Notes:

1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

2 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY
CERTIFIED COPPER SUBCOMPONNENT MATRIX

ReliaGear Identification1, 2	Spectra Identification[1]	Manufacturer	Description	Auxilary Bracing	Weight (lbs)	Representative UUT
Reducers, Phase Transposition, Expansion Fittings - S_{DS} = 1.25, z/h = 1.0						
SBF 1000 4H C SD ID TRN 40 01 03 04 32 32	EDIBAAGBACDxxxx	ABB	Phase Transposition 36" long	NA	51	UUT-29.8 / 10
SBF xxx xx C SD xx TRN (39-51) 01 03 04 xx xx	ExxBAxG(A-M)ACDxxxx	ABB	Phase Transposition 36"-42" long		51-323	Interpolated
SBF 5000 4H C SD ID TRN 40 01 03 04 32 32	EPIBAAGBACDxxxx	ABB	Phase Transposition 42" long		323	UUT-29.7 / 9
SBF 1000 4H C SD ID RED 17 01 03 04 32 32	EDIBAAEBACDxxxx	ABB	No Fuse Reducer 1000A-600A	NA	43	UUT-29.8 / 12
SBF xxxx 4H C SD xx RED (14-35) 01 03 04 xx xx	ExxBAxE(A-Q)ACDxxxx	ABB	No Fuse Reducer		43-213	Interpolated
SBF 5000 4H C SD ID RED 28 01 03 04 32 32	EPIBAAEYACDxxxx	ABB	No Fuse Reducer 5000A-3000A		213	UUT-29.7 / 11
SBF 1000 4H C SD ID EXP 09 01 03 04 32 32	EDIBAACGACDxxxx	ABB	Expansion Box	Required	190	UUT-29.2
SBF xxxx xx A SD ID EXP (03-13) 01 03 04 xx xx	ExxBAxCxACDxxxx	ABB	Expansion Box		190-707	Interpolated
SBF 5000 4H C SD ID EXP 09 01 03 04 32 32	EPIBAACGACDxxxx	ABB	Expansion Box		707	UUT-29.1
Meter Modules - S_{DS} = 1.25, z/h = 1.0						
RG4MN2RE060BT28IU	RG4MN20060BT28Ix	ABB	MeterMod 1200A XT5 250-600A	NA	430	UUT-29.10
RG4 (MM/MN/RA/RM) 2 xx xxx (B/L/R) (T/U) (28-82) (I/S) (N/Y)	RG4Mx20xxxx (T/U)xx(I/S)x	ABB	MeterMod XT5 250-600A		430-630	Interpolated
RG4 (MM/MN/RA/RM) 2 xx xxx (B/L/R) (T/U) (28-82) (I/S) (N/Y)	RG4Mx20xxxx (T/U)xx(I/S)x	ABB	MeterMod XT7 600-1200A		430-630	Interpolated
RG4MN2RQ120BU75IU	RG4MN20120BU75Ix	ABB	MeterMod 5000A XT7 600-1200A		630	UUT-29.9

General Notes:

1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

2 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY
CERTIFIED COPPER SUBCOMPONNENT MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2	Spectra Identification[1]	Manufacturer	Description	Auxilary Bracing	Weight (lbs)	Representative UUT
Center and End Cable Tap Boxes - S_{DS} = 1.25, z/h = 1.0						
SBF 1000 4H C SD ID BOX 78 21 32 32 37 37	EDIBAAQxUxxxxxx	ABB	End Cable Tap Box/ Transformer	Required	133	UUT-29.4
SBF 1000 4H C SD ID BOX 77 19 32 32 37 37	EDIBAAQxSxxxxxx	ABB	End Cable Tap Box/ Transformer		145	UUT-29.6
SBF xxxx 4H C SD xx BOX (77-88) (18-27) (27-36) (27-36)	ExxBAxQx(S/U)xxxxxx	ABB	End Cable Tap Box/ Transformer		133-435	Interpolated
SBF 5000 4H C SD ID BOX 77 19 32 32 37 37	EPIBAAQxSxxxxxx	ABB	End Cable Tap Box/ Transformer		415	UUT-29.5
SBF 5000 4H C SD ID BOX 78 21 32 32 37 37	EPIBAAQxUxxxxxx	ABB	End Cable Tap Box/ Transformer		435	UUT-29.3
SBF 1000 4H C SD ID BOX 79 24 31 31 37 37	EDIBAAQxxxxxxxx	ABB	Center Cable Tap Box	Required	170	UUT-29.4
SBF xxxx 4H C SD xx BOX (79-80) (24-27) (27-36) (27-36) 37 37	ExxBAxQxxxxxxxx	ABB	Center Cable Tap Box		170-915	Interpolated
SBF 5000 4H C SD ID BOX 79 24 31 31 37 37	EPIBAAQx2xxxxxx	ABB	CenterCable Tap Box		915	UUT-29.3
Flange End Stub - S_{DS} = 1.25, z/h = 1.0						
SBF 1000 4H C SD ID JTS 71 01 04 24 32 32	EDIBAAVGADIxxxx	ABB	Flanged End Stub	NA	45	UUT-29.2
SBF xxxx x C SD x JTS (52-76) 01 04 (24/25) xx xx	ExxBAxV(G/H)AD(I/J)xxxx	ABB	Flanged End Stub		45-117	Interpolated
SBF 5000 4H C SD ID JTS 71 01 04 24 32 32	EPIBAAMGADIxxxx	ABB	Flanged End Stub		117	UUT-29.1

General Notes:

1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

2 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY
CERTIFIED ALUMINUM SUBCOMPONNENT MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2	Spectra Identification[1]	Manufacturer	Description	Auxilary Bracing	Weight (lbs)	Representative UUT
Joint Elbows Stacks - S_{DS} = 2.0, z/h = 1.0						
SBF 1000 4H A SD ID JTE 00 04 03 03 32 32	212C1194G795JG	ABB	Flatwise (Left/Right) Joint Elbow	NA	18	UUT-13.6
SBF xxxx 4H A SD xx JTE 00 (04-05) 03 03 xx xx	212C1194(G701-G1071)	ABB	Flatwise (Left/Right) Joint Elbow		18-89	Interpolated
SBF 4000 4H A SD ID JTE 00 04 03 03 32 32	212C1194G805	ABB	Flatwise (Left/Right) Joint Elbow		89	UUT-13.5
SBF 1000 4H A SD ID JTE 00 02 03 03 32 32	212C1190G915	ABB	Edgewise (Up/Down) Joint Elbow	NA	14	UUT-13.12
SBF xxxx 4H A SD xx JTE 00 (02-03) 03 03 xx xx	212C1190(G701-G1079)	ABB	Edgewise (Up/Down) Joint Elbow		14-62	Interpolated
SBF 4000 4H A SD ID JTE 00 02 03 03 32 32	212C1190G925	ABB	Edgewise (Up/Down) Joint Elbow		62	UUT-13.11
Elbows, Tee, Offset, Combination Fittings - S_{DS} = 2.0, z/h = 1.0						
SBF 1000 4H A SD ID ELB 00 05 03 04 37 37	EDIAAABxECDxxxx	ABB	Flatwise (Left/Right) Elbow	NA	19 / 22	UUT-13.6 / 12
SBF xxxx xx A SD xx ELB 00 (04-05) 03 04 xx xx	ExxAAxBx(D/E)CDxxxx	ABB	Flatwise (Left/Right) Elbow		19-178	Interpolated
SBF 4000 4H A SD ID ELB 00 05 03 04 37 37	ENIAAABxECDxxxx	ABB	Flatwise (Left/Right) Elbow		125 / 178	UUT-13.5 / 11
SBF 1000 4H A SD ID ELB 00 03 03 04 37 37	EDIAAABxCCDxxxx	ABB	Edgewise (Up/Down) Elbow	NA	36 / 31	UUT-13.2 / 10
SBF xxxx xx A SD xx ELB 00 (02-03) 03 04 xx xx	ExxAxxBx(B/C)CDxxxx	ABB	Edgewise (Up/Down) Elbow		31-155	Interpolated
SBF 4000 4H A SD ID ELB 00 03 03 04 37 37	ENIAAABxCCDxxxx	ABB	Edgewise (Up/Down) Elbow		155 / 92	UUT-13.1 / 9ab
SBF 1000 4H A SD ID TEE 00 04 03 04 37 37	EDIAAAFxDCDDxxx	ABB	Flatwise Tee	NA	33	UUT-13.4
SBF xxxx xx A SD xx TEE 00 (04-05) 03 04 xx xx	ExxAAxFx(D/E)CDDxxx	ABB	Flatwise Tee		33-190	Interpolated
SBF 4000 4H A SD ID TEE 00 04 03 04 37 37	ENIAAAFxDCDDxxx	ABB	Flatwise Tee		190	UUT-13.3
SBF 1000 4H A SD ID TEE 00 02 03 04 37 37	EDIAAAFxBCDDxxx	ABB	Edgewise Tee	NA	84	UUT-13.6
SBF xxxx xx A SD xx TEE 00 (02-03) 03 04 xx xx	ExxAAxFx(B/C)CDDxxx	ABB	Edgewise Tee		84-325	Interpolated
SBF 4000 4H C SD ID TEE 00 02 03 04 37 37	ENIAAAFxBCDDxxx	ABB	Edgewise Tee		327	UUT-13.5
SBF xxxx xx A SD xx OFF 00 (04-05) 03 04 xx xx	ExxBAxDx(D/E)CDDxxx	ABB	Flatwise Offset (Left/Right)	NA	28-182	Interpolated
SBF xxxx xx A SD xx OFF 00 (02-03) 03 04 xx xx	ExxBAxDx(B/C)CDDxxx	ABB	Edgewise Offset (Up/Down)		28-182	Interpolated
SBF 1000 4H A SD ID OFF 00 11 03 04 37 37	EDIAAABxKCxDxxx	ABB	Combination Offset	NA	28	UUT-13.8
SBF xxxx xx A SD xx OFF 00 (06-13) 03 04 xx xx	ExxAAxBx(F-M)CxDxxx	ABB	Combination Offset		28-182	Interpolated
SBF 4000 4H A SD ID OFF 00 10 03 04 37 37	ENIAAABxKCxDxxx	ABB	Combination Offset		182	UUT-13.7

General Notes:

1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

2 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY
CERTIFIED ALUMINUM SUBCOMPONNENT MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2	Spectra Identification[1]	Manufacturer	Description	Auxilary Bracing	Weight (lbs)	Representative UUT
Reducers, Phase Transposition, Expansion Fittings - S_{DS} = 2.0, z/h = 1.0						
SBF 1000 4H A SD ID TRN 40 03 04 32 32	EDIAAAGBACDxxxx	ABB	Phase Transposition 36" long	NA	34	UUT-13.8 / 10
SBF xxx xx A SD xx TRN (39-51) 03 04 xx xx	ExxAAxG(A-M)ACDxxxx	ABB	Phase Transposition 36"-42" long		34-159	Interpolated
SBF 4000 4H A SD ID TRN 40 03 04 32 32	ENIAAAGBACDxxxx	ABB	Phase Transposition 42" long		159	UUT-13.7
SBF 1000 4H A SD ID RED 17 01 03 04 32 32	EDIAAAEBACDxxxx	ABB	No Fuse Reducer 1000A-600A	NA	27	UUT-13.8 / 12
SBF xxxx 4H A SD xx RED (14-35) 01 03 04 xx xx	ExxBAxE(A-Q)ACDxxxx	ABB	No Fuse Reducer		27-92	Interpolated
SBF 4000 4H A SD ID RED 28 01 03 04 32 32	ENIAAAEYACDxxxx	ABB	No Fuse Reducer 4000A-3000A		92	UUT-13.7 / 11
SBF 1000 4H A SD ID EXP 09 01 03 04 32 32	EDIAAACGACDxxxx	ABB	Expansion Box	Required	178	UUT-13.2
SBF xxxx xx A SD ID EXP (03-13) 01 03 04 xx xx	ExxAAxCxACDxxxx	ABB	Expansion Box		178-527	Interpolated
SBF 4000 4H A SD ID EXP 09 01 03 04 32 32	ENIAAACGACDxxxx	ABB	Expansion Box		527	UUT-13.1
Meter Modules - S_{DS} = 2.0, z/h = 1.0						
RG4MN2RE060BV42IU	RG4MN20060BV42Ix	ABB	MeterMod 1200A XT5 250-600A	NA	257	UUT-13.10a
MM/MN/RA/RM) 2 xx xxx (B/L/R) (V/W) (28-82) (I/S	RG4Mx20xxxx(V/W)xx(I/S)	ABB	MeterMod 1200A XT5 250-600A		257-434	Interpolated
MM/MN/RA/RM) 2 xx xxx (B/L/R) (V/W) (28-82) (I/S	RG4Mx20xxxx(V/W)xx(I/S)	ABB	MeterMod 5000A XT7 600-1200A		257-434	Interpolated
RG4MN2RQ120BW82IU	RG4MN20120BW82Ix	ABB	MeterMod 5000A XT7 600-1200A		434	UUT-13.9a

General Notes:

1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

2 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY
CERTIFIED ALUMINUM SUBCOMPONNENT MATRIX

ReliaGear Identification1, 2	Spectra Identification[1]	Manufacturer	Description	Auxilary Bracing	Weight (lbs)	Representative UUT
Center and End Cable Tap Boxes - S_{DS} = 2.0, z/h = 1.0						
SBF 1000 4H A SD ID BOX 78 21 32 32 37 37	EDIAAAQxUxxxxxx	ABB	End Cable/Transformer Tap Box	Required	121	UUT-13.4
SBF 1000 4H A SD ID BOX 77 19 32 32 37 37	EDIAAAQxSxxxxxx	ABB	End Cable/Transformer Tap Box		127	UUT-13.6
SBF xxxx 4H A SD xx BOX (77-88) (18-27) (27-36) (27-36)	ExxAAxQxxxxxxxx	ABB	End Cable/Transformer Tap Box		121-273	Interpolated
SBF 4000 4H A SD ID BOX 77 19 32 32 37 37	ENIAAAQxSxxxxxx	ABB	End Cable/Transformer Tap Box		273	UUT-13.5
SBF 4000 4H A SD ID BOX 78 21 32 32 37 37	ENIAAAQxUxxxxxx	ABB	End Cable/Transformer Tap Box		265	UUT-13.3
SBF 1000 4H A SD ID BOX 79 24 31 31 37 37	EDIAAAQxxxxxxxx	ABB	Center Cable/Transformer Tap Box	Required	152	UUT-13.4
SBF xxxx 4H A SD xx BOX (79-80) (24-27) (27-36) (27-36) 37 37	ExxAAxQxxxxxxxx	ABB	Center Cable/Transformer Tap Box		134-676	Interpolated
SBF 4000 4H A SD ID BOX 79 24 31 31 37 37	ENIAAAQx2xxxxxx	ABB	Center Cable/Transformer Tap Box		615	UUT-13.3
Flange End Stub - S_{DS} = 2.0, z/h = 1.0						
SBF 1000 4H A SD ID JTS 71 01 04 24 32 32	EDIAAAVGADIxxxx	ABB	Flanged End Stub	NA	17	UUT-13.2
SBF xxxx x A SD x JTS (52-76) 01 04 (24/25) xx xx	ExxAAxV(G/H)AD(I/J)xxxx	ABB	Flanged End Stub		35-100	Interpolated
SBF 4000 4H A SD ID JTS 71 01 04 24 32 32	ENIAAAMGADIxxxx	ABB	Flanged End Stub		100	UUT-13.1

General Notes:

1 All components are manufactured by ABB, Inc. unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

2 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY CERTIFIED PRODUCT LINE
COPPER & ALUMINUM SUBCOMPONENT MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2, 3	Spectra Identification[1, 2]	Manufacturer	Description	Aux Bracing [1, 2]	Weight (lbs)	Representative UUT
Panel Plug - S_{DS} = 2.0, z/h = 1.0						
RG150431LP	SB150431LP	ABB	150A, 240V-600V	NA	24	UUT-29.1
(SB/RG)xxx4xx(L/P)P	(SB/RG)xxx4xx(L/R)P	ABB	250A, 240V-600V		24	Interpolated
RG400455RP	SB400455RP	ABB	400A, 240V-600V		24	UUT-29.2
Fusible Switch Plugs - S_{DS} = 2.0, z/h = 1.0						
RG4603SJPI	RG4603SJPI	ABB	30 A OS/OT (H, J, R fuse class)	NA	24	UUT-13.4 / 29.2
RG(3/4)(2/6)06(SJ/TH/TR) xx	RG(3/4)(2/6)06(SJ/TH/TR)	ABB	60A OS/OT (H, J, R fuse class)		25	Interpolated
RG(3/4)(2/6)10(SJ/TH/TR) xx	RG(3/4)(2/6)10(SJ/TH/TR)	ABB	100A OS/OT (H, J, R fuse class)		28	Interpolated
RG4620SJPI	RG4620SJPI	ABB	200A OS/OT (H, J, R fuse class)		42	UUT-29.4b / 13.2
RG4640SJPI	RG4640SJPI	ABB	400A OS/OT (H, J, R fuse class)	Required	69	UUT-29.1 / 29.4a
RG4660SJPI	RG4660SJPI	ABB	600A OS/OT (H, J, R fuse class)		135	UUT-13.3a
Circuit Breaker Plugs - S_{DS} = 2.0, z/h = 1.0						
RG(3/4)xxxXT2(N/S/H/L)xxxx	RG(3/4)xxxXT2(N/S/H/L)xxxx	ABB	XT2 Breaker 15-125A	NA	32	Interpolated
RG4125XT2LUPIN	RG4125XT2LUPIN	ABB	XT2 Breaker 125A		32	UUT-13.6
RG(3/4)xxxXT4(N/S/H/L)xxxx	RG(3/4)xxxXT4(N/S/H/L)xxxx	ABB	XT4 Breaker 25-250A		32	Interpolated
RG4250XT4LUPIN	RG4250XT4LUPIN	ABB	XT4 Breaker 250A		35	UUT-29.6
RG(3/4)xxxXT5(N/S/H/L)xxxx	RG(3/4)xxxXT5(N/S/H/L)xxxx	ABB	XT5 Breaker 250-600A	Required	125	Interpolated
RG4600XT5SUPIN	RG4600XT5SUPIN	ABB	XT5 Breaker 600A		125	UUT-13.7
RG(3/4)xxxXT7(S/H/L)xxxx	RG(3/4)xxxXT7(S/H/L)xxxx	ABB	XT7 Breaker 600-800A		152	Interpolated
RG4800XT7SFPIN	RG4800XT7SFPIN	ABB	XT7 Breaker 800A		152	UUT-13.9b
Surge Protection Device (SPD) - S_{DS} = 2.0, z/h = 1.0						
RG430SPD600YGFPS	RG430SPD600YGFPS	ABB	100A OS Plug with SPD device	NA	55	UUT-29.6

General Notes:

1 See Drawing package 212C1041 sheet 34.

2 Aux Bracing: Horizontal Configuration - Required, Vertical Configuration NA

3 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

ABB RELIAGEAR BUSWAY CERTIFIED PRODUCT LINE
COPPER & ALUMINUM SUBCOMPONENT MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

ReliaGear Identification1, 2, 3	Spectra Identification[1, 2]	Manufacturer	Description	Aux Bracing [1, 2]	Weight (lbs)	Representative UUT
Power Takeoff (PTO) Devices - S_{DS} = 2.0, z/h = 1.0						
Bolt-On Tap Device						
75C142355G707	75C142355G707	ABB	Cable Box 800-1600A	NA	235	UUT-13.1
75C142357G727	75C142357G727	ABB/GE	Breaker 1600A (Power Break II)		350	UUT-13.5
Flatwise Power Takoff Device						
RG(3/4)MP(2/4/6)xx(002-025)N(X/Y)NAxx	RG(3/4)MP(2/4/6)x(007-025)NxNAxx	ABB	XT4 Breaker 25-250A	NA	143	Interpolated
RG4MP6RC025NXNASN	RG4MP6RC025NXNASN	ABB	XT4 Breaker 250A		143	UUT-29.10b UUT-29.10a
RG(3/4)MP(2/4/6)xx(025-060)N(X/Y)NAxx	RG(3/4)MP(2/4/6)x(025-060)NxNAxx	ABB	XT5 Breaker 250-600A		143-332	Interpolated
RG(3/4)MP(2/4/6)xx(060-120)N(X/Y)NAxx	RG(3/4)MP(2/4/6)x(060-120)NxNAxx	ABB	XT7 Breaker 600-1200A		143-332	Interpolated
RG4MP6RR100NYNASR	RG4MP6RR100NYNASR	ABB	XT7 Breaker 1200A		332	UUT-13.9b UUT-13.9a

General Notes:
1 See Drawing package 212C1041 sheet 34.
2 Aux Bracing: Horizontal Configuration - Required, Vertical Configuration NA
3 Testing was performed with the bus branded under the Spectra Busway product line. ABB has rebranded this product to the ReliaGear Busway product line with updated identification numbers. The certified components and subcomponent matrice's list both the branded identification numbers (ReliaGear and Spectra) and the UUT summary sheets only list the tested identification numbers.

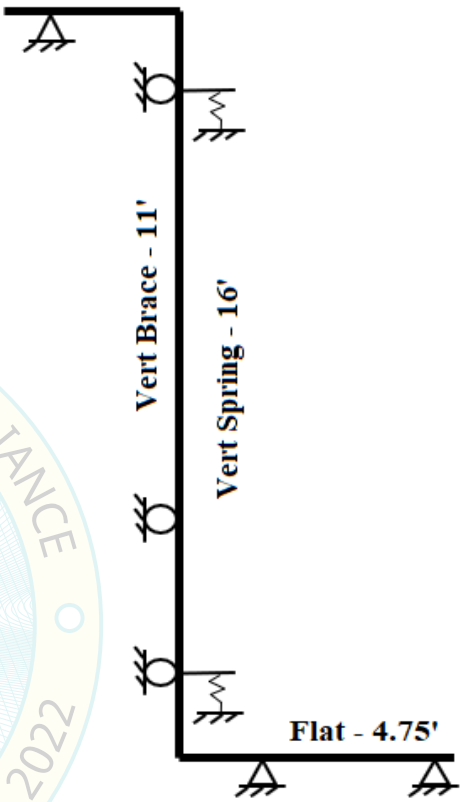
ABB RELIAGEAR BUSWAY
UNIT UNDER TEST INDEX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

UUT	Busway Description	Test Dates	Report #	Lab	Tested S_{DS} (g)
					z / h = 1.0
UUT-29.1	5000A Copper	June 2021	2021-13	SEESL	2.00
UUT-29.2	1000A Copper	June 2021	2021-13	SEESL	2.00
UUT-29.3	5000A Copper	August 2021	2021-15	SEESL	1.25
UUT-29.4a	1000A Copper	June 2021	2021-15	SEESL	2.00
UUT-29.4b	1000A Copper	June 2021	2021-15	SEESL	2.00
UUT-29.5	5000A Copper	July 2022	2022-07	SEESL	1.25
UUT-29.6	1000A Copper	July 2022	2022-07	SEESL	2.00
UUT-29.7	5000A / 3000A Copper	July 2022	2022-09	SEESL	1.25
UUT-29.8	1000A / 600A Copper	July 2022	2022-09	SEESL	2.00
UUT-29.11	5000A / 3000A Copper	July 2022	2022-09	SEESL	1.25
UUT-29.12	1000A / 600A Copper	July 2022	2022-09	SEESL	2.00
UUT-29.9	5000A Copper	October 2022	2022-14	SEESL	1.25
UUT-29.10a	1000A Copper	October 2022	2022-14	SEESL	2.00
UUT-29.10b	1000A Copper	October 2022	2022-14	SEESL	2.00
UUT-13.1	4000A Aluminum	June 2021	2021.12	SEESL	2.00
UUT-13.2	1000A Aluminum	June 2021	2021.12	SEESL	2.00
UUT-13.3a	4000A Aluminum	June 2021	2021-14	SEESL	2.00
UUT-13.3b	4000A Aluminum	June 2021	2021-14	SEESL	2.00
UUT-13.4	1000A Aluminum	June 2021	2021-14	SEESL	2.00
UUT-13.5	4000A Aluminum	July 2022	2022-06	SEESL	2.00
UUT-13.6	1000A Aluminum	July 2022	2022-06	SEESL	2.00
UUT-13.7	4000A / 3000A Aluminum	August 2022	2022-08	SEESL	2.00
UUT-13.8	1000A / 600A Aluminum	August 2022	2022-08	SEESL	2.00
UUT-13.11	4000A / 3000A Aluminum	August 2022	2022-08	SEESL	2.00
UUT-13.12	1000A / 600A Aluminum	August 2022	2022-08	SEESL	2.00
UUT-13.9a	4000A Aluminum	October 2022	2022-13	SEESL	2.00
UUT-13.9b	4000A Aluminum	October 2022	2022-13	SEESL	2.00
UUT-13.10	1000A Aluminum	October 2022	2022-13	SEESL	2.00

UUT-29.1	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EPIBAAAZACDxxxx, FPIBAAAZACDxxxx

Report Number: SEESL report 2021-13 (WEGAI/ABB Report No. 2)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 5000A copper, 2.8' horiz. flat, 20.2' vertical, 10.0' horiz. flat, ceiling suspended.

UUT Component Description: 5000A copper busway, edgewise elbow (EPIBAABxCCDxxxx), edgewise elbow (EPIBAABxBCDxxxx), expansion box (EPIBAACGACDxxxx), 400A fusible switch plug (RG4640SJPI), 150A panel plug (SB150431LP), flange end stub (EPIBAAMGADIxxxx), and spring hanger

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Vertical Restraint Max Unbraced Length (ft)	Horizontal Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
2,780	35.3	11 Lat / 16 Vert	4.75	NA	NA	NA

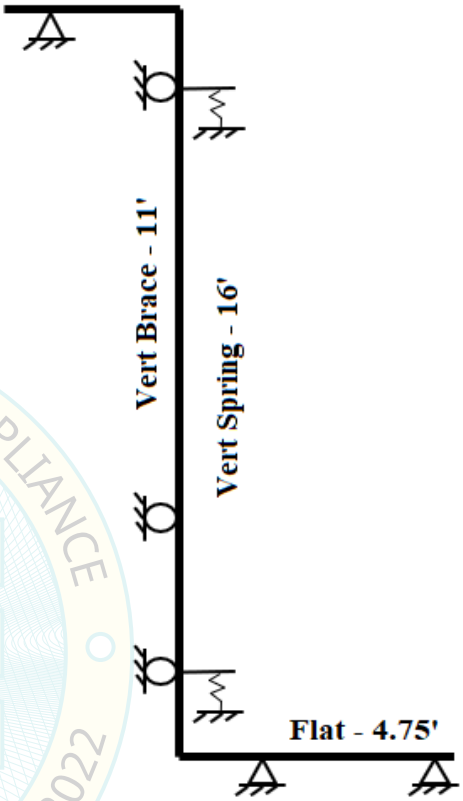
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-29.2	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIBAAAZACDxxxx, FDIBAAAZACDxxxx

Report Number: SEESL report 2021-13 (WEGAI/ABB Report No. 2)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A copper, 2.8' horiz. flat, 20.2' vertical, 10.0' horiz. flat, ceiling suspended.

UUT Component Description: 1000A copper busway, edgewise elbow (EDIBAABxCCDxxxx), edgewise elbow (EDIBAABxBCDxxxx), expansion box (EDIBAACGACDxxxx), 30A fusible switch plugin (RG4603SJPI), 400A panel plug (SB400455RP), flange end stub (EDIBAAVGADIxxx), and spring hanger (SBSR2).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Vertical Restraint Max Unbraced Length (ft)	Horizontal Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
613	35.3	11 Lat / 16 Vert	4.75	NA	NA	NA

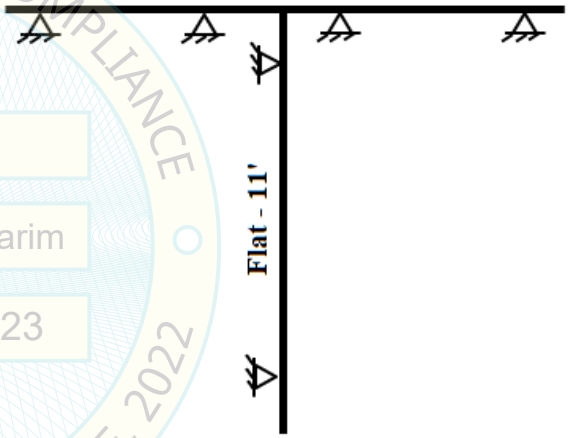
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-29.3	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30, 31).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EPIBAAAZACDxxxx , FPIBAAAZACDxxxx

Report Number: SEESL report 2021-15 (WEGAI/ABB Report No. 4)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 5000A copper, 4' horiz. flat, 15.75' horiz. flat, 13' horiz. flat, ceiling suspended.

UUT Component Description: 5000A copper busway, flatwise tee (EPIBAAFZDCDDxxx), end tap box (EPIBAAQZUxxxxxx), and center tap box (EPIBAAQZ2xxxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Horizontal / Vertical Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
			FB	SS	V
3,296	31.75	11	NA	NA	NA

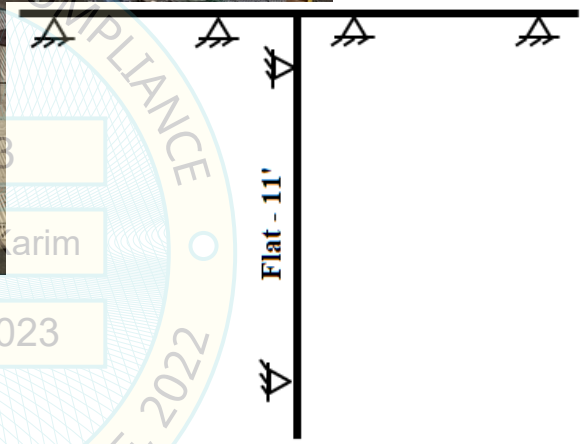
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	1.25	1.0	1.5	2.0g	1.5g	0.83g	0.33g

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-29.4a	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30, 31).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIBAAAZACDxxxx, FDIBAAAZACDxxxx

Report Number: SEESL report 2021-15 (WEGAI/ABB Report No. 4)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A copper, 4' horiz. flat, 15.0' horiz. flat, 12.5' horiz. flat, ceiling suspended.

UUT Component Description: 1000A copper busway, flatwise tee (EDIBAAFxDCDDxxx), end tap box (EDIBAAQxUxxxxxx), center tap box (EDIBAAQxxxxxxxx), and 400A fusible switch plug (RG4640SJPI).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Horizontal / Vertical Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
			FB	SS	V
752	32.3	11	NA	NA	NA

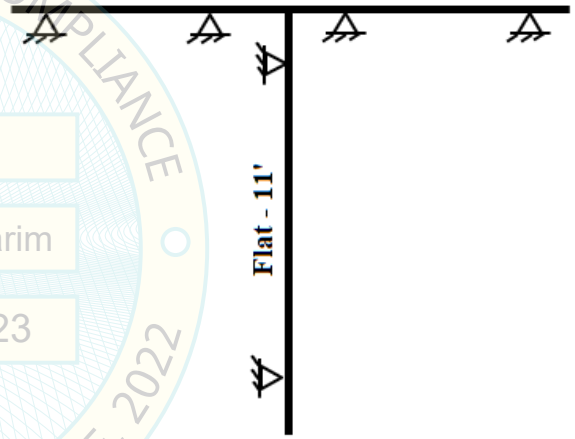
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-29.4b	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30, 31).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIBAAAZACDxxxx, FDIBAAAZACDxxxx

Report Number: SEESL report 2021-15 (WEGAI/ABB Report No. 4)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A copper, 4' horiz. flat, 15.0' horiz. flat, 12.5' horiz. flat, ceiling suspended.

UUT Component Description: 1000A copper busway, flatwise tee (EDIBAAFxDCDDxxx), end tap box (EDIBAAQxUxxxxxx), center tap box (EDIBAAQxxxxxxxx), and 200A fusible switch plug (RG4620SJPI).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Horizontal / Vertical Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
			FB	SS	V
726	32.3	11	NA	NA	NA

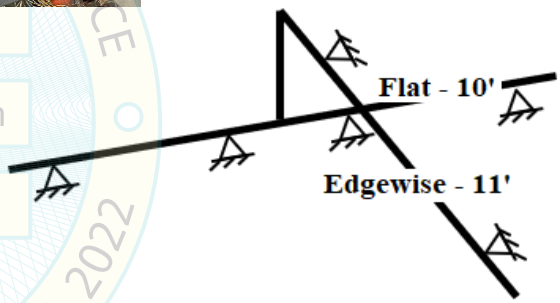
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-29.5	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EPIBAAAZACDxxxx, FPIBAAAZACDxxxx

Report Number: SEESL report 2022-07 (WEGAI/Siemens Report No. 6)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 5000A copper, 3.8' horiz. flat, 16' horiz. edge, 13.8' horiz. flat, ceiling suspended.

UUT Component Description: 5000A copper busway, edgewise tee (EPIBAAFxBCDDxxx), flatwise elbow (EPIBAABxECDxxxx), flatwise elbow stack (212C1194G1031), and end tap box (EPIBAAQxSxxxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
3,458	33.5	10	11	NA	NA	NA

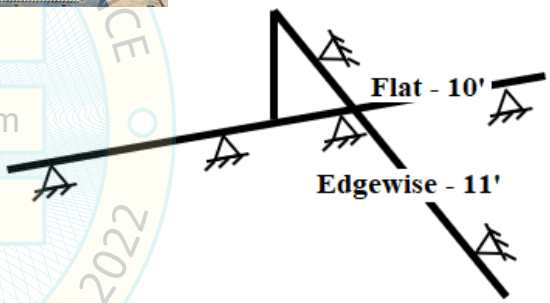
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	1.25	1.0	1.5	2.0g	1.5g	0.83g	0.33g

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-29.6	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIBAAAZACDxxxx, FDIBAAAxACDxxxx

Report Number: SEESL report 2022-07 (WEGAI/Siemens Report No. 6)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A copper, 3.8' horiz. flat, 16' horiz. edge, 13.3' horiz. flat, ceiling suspended.

UUT Component Description: 1000A copper busway, edgewise tee (EDIBAAFxBCDDxxx), flatwise elbow (EDIBAABxECDxxxx), flatwise elbow stack (212C1194G733), and end tap box EDIBAAQxSxxxxxx), surge protection device (RG430SPD600YGFPS), and XT4 circuit breaker plug (RG4250XT4LUPIN).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
691	32.5	10	11	NA	NA	NA

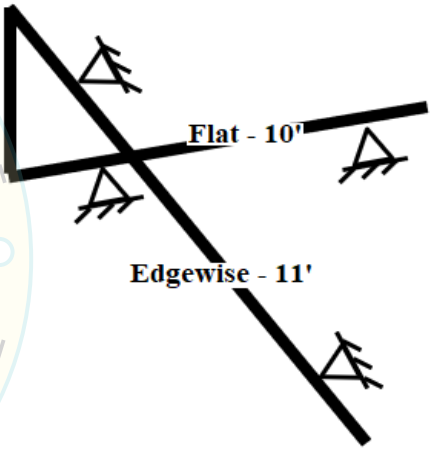
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-29.7	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EPIBAAAZACDxxxx, EKIBAAAZACDxxxx

Report Number: SEESL report 2022-09 (WEGAI/Siemens Report No. 8)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 5000A/3000A copper, 14.9' horiz. edge, 13.3' horiz. flat, ceiling suspended.

UUT Component Description: 5000A and 3000A copper busway, combination offset (EPIBAABxKCZDxxx), phase transposition (EPIBAAGBACDxxxx), and reducer 5000-3000 (EPIBAAEYACDxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
2,107	28.2	10	11	NA	NA	NA

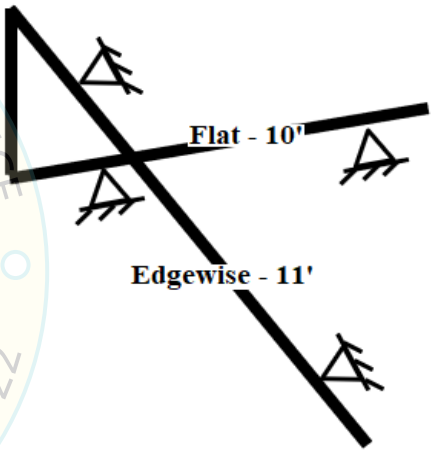
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	1.25	1.0	1.5	2.0g	1.5g	0.83g	0.33g

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-29.8	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIBAAAZACDxxxx, FBIBAAAZACDxxxx

Report Number: SEESL report 2022-09 (WEGAI/Siemens Report No. 8)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A/600A copper, 15' horiz. edge, 13' horiz. flat, ceiling suspended

UUT Component Description: 1000A and 600A copper busway, combination offset (EDIBAABxKCZDxxx), phase transposition (EDIBAAGBACDxxxx), and reducer 1000-600A (EDIBAAEBACDxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
390	28	10	11	NA	NA	NA

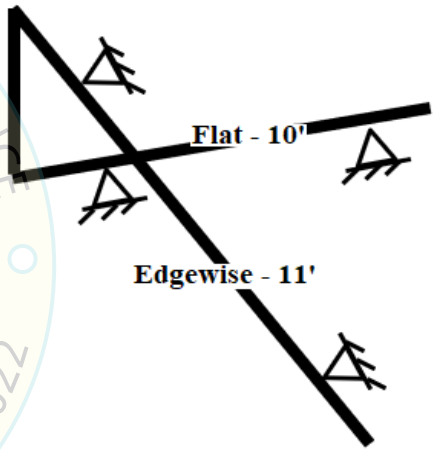
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-29.11	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EPIBAAAZACDxxxx, EKIBAAAZACDxxxx

Report Number: SEESL report 2022-09 (WEGAI/Siemens Report No. 8)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 5000A copper, 14.9' horiz. edge, 13.3' horiz. flat, ceiling suspended.

UUT Component Description: 5000A and 3000A copper busway, flatwise elbow (EPIBAABxECDxxxx), edgewise elbow stack (212C1190G1047), phase transposition (EPIBAAGBACDxxxx), and reducer 5000-3000 (EPIBAAEYACDxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
2,142	28.2	10	11	NA	NA	NA

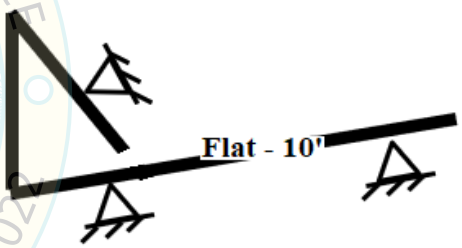
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	1.25	1.0	1.5	2.0g	1.5g	0.83g	0.33g

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-29.12	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIBAAAZACDxxxx, FBIBAAAZACDxxxx

Report Number: SEESL report 2022-09 (WEGAI/Siemens Report No. 8)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A/600A copper, 15' horiz. edge, 13' horiz. flat, wall mounted.

UUT Component Description: 1000A and 600A copper busway, flatwise elbow (EDIBAABxKCZDxxx), edgewise elbow stack (212C1190G853), and reducer 1000-600A (EDIBAAEBACDxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
250	28	10	NA	NA	NA	NA

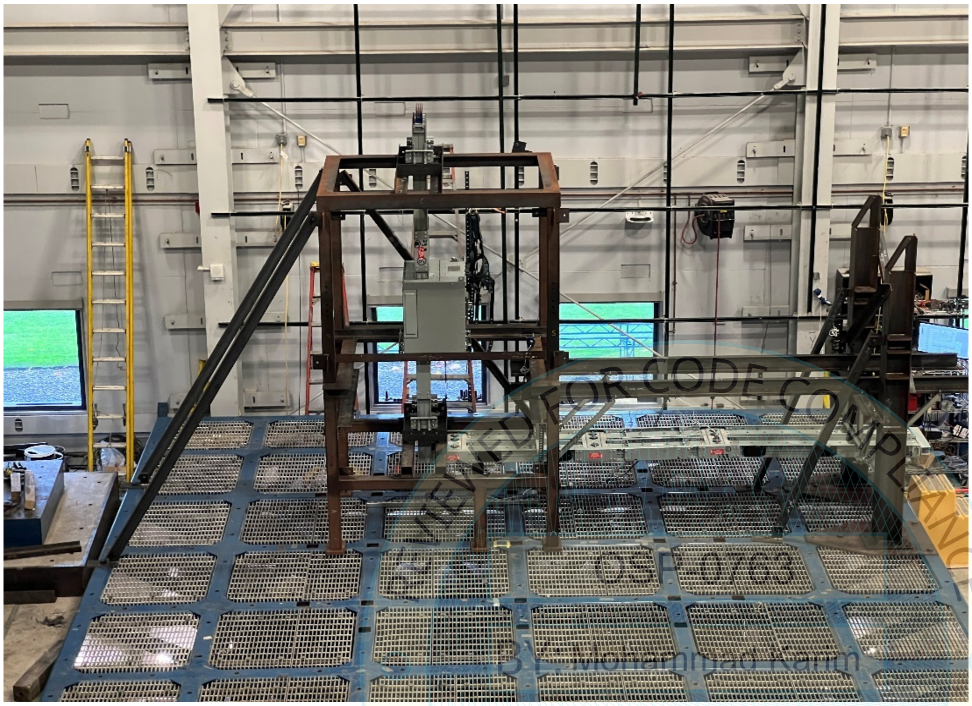
SEISMIC TEST PARAMETERS

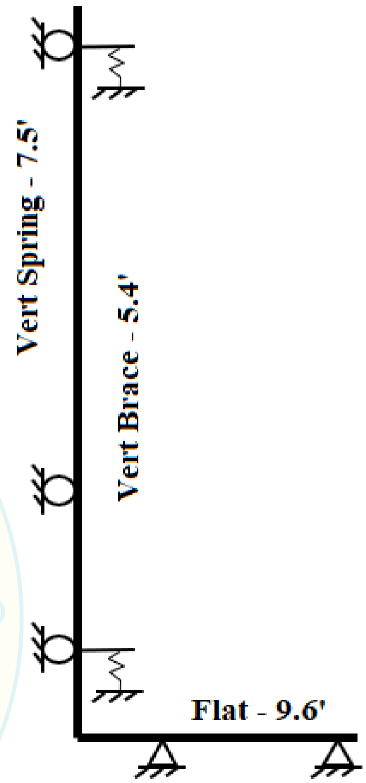
Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-29.9	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).





Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EPIBAAAZACDxxxx, FPIBAAAZACDxxxx

Report Number: SEESL report 2022-14 (WEGAI/ABB Report No. 10)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 5000A copper, 10.25' vertical, 13.5' horiz. flat, ceiling suspended.

UUT Component Description: 5000A copper busway, phase transposition (EPIBAAGBACDxxxx), edgewise elbow (EPIBAABxCCDxxxx), and metermod (RG4MN20120BU75Ix).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Vertical Restraint Max Unbraced Length (ft)	Horizontal Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
2,236	24.5	5.4 Lat / 7.5 Vert	9.6	NA	NA	NA

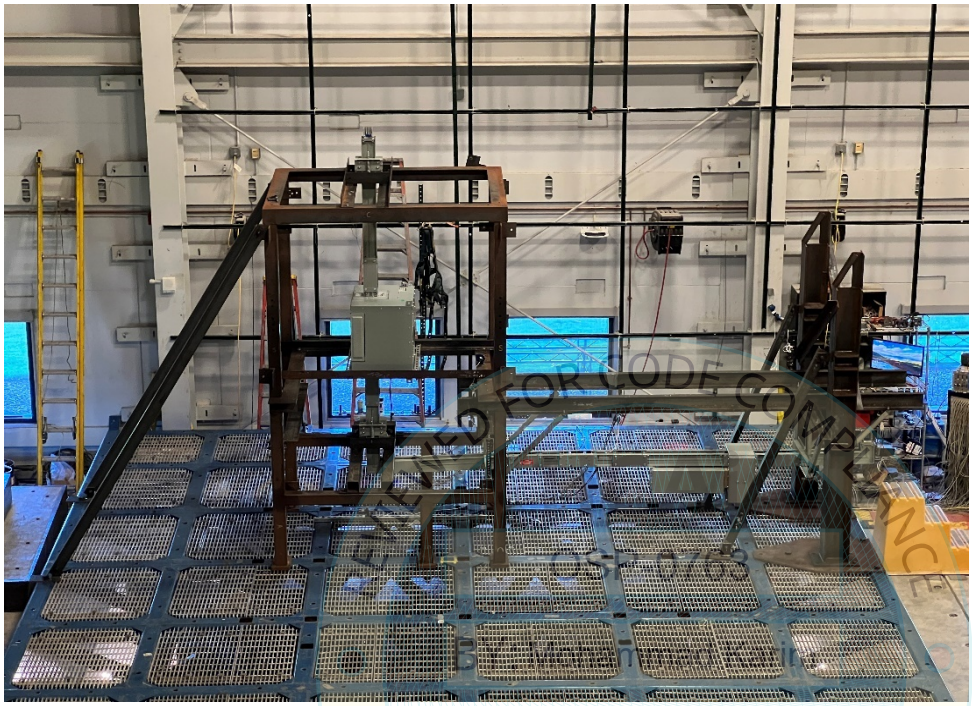
SEISMIC TEST PARAMETERS

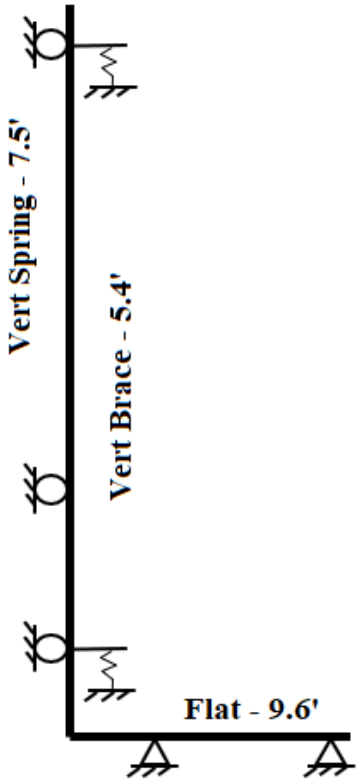
Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	1.25	1.0	1.5	2.0g	1.5g	0.83g	0.33g

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-29.10a	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).





Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIBAAAZACDxxxx

Report Number: SEESL report 2022-14 (WEGAI/ABB Report No. 10)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A copper, 10.25' vertical, 13.5' horiz. flat, ceiling suspended.

UUT Component Description: 1000A copper busway, phase transposition (EDIBAAGBACDxxxx), edgewise elbow up (EDIBAABxCCDxxxx), metermod (RG4MN20060BT28IZ), and XT4 PTO (RG4MP6RC025NXNASN).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
583	24.5	5.4 Lat / 7.5 Vert	9.6	NA	NA	NA

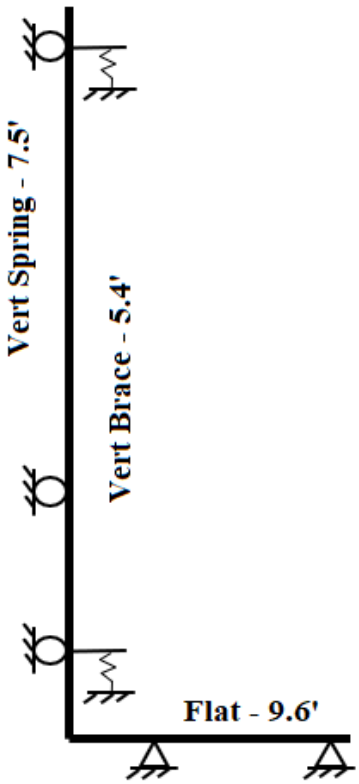
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-29.10b	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIBAAAZACDxxxx, FDIBAAAZACDxxxx

Report Number: SEESL report 2022-14 (WEGAI/ABB Report No. 10)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A copper, 10.25' vertical, 13.5' horiz. flat, ceiling suspended.

UUT Component Description: 1000A copper busway, phase transposition (EDIBAAGBACDxxxx), edgewise elbow up (EDIBAABxCCDxxxx), phase transposition (EDIBAAGBACDxxxx), and XT4 PTO (RG4MP6RC025NXNASN).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
397	24	5.4 Lat / 7.5 Vert	9.6	NA	NA	NA

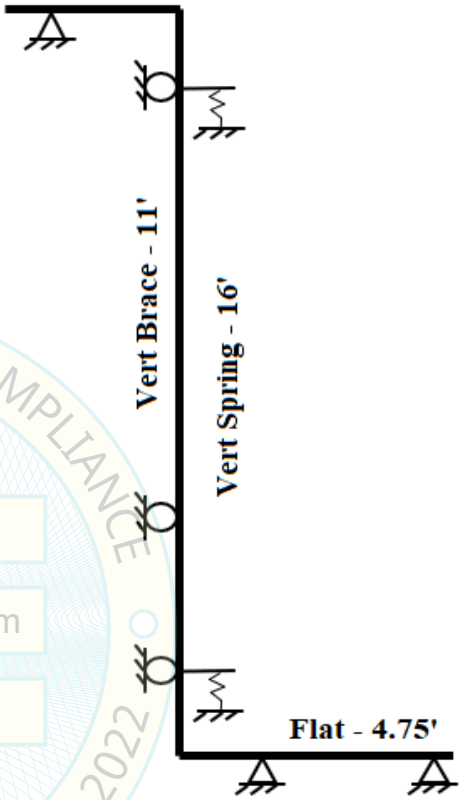
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.1	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: ENIAAAAZACDxxxx, FNIAAAAZACDxxxx

Report Number: SEESL report 2021-12 (WEGAI/ABB Report No. 1)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 4000A Aluminum, 2.8' horiz. flat, 20.2' vertical, 10.0' horiz. flat, ceiling suspended.

UUT Component Description: 4000A aluminum busway, edgewise elbow (ENIAAABxBCDxxxx), edgewise elbow (ENIAAABxCCDxxxx), expansion box (ENIAAACGACDxxxx), 1600 cable box (75C142355G707), flange end stub (ENIAAAMGADIxxxx), and spring hanger (SBSR2).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Vertical Restraint Max Unbraced Length (ft)	Horizontal Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
1,624	35.3	11 Lat / 16 Vert	4.75	NA	NA	NA

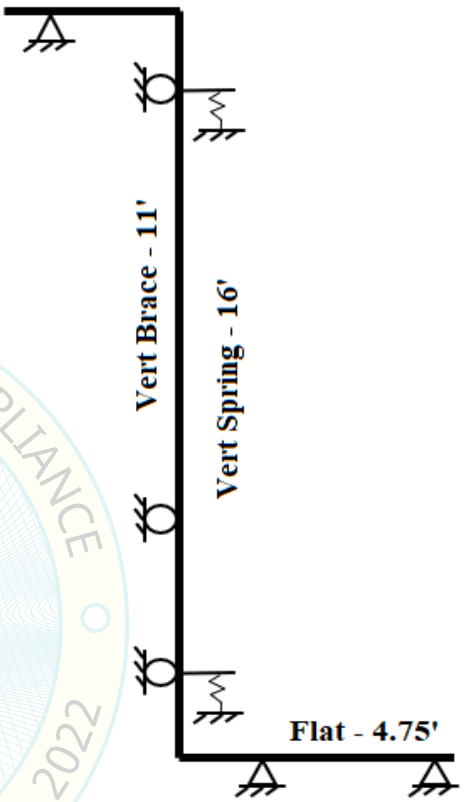
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.2	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIAAAAZACDxxxx, FDIAAAAZACDxxxx

Report Number: SEESL report 2021-12 (WEGAI/ABB Report No. 1)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A Aluminum, 2.8' horiz. flat, 20.2' vertical, 10.0' horiz. flat, ceiling suspended.

UUT Component Description: 1000A copper busway, edgewise elbow (EDIAAABxBCDxxxx), edgewise elbow (EDIAAABxCCDxxxx), expansion box (EDIAAACGACDxxxx), 200A fusible switch plugin (RG4620SJPI), flange end stub (EDIAAAVGADIxxxx), and spring hanger (SBSR1).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Vertical Restraint Max Unbraced Length (ft)	Horizontal Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
462	35.3	11 Lat / 16 Vert	4.75	NA	NA	NA

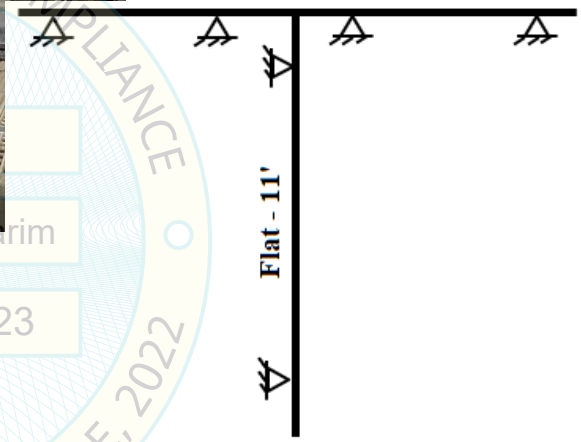
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.3a	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30, 31, 33).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: ENIAAAAZACDxxxx, FNIAAAAZACDxxxx

Report Number: SEESL report 2021-14 (WEGAI/ABB Report No. 3)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 4000A aluminum, 4' horiz. flat, 15.75' horiz. flat, 13' horiz. flat, ceiling suspended.

UUT Component Description: 4000A aluminum busway, flatwise tee (ENIAAAFxDCDDxxx), end tap box (ENIAAAQZUxxxxxx), center tap box (ENIAAAQx2xxxxxx), and 600A fusible switch plug (RG4660SJPI).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Horizontal / Vertical Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
			FB	SS	V
1,934	32.75	11	NA	NA	NA

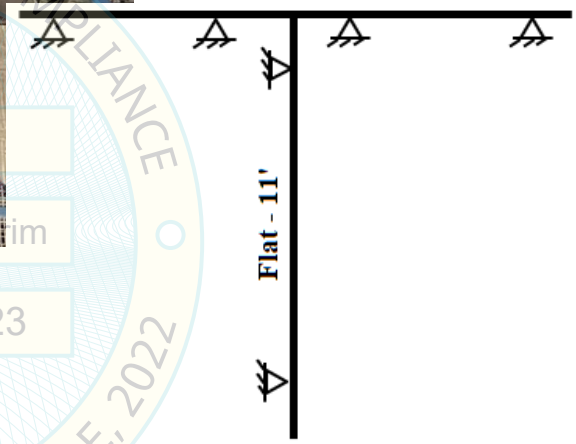
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.3b	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: ENIAAAAZACDxxxx, FNIAAAAZACDxxxx

Report Number: SEESL report 2021-14 (WEGAI/ABB Report No. 3)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 4000A aluminum, 4' horiz. flat, 15.75' horiz. flat, 13' horiz. flat, ceiling suspended.

UUT Component Description: 4000A aluminum busway, flatwise tee (ENIAAAFxDCDDxxx), end tap box (ENIBAAQxUxxxxxx), and center tap box (ENIBAAQx2xxxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Horizontal / Vertical Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
			FB	SS	V
1,799	32.75	11	NA	NA	NA

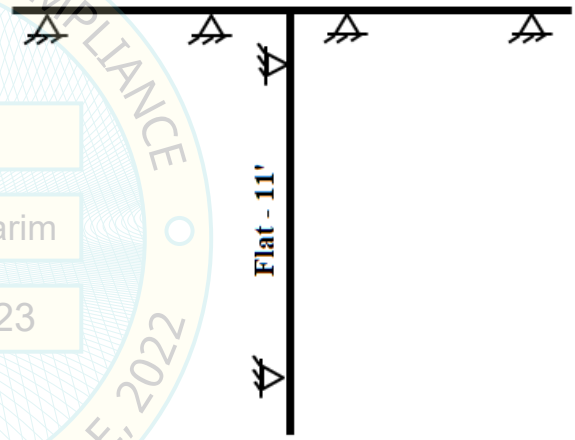
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.4	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 34).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIAAAAZACDxxxx, FDIAAAAxACDxxxx 120

Report Number: SEESL report 2021-14 (WEGAI/ABB Report No. 3)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A aluminum, 4' horiz. flat, 15.0' horiz. flat, 12.5' horiz. flat, ceiling suspended.

UUT Component Description: 1000A aluminum busway, flatwise tee (EDIAAAFxDCDDxxx), end tap box (EDIAAAQxUxxxxxx), center tap box (EDIAAAQxxxxxxxx), and 30A fusible switch plug (RG4603SJPI).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Horizontal / Vertical Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
			FB	SS	V
558	32.3	11	NA	NA	NA

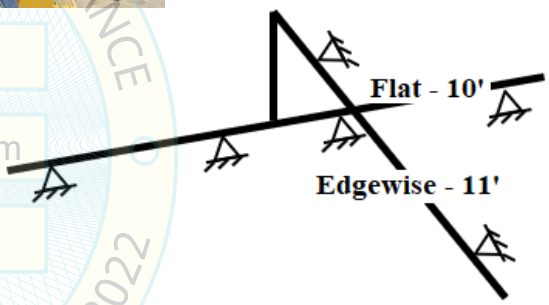
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.5	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30, 34).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: ENIAAAAZACDxxxx, FNIAAAAZACDxxxx

Report Number: SEESL report 2022-06 (WEGAI/ABB Report No. 5)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 4000A Aluminum, 3.8' horiz. flat, 16' horiz. edge, 13.8' horiz. flat, ceiling suspended.

UUT Component Description: 4000A aluminum busway, edgewise tee (ENIAAAFxBCDDxxx), flatwise elbow (ENIAAABxECDxxxx), flatwise elbow stack (212C1194G805), PBII Breaker (75C142357G727), and end tap box (ENIAAAQxSxxxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
2,029	33.5	10	11	NA	NA	NA

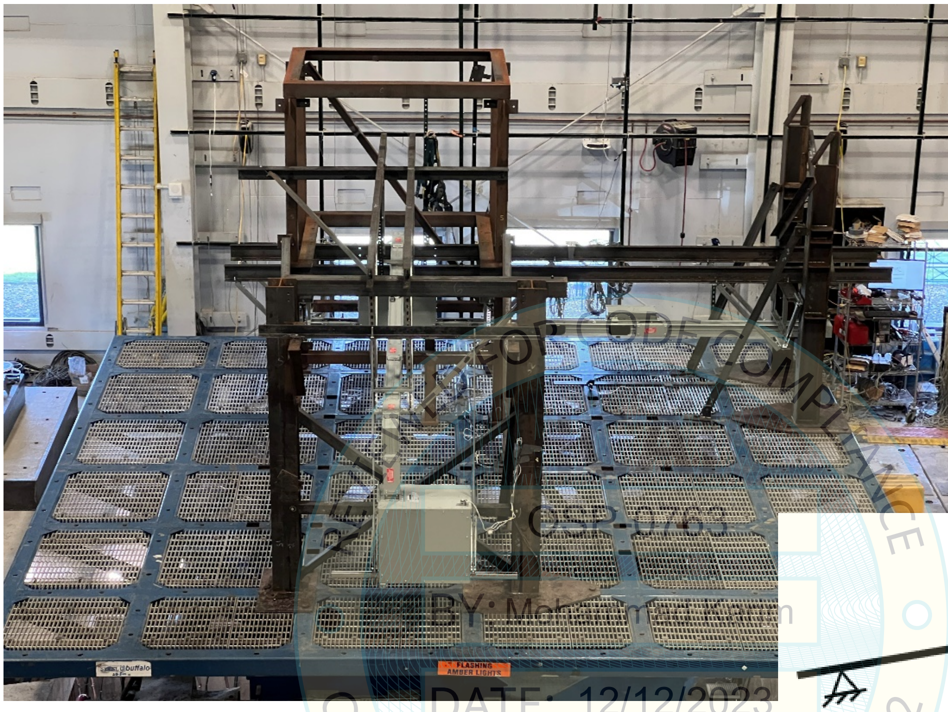
SEISMIC TEST PARAMETERS

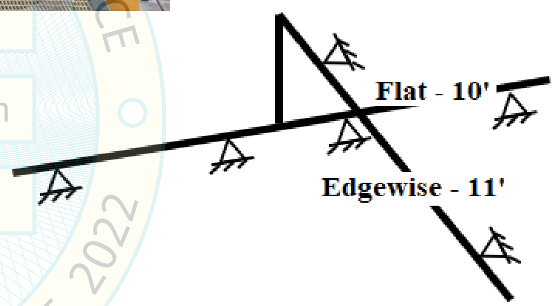
Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.6	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 30).





Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIAAAAZACDxxxx, FDIAAAAZACDxxxx

Report Number: SEESL report 2022-06 (WEGAI/ABB Report No. 5)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A Aluminum, 3.8' horiz. flat, 16' horiz. edge, 13.3' horiz. flat, ceiling suspended.

UUT Component Description: 1000A aluminum busway, edgewise tee (EDIAAAFxBCDDxxx), flatwise elbow (EDIAAABxECDxxxx), flatwise elbow stack (212C1194G795JG), end tap box (EDIBAAQxSxxxxxx), XT2 Circuit Breaker (RG4125XT2LUPIN).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
500	33.1	10	11	NA	NA	NA

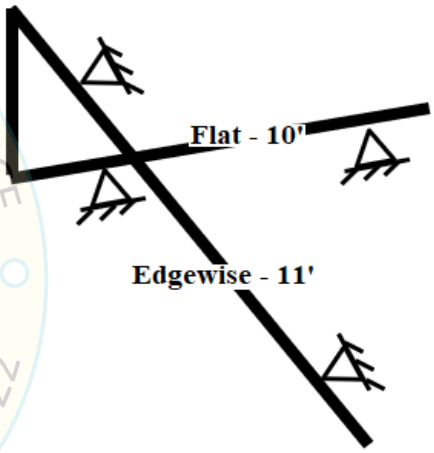
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.7	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 34).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: ENIAAAAZACDxxxx, FKIAAAAZACDxxxx

Report Number: SEESL report 2022-08 (WEGAI/Siemens Report No. 7)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 4000A/3000A aluminum, 14.9' horiz. edge, 13.3' horiz. flat, ceiling suspended.

UUT Component Description: 4000A and 3000A aluminum busway, combination offset (ENIAAABxKCZDxxx), phase transposition (ENIAAAGBACDxxxx), reducer 4000-3000 (ENIAAAEYACDxxxx), and XT5 circuit breaker plug (RG4600XT5SUPIN).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
1,186	28.2	10	11	NA	NA	NA

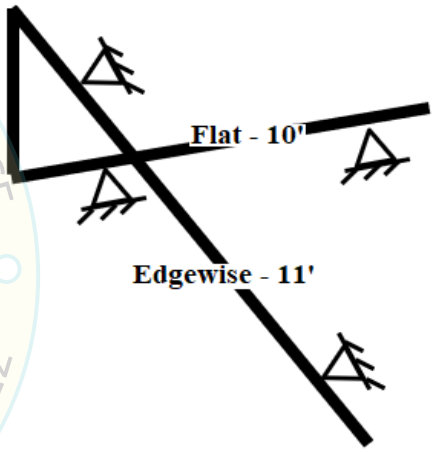
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.8	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIAAAAZACDxxxx, FBIAAAAZACDxxxx

Report Number: SEESL report 2022-08 (WEGAI/Siemens Report No. 7)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A/600A aluminum, 14.9' horiz. edge, 13' horiz. flat, ceiling suspended.

UUT Component Description: 1000A and 600A aluminum busway, combination offset (EDIAAABxKCZDxxx), phase transposition (EDIAAAGBACDxxxx), and reducer 1000-600 (EDIAAAEBACDxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
220	27.9	10	11	NA	NA	NA

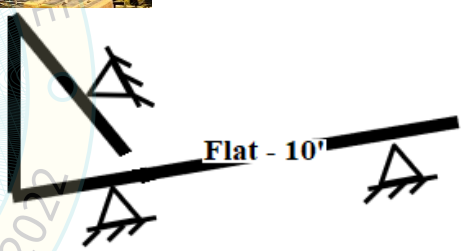
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.11	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: ENIAAAAZACDxxxx, FKIAAAAZACDxxxx

Report Number: SEESL report 2022-08 (WEGAI/Siemens Report No. 7)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 4000A/3000A aluminum, 3' horiz. edge, 13.3' horiz. flat, ceiling suspended.

UUT Component Description: 4000A and 3000A aluminum busway, flatwise elbow (ENIAAABxECDxxxx), edgewise elbow stack (212C1190G925), and reducer 4000-3000 (ENIAAAEYACDxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
655	16.3	10	NA	NA	NA	NA

SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

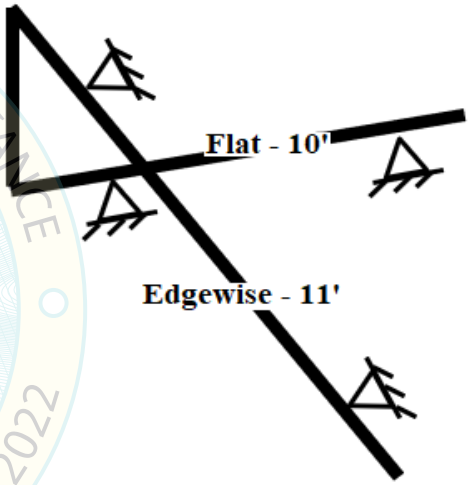
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-13.12

UNIT UNDER TEST (UUT) SUMMARY SHEET

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIAAAAxACDxxxx, FDIAAAAZACDxxxx, FBIAAAAxACDxxxx

Report Number: SEESL report 2022-08 (WEGAI/Siemens Report No. 7)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A/600A aluminum, 5' horiz. edge, 13' horiz. flat, ceiling suspended.

UUT Component Description: 1000A and 600A aluminum busway, flatwise elbow (EDIAAABxECDxxxx), edgewise elbow stack (212C1190G915), and reducer 1000-600 (EDIAAAEBACDxxxx).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
209	18	10	11	NA	NA	NA

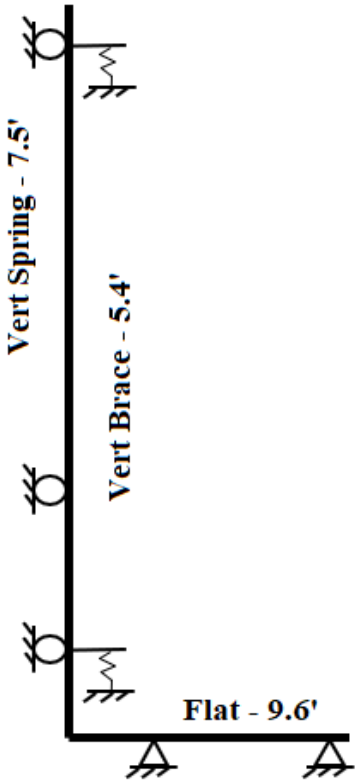
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.9a	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: ENIAAAAxACDxxxx, FNIAAAAxACDxxxx

Report Number: SEESL report 2022-13 (WEGAI/ABB Report No. 9)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 4000A aluminum, 10.25' vertical, 13.5' horiz. flat, ceiling suspended.

UUT Component Description: 1000A aluminum busway, edgewise elbow (ENIAAABxCCDxxxx), XT7 PTO (RG4MP6RR100NYNASR), and metermod (RG4MN20120BW82IZ).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Vertical Restraint Max Unbraced Length (ft)	Horizontal Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
1,436	23.3	5.4 Lat / 7.5 Vert	9.6	NA	NA	NA

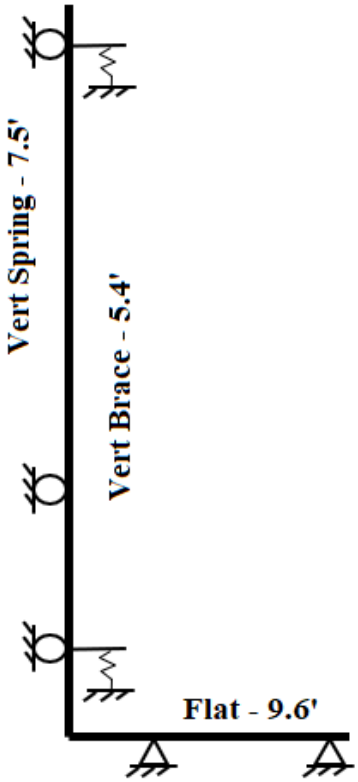
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.9b	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29, 34).



Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: ENIAAAAZACDxxxx, FNIAAAAZACDxxxx

Report Number: SEESL report 2022-13 (WEGAI/ABB Report No. 9)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 4000A aluminum, 10.25' vertical, 13.5' horiz. flat, ceiling suspended.

UUT Component Description: 1000A aluminum busway, edgewise elbow (ENIAAABxCCDxxxx), XT7 circuti breaker plug (RG4800XT7SFPIN), and XT7 PTO (RG4MP6RR100NYNASR).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Vertical Restraint Max Unbraced Length (ft)	Horizontal Restraint Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
1,304	24	5.4 Lat / 7.5 Vert	9.6	NA	NA	NA

SEISMIC TEST PARAMETERS

Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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-13.10	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Busway mounts to ceiling suspended support with 8 (4-top, 4-bottom) ABB seismic clamps (212C1041P112). Ceiling suspended seismic supports are constructed of ABB trapeze members (212C1041P150), P1000T unistrut bracing, and 1/2" grade 5 stiffened threaded rod assembly. Bus support bracing details and auxilary support details are provided in ABB drawing no. 212C1041 (sheets 28, 29).

Manufacturer: ABB, Inc.

Product Line: ReliaGear Busway

Identification Number: EDIAAAAZACDxxxx, FDIAAAAZACDxxxx

Report Number: SEESL report 2022-13 (WEGAI/ABB Report No. 9)

UUT Function: A prefabricated electrical distribution system.

UUT Description: 1000A aluminum, 10.25' vertical, 13.5' horiz. flat, ceiling suspended.

UUT Component Description: 1000A aluminum busway, phase transposition (EDIAAAGBACDxxxx), edgewise elbow (EDIAAABxCCDxxxx), and metermod (RG4MN20060BV42IZ).

UUT PROPERTIES

Weight (lb)	Total Bus Length (ft)	Flat Orientation - Max Unbraced Length (ft)	Edge Orientation - Max Unbraced Length (ft)	Natural Fequency (Hz)		
				FB	SS	V
617	23.3	5.4 Lat / 7.5 Vert	9.6	NA	NA	NA

SEISMIC TEST PARAMETERS

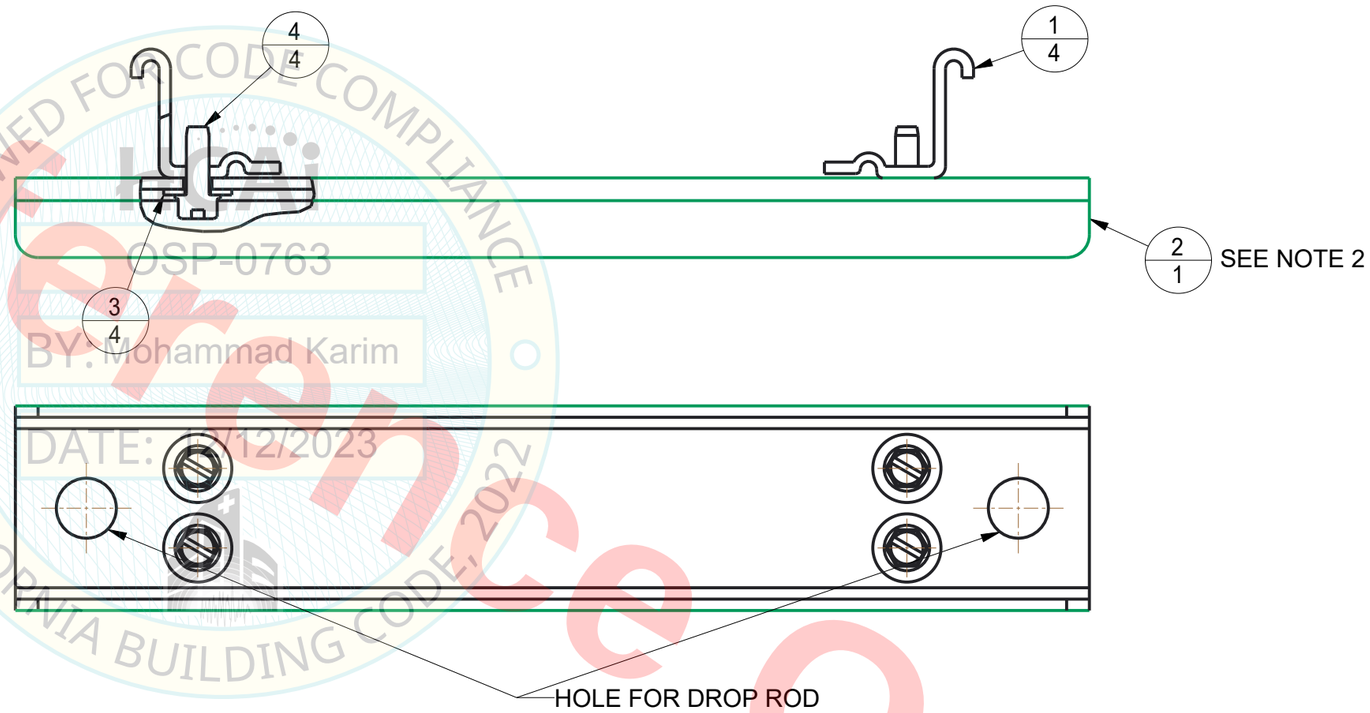
Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022 / ICC-ES-AC156	2.00	1.0	1.5	3.2g	2.4g	1.34g	0.54g

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.

PART NUMBER	BAR_WIDTH	ITEM 2 PART NUMBER
212C1041G727	1.625(1)	212C1041P134
212C1041G728	2.250(1)	212C1041P135
212C1041G729	2.875(1)	212C1041P136
212C1041G730	3.375(1)	212C1041P137
212C1041G731	4.250(1)	212C1041P138
212C1041G732	4.500(1)	212C1041P139
212C1041G733	5.750(1)	212C1041P140
212C1041G734	6.500(1)	212C1041P141
212C1041G735	7.500(1)	212C1041P142
212C1041G736	8.250(1)	212C1041P143
212C1041G737	4.000(2)	212C1041P144
212C1041G738	4.250(2)	212C1041P145
212C1041G739	4.500(2)	212C1041P146
212C1041G740	5.750(2)	212C1041P147
212C1041G741	6.500(2)	212C1041P148
212C1041G742	7.500(2)	212C1041P149
212C1041G743	8.250(2)	212C1041P150

ITEM	QTY	MODEL NAME	MAIN TITLE
4	4	N722EP21012B6	SCREW,STEEL T-ROLL 1/4-20X3/4
3	4	N402P41B6	WASHER, STEEL PLAIN GE REGULAR 1/4
2	1	212C1041P138	CHANNEL
1	4	212C1041P112	HOOK, TRAPEZE HANGER

BILL OF MATERIALS



NOTE:
1. QTY. 2 OF TRAPEZE HANGER ASSEMBLY MUST BE USED FOR EACH DROP ROD SET(TOP/BOTTOM)
2. CHANNEL PART NUMBER (ITEM 2) VARIES BASED ON BUSWAY WIDTH. REFER TO THE TABLE.

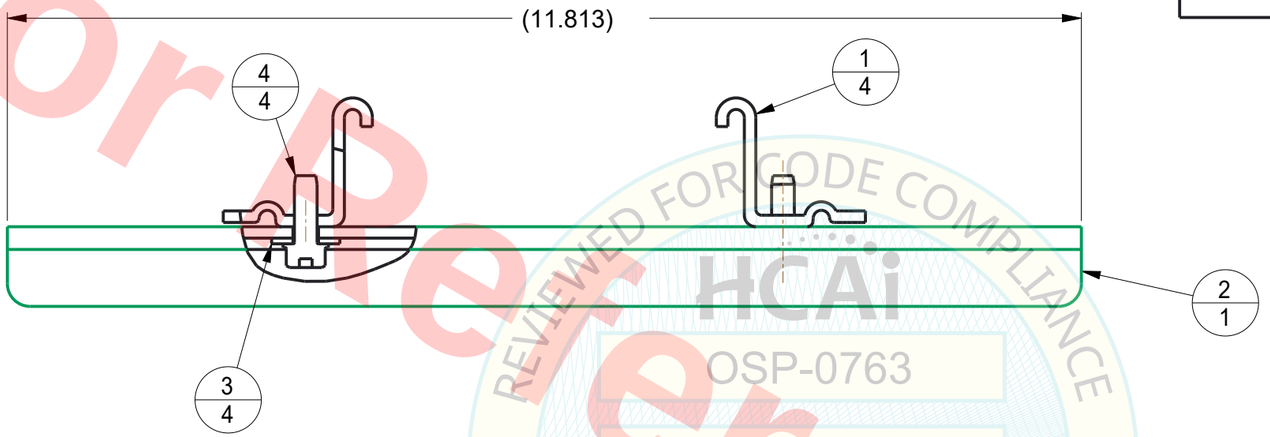
SH26

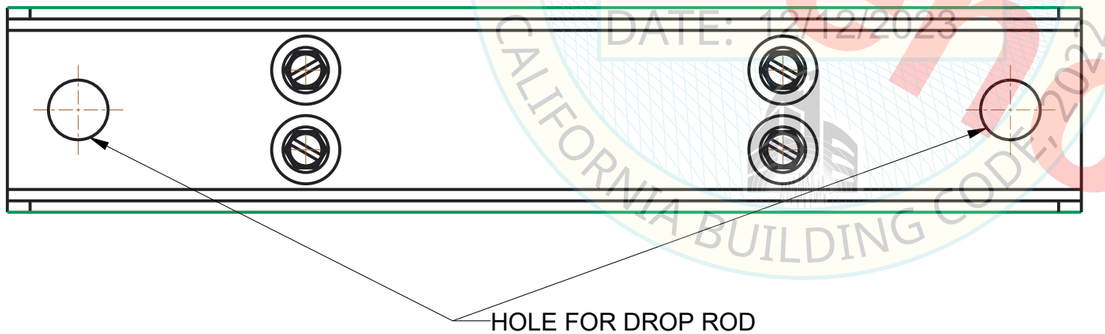
Third Angle Projection

DRAWING FILE 212C1041SH26	MODEL FILE 212C1041G731	ABB			
DATE MODIFIED 02-Mar-23 10:08:50 AM	DESIGNED BY A. GUBE				
Calculated for: VOLUME 0.000 in^3	CN# C########	APPROVED BY L.WOWK	TITLE SEISMIC TRAPEZE HANGER ASSEMBLY FLATWISE		
	◇ Critical to Quality Characteristic				
MASS 0.000 lbm	MATERIAL SPECIFICATION ---	FINISH SPECIFICATION ---	UNITS in	LOCAL TITLE	
UNLESS OTHERWISE SPECIFIED TOLERANCE ON: 1 PL DECIMALS ± 0.1, 2 PL DECIMALS ± 0.02, 3 PL DECIMALS ± 0.005, ANGLES ± 1.0	MATERIAL DESCRIPTION ---		SIZE B	ROOT NUMBER 212C1041 / REV B / RELEASE STATE Released	
	FINISH DESCRIPTION ---		SCALE 1:2	PRODUCT LINE SPECTRA BUSWAY	SHEET 1 of 1

ITEM	QTY	MODEL NAME	MAIN TITLE
4	4	N722EP21012B6	SCREW, STEEL T-ROLL 1/4-20X3/4 TAPTITE
3	4	N402P41B6	WASHER, STEEL PLAIN GE REGULAR 1/4
2	1	212C1041P133	CHANNEL
1	4	212C1041P112	HOOK, TRAPEZE HANGER

BILL OF MATERIALS



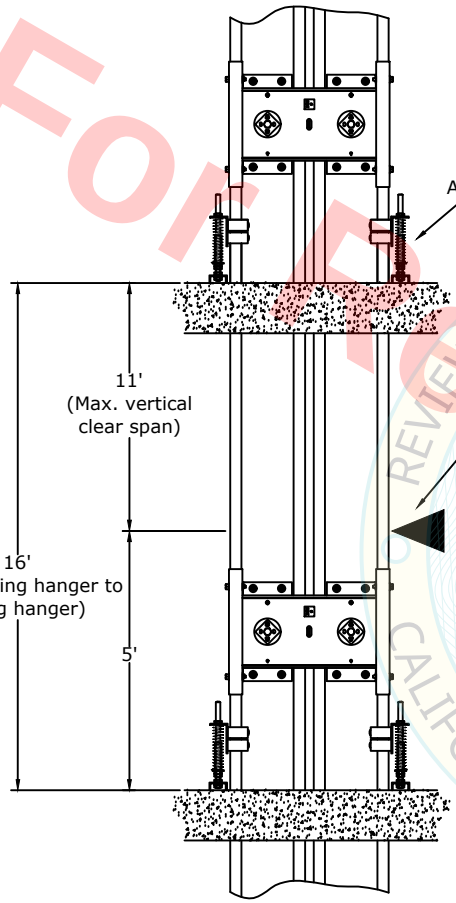


NOTE:
1. QTY. 2 OF TRAPEZE HANGER ASSEMBLY MUST BE USED FOR EACH DROP ROD SET(TOP/BOTTOM)

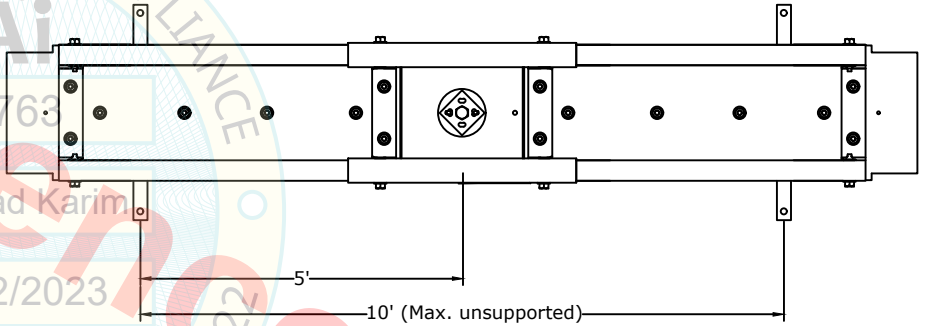
SH27 G744

Third Angle Projection

DRAWING FILE: 212C1041SH27	MODEL FILE: 212C1041G744	ABB	
DATE MODIFIED: 02-Mar-23 10:49:40 AM	DESIGNED BY: A. GUBE		
Calculated for: VOLUME: 0.000 in^3	CN#: C########	APPROVED BY: L. WOWK	TITLE: SEISMIC TRAPEZE HANGER ASSEMBLY EDGEWISE
	◇ Critical to Quality Characteristic		
MASS: 0.000 lbm	MATERIAL SPECIFICATION: ---	FINISH SPECIFICATION: ---	UNITS: in / LOCAL TITLE
UNLESS OTHERWISE SPECIFIED TOLERANCE ON: 1 PL DECIMALS ± 0.1 2 PL DECIMALS ± 0.02 3 PL DECIMALS ± 0.005 ANGLES ± 1.0	MATERIAL DESCRIPTION: ---		SIZE: B / ROOT NUMBER: 212C1041 / REV: B / RELEASE STATE: Released
	FINISH DESCRIPTION: ---		SCALE: 1:2 / PRODUCT LINE: SPECTRA BUSWAY / SHEET: 1 of 1



Vertical support location
Copper (225A-5000A), Aluminum (225A-4000A)

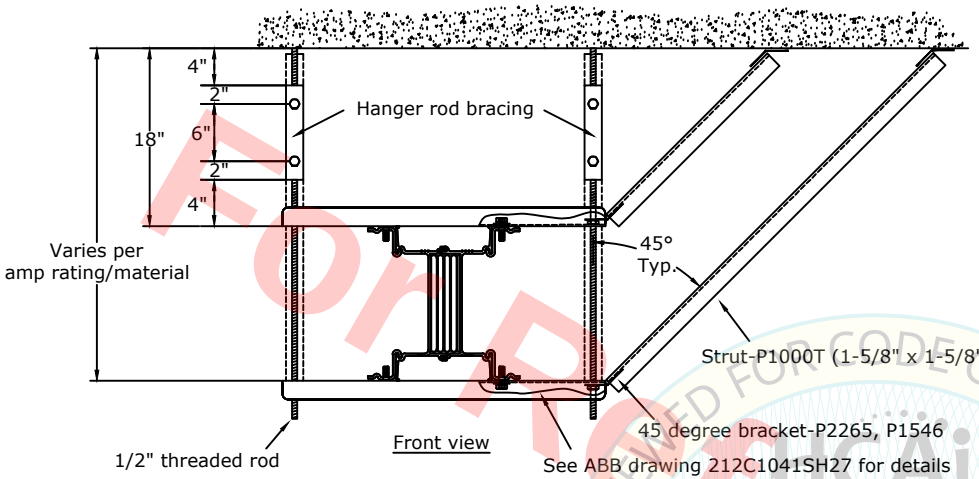


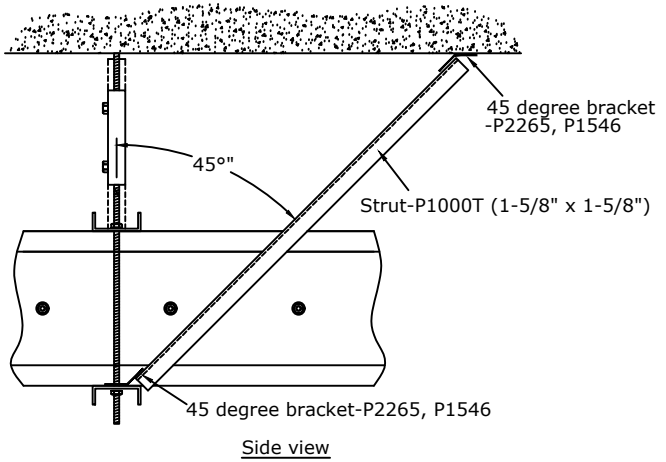
Horizontal support location
Copper (225A-5000A), Aluminum (225A-4000A)

REVISIONS			
2	5/24/2023	Removed confidential label	JAM
1	2/3/2023	Revised Drawing	JAM

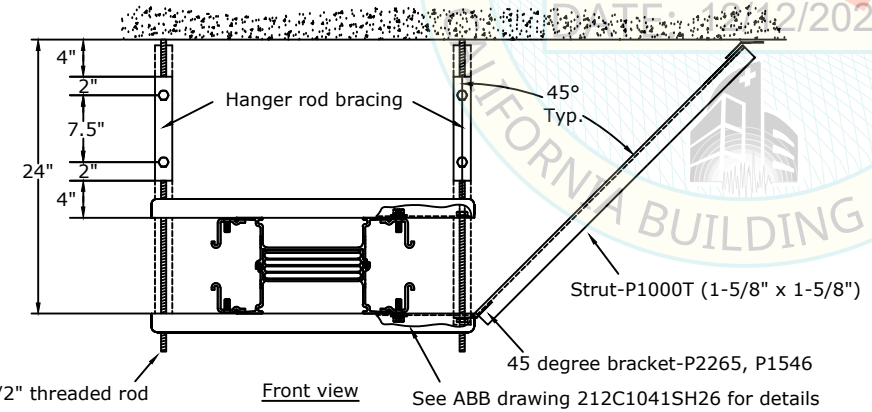
TITLE: SEISMIC BRACING DETAILS

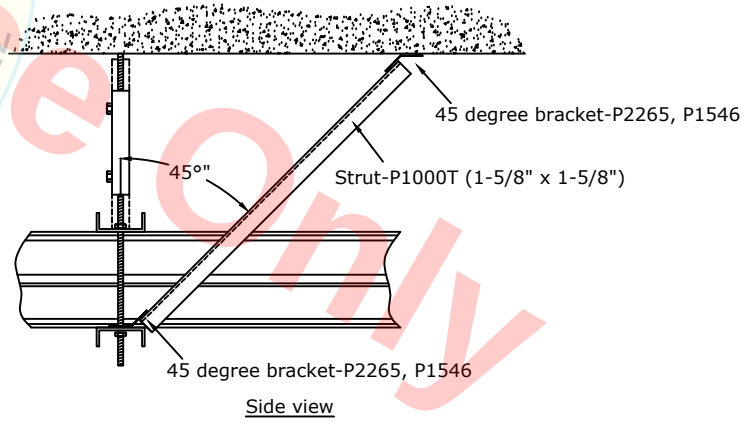
	DRAWN BY: J.MISENHIMER
ROOT NUMBER: 212C1041	REVIEWED BY: J.MISENHIMER
DATE: 11/28/2022	SHEET: 28





Ceiling suspended hangers-edgewise mounted busway
Copper (225A-5000A), Aluminum (225A-4000A)

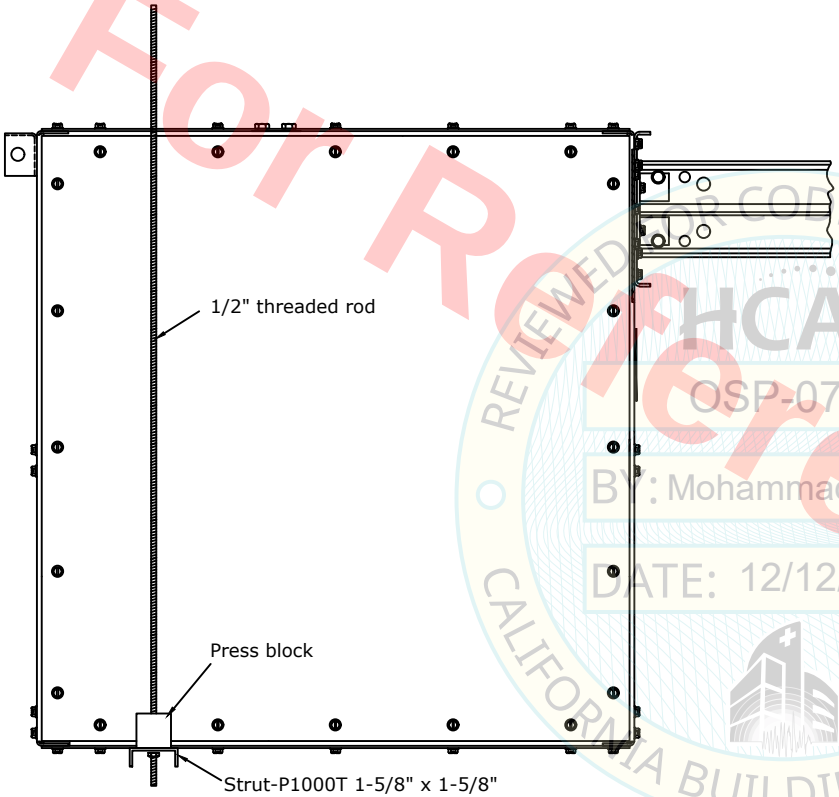




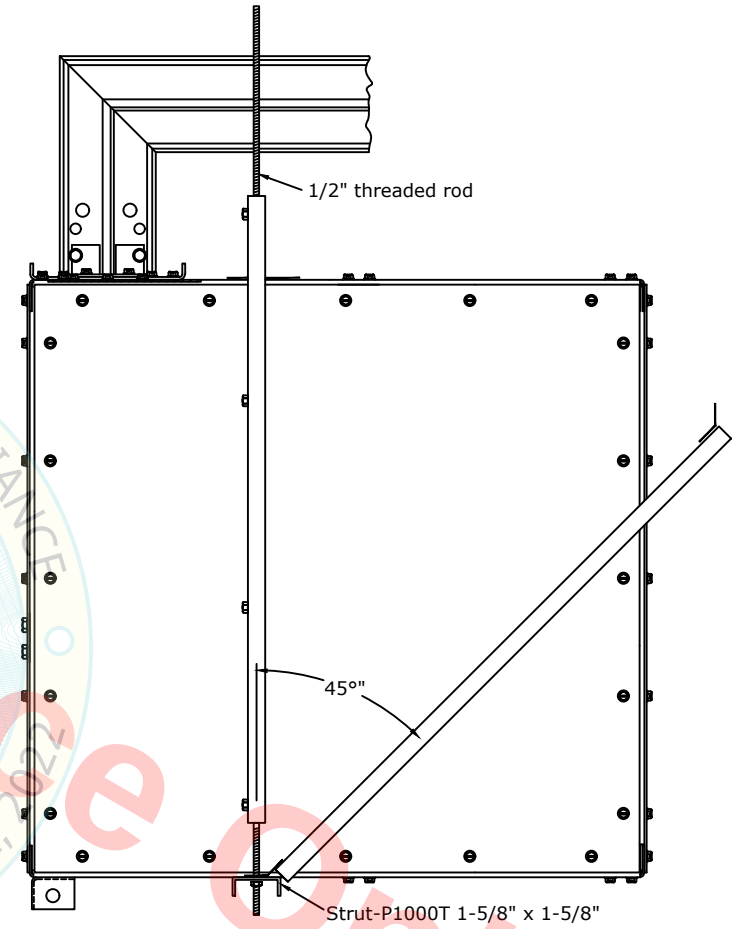
Ceiling suspended hangers-flatwise mounted busway
Copper (225A-5000A), Aluminum (225A-4000A)

REVISIONS			
3	5/24/2023	Removed confidential label	JAM
2	3/2/2023	REVISED DRAWING	JAM
1	2/27/2023	REVISED DRAWING	JAM

TITLE: SEISMIC BRACING DETAILS
DRAWN BY: J.MISENHIMER
ROOT NUMBER: 212C1041
REVIEWED BY: J.MISENHIMER
DATE: 11/28/2022
SHEET: 29



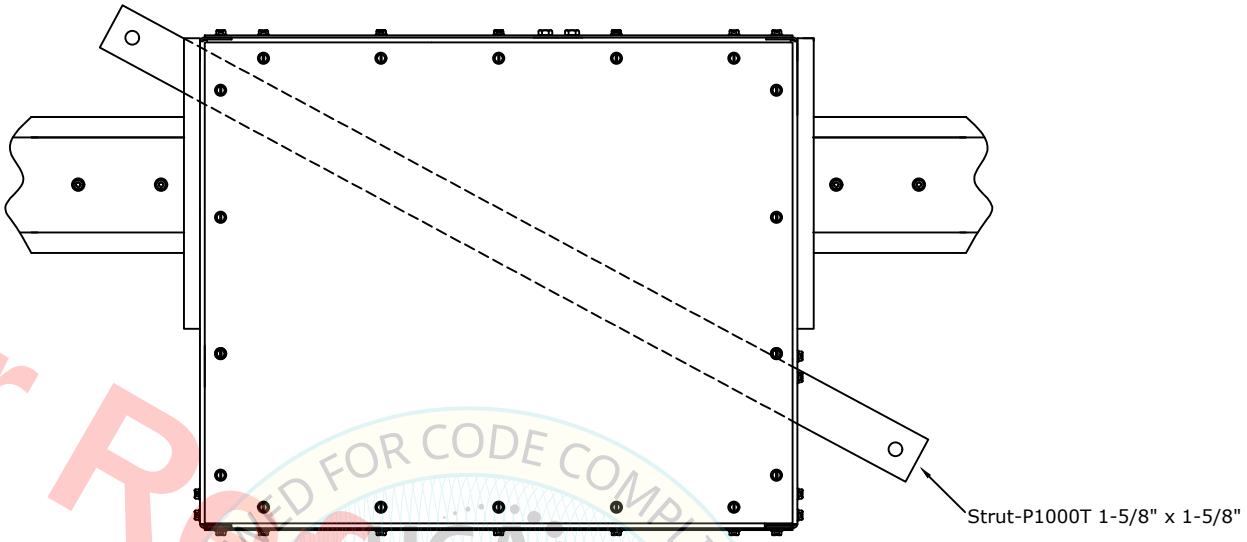
End cable tap box-side view
Copper (225A-5000A), Aluminum (225A-4000A)



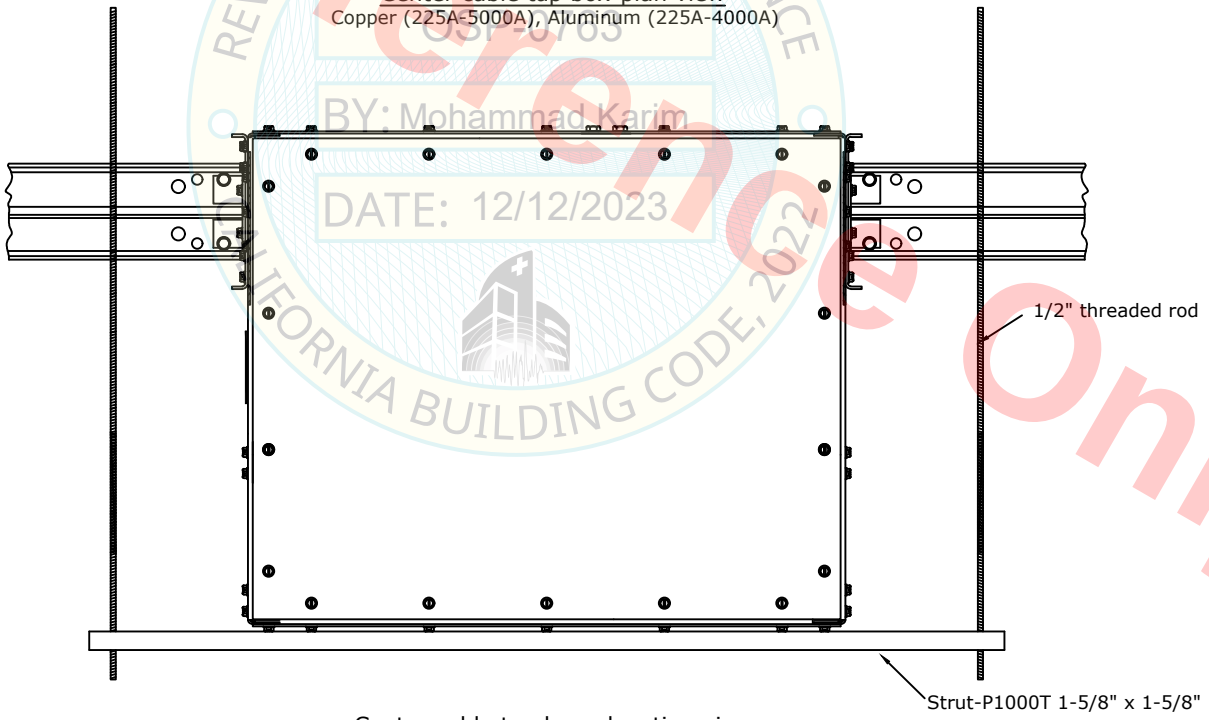
End cable tap box-vertical underhung mount
Copper (225A-5000A), Aluminum (225A-4000A)

REVISIONS			
2	5/24/2023	Removed confidential label	JAM
1	2/3/2023	Revised drawings	JAM

TITLE: SEISMIC BRACING DETAILS
DRAWN BY: J.MISENHIMER
ROOT NUMBER: 212C1041
REVIEWED BY: J.MISENHIMER
DATE: 11/28/2022
SHEET: 30



Center cable tap box-plan view
Copper (225A-5000A), Aluminum (225A-4000A)

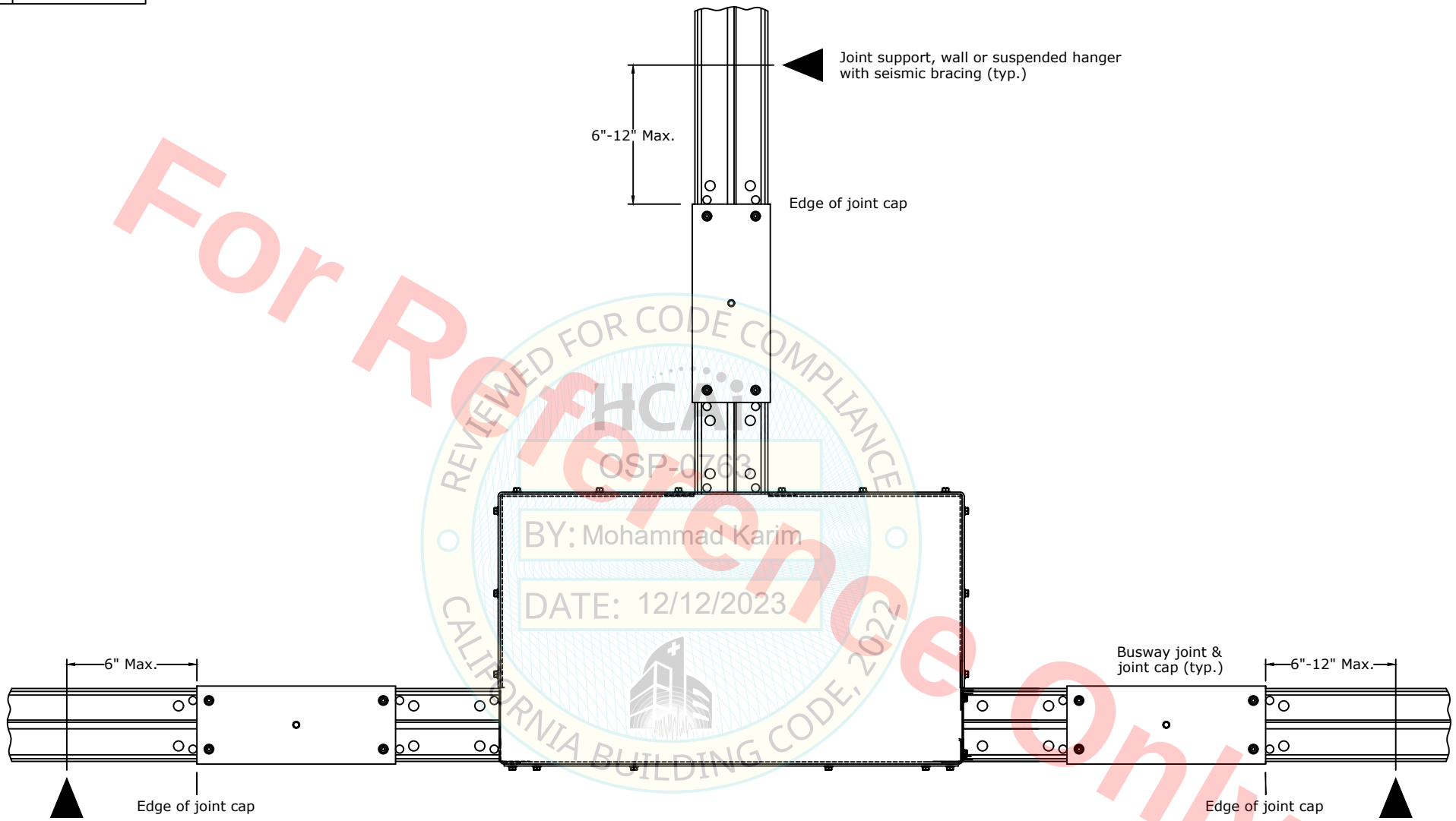


Center cable tap box-elevation view
Copper (225A-5000A), Aluminum (225A-4000A)

REVISIONS			
2	5/24/2023	Removed confidential label	JAM
1	2/3/2023	Revised drawings	JAM

TITLE: SEISMIC BRACING DETAILS

DRAWN BY: J.MISENHIMER
ROOT NUMBER: 212C1041
REVIEWED BY: J.MISENHIMER
DATE: 11/28/2022
SHEET: 31



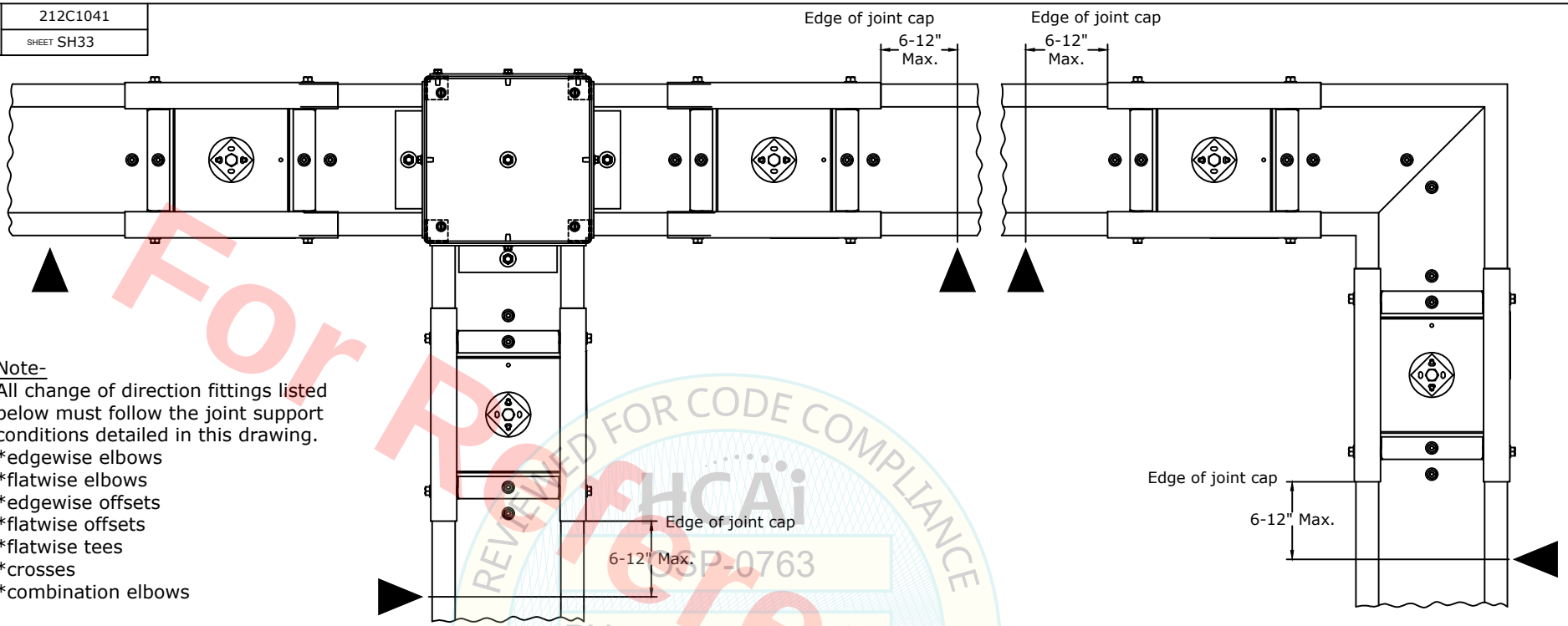
Busway fittings-edgewise tee

Copper (225A-5000A), Aluminum (225A-4000A)

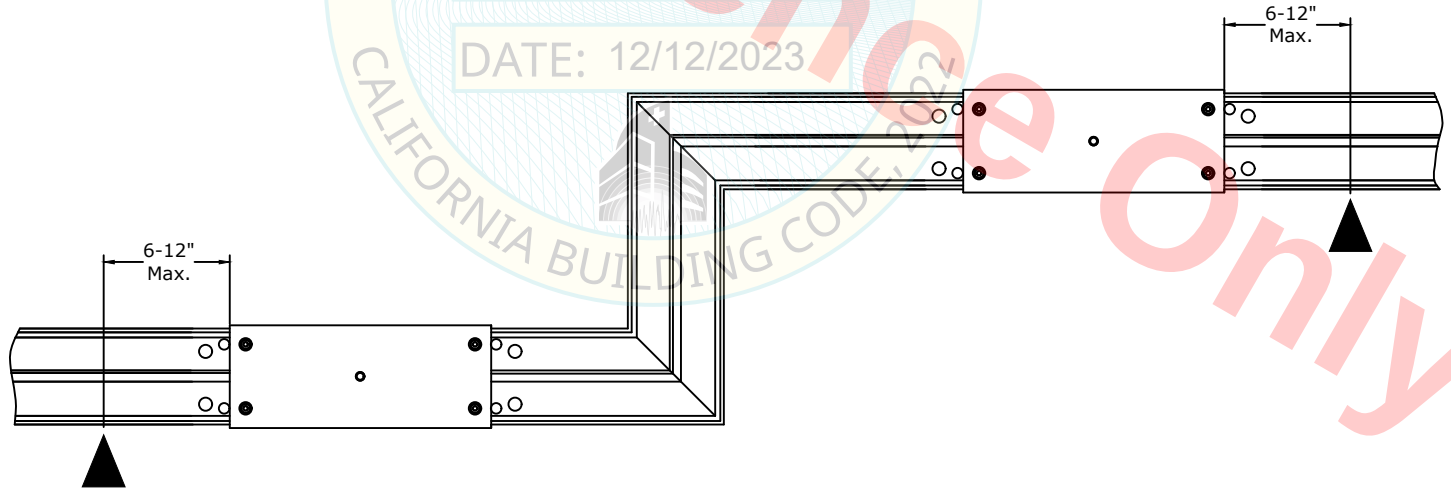
REVISIONS			
2	5/24/2023	Removed confidential label	JAM
1	2/3/2023	Revised drawings	JAM

TITLE: SEISMIC BRACING DETAILS

DRAWN BY: J.MISENHIMER
ROOT NUMBER: 212C1041
REVIEWED BY: J.MISENHIMER
DATE: 11/28/2022
SHEET: 32



Note-
All change of direction fittings listed below must follow the joint support conditions detailed in this drawing.
*edgewise elbows
*flatwise elbows
*edgewise offsets
*flatwise offsets
*flatwise tees
*crosses
*combination elbows

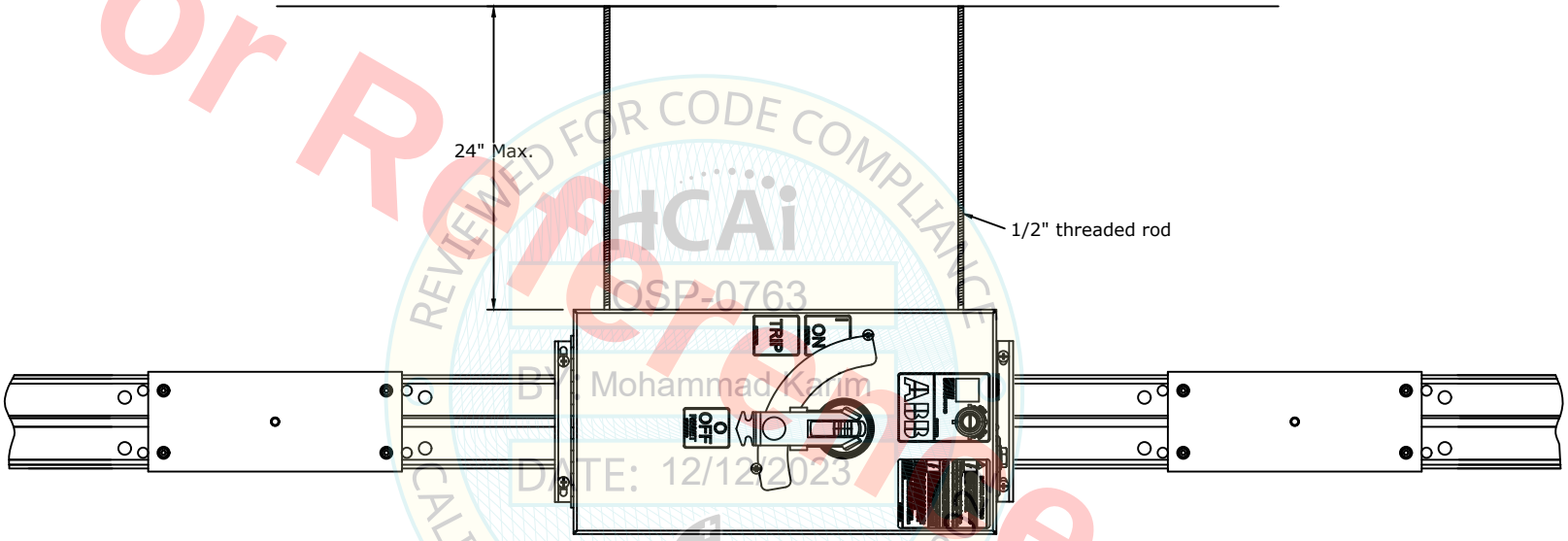


Joint support, wall or suspended hanger with seismic bracing (typ.)

Busway fittings
Copper (225A-5000A), Aluminum (225A-4000A)

REVISIONS			
2	5/24/2023	Removed confidential label	JAM
1	2/3/2023	Revised drawings	JAM

TITLE: SEISMIC BRACING DETAILS
DRAWN BY: J.MISENHIMER
ROOT NUMBER: 212C1041
REVIEWED BY: J.MISENHIMER
DATE: 11/28/2022
SHEET: 33



Horizontal plug-in hangers

See certified product line matrix for plug-in units that require hangers

REVISIONS			
2	5/24/2023	Removed confidential label	JAM
1	2/27/2023	REVISED NOTATION	JAM

TITLE: SEISMIC BRACING DETAILS

DRAWN BY: J.MISENHIMER
ROOT NUMBER: 212C1041
REVIEWED BY: J.MISENHIMER
DATE: 11/28/2022
SHEET: 34

Table 9: Plug-in and feeder, all bus UL listed @600 volts

				Standard Bar						+1 Bar			Approximate weight ft./lbs.			
		AC Ampere rating	Figure no.	"A" width		Bar sizes width × thickness		"A" width		Bar Size		DC Ampere rating	3 wire	4 wire	3-wire/G	4-wire/G
				in.	mm	in.	mm	in.	mm	in	mm					
		225	13.1	4.38	111	1.63 x .25	41 x 6	4.38	111	1.63	41	600	5	6	5	6
		400	13.1	4.38	111	1.63 x .25	41 x 6	4.38	111	1.63	41	-	5	6	5	6
		600	13.1	4.38	111	1.63 x .25	41 x 6	5.00	127	2.25	57	800/1000	5	6	5	6
		800	13.1	5.63	143	2.88 x .25	73 x 6	6.13	156	3.38	86	1350	6	7	6	8
		1000	13.1	6.13	156	3.38 x .25	86 x 6	7.00	178	4.25	108	1600	7	8	8	9
		1200	13.1	7.00	178	4.25 x .25	108 x 6	7.25	184	4.50	114	-	8	9	9	10
		1350	13.1	8.50	216	5.75 x .25	146 x 6	9.25	235	6.50	165	2500	9	10	10	11
		1600	13.1	9.25	235	6.50 x .25	165 x 6	11.00	279	8.25	210	-	10	12	11	13
		2000	13.1	11.00	279	8.25 x .25	210 x 6	15.00	381	(2)4.25	(2)108	3000	12	15	13	16
		2500	13.2	15.50	394	(2)4.50 x .25	(2)114 x 6	18.00	457	(2)5.75	(2)146	4000	17	20	18	21
		3000	13.2	18.00	457	(2)5.75 x .25	(2)146 x 6	19.50	495	(2)6.50	(2)165	-	19	23	21	25
	Spectra	3200	13.2	19.5	495	(2)6.50 x .25	(2)165 x 6	-	-	-	-	5200	21	24	23	25
Aluminum	series	4000	13.2	23.00	584	(2)8.25 x .25	(2)210 x 6	-	-	-	-	6000	25	30	27	32
		225	13.1	4.38	111	1.63 x .25	41 x 6	4.38	111	1.63	41	800	8	9	9	10
		400	13.1	4.38	111	1.63 x .25	41 x 6	4.38	111	1.63	41	-	8	9	9	10
		600	13.1	4.38	111	1.63 x .25	41 x 6	4.38	111	1.63	41	-	8	9	9	10
		800	13.1	4.38	111	1.63 x .25	41 x 6	5.00	127	2.25	57	1000/1200	8	9	9	10
		1000	13.1	5.00	127	2.25 x .25	57 x 6	5.63	143	2.88	73	1350/1600	10	12	11	12
		1200	13.1	5.63	143	2.88 x .25	73 x 6	6.13	156	3.38	86	-	12	15	13	16
		1350	13.1	6.13	156	3.38 x .25	86 x 6	7.00	178	4.25	108	2000	14	17	16	19
		1600	13.1	7.00	178	4.25 x .25	108 x 6	7.25	184	4.50	114	2500	16	20	18	22
		2000	13.1	8.50	216	5.75 x .25	146 x 6	9.25	235	6.50	165	3000	21	26	24	29
		2500	13.1	10.25	260	7.50 x .25	191 x 6	11.00	279	8.25	210	4000	26	33	30	37
		3000	13.2	14.50	368	(2)4.00 x .25	(2)102 x 6	15.00	381	(2)4.25	(2)108	5000	32	40	36	44
		3200	13.2	15.50	394	(2)4.50 x .25	(2)114 x 6	-	-	-	-	5200	34	43	38	47
		4000	13.2	18.00	457	(2)5.75 x .25	(2)146 x 6	19.50	495	(2)6.50	(2)165	6000	42	52	47	58
	Spectra	5000	13.2	21.50	546	(2)7.50 x .25	(2)191 x 6	23.00	584	(2)8.25	(2)210	8000	52	66	59	73
Copper	series	6000	13.3	29.75	756	(3)6.50x.25	(3)165x6	-	-	-	-		68	77	86	95

Comparison to wire and conduit

Estimates based on material costs alone often exclude the substantial cost savings and ease of installation available with the lighter, more compact Spectra series busway. Labor savings can be significant, often resulting in lower total installed cost and the ability to free up time to complete more jobs. A Labor Estimating Manual, which uses NECA labor units, is available to assist in estimating and comparing the amount of labor required to install busway and wire and conduit. This manual, along with the "Total Installed Cost Worksheet" in the back of the manual, is a valuable, simple tool used to estimate and compare the total cost for busway and wire and conduit.

See publication number GEZ-7737. Your local ABB Account Manager can also assist you. Layout and measurement support also are available through your ABB Account Manager.

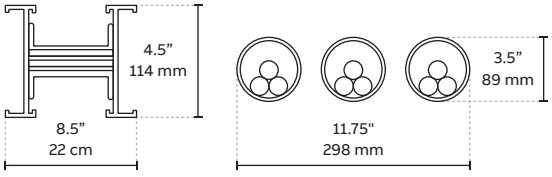
Benefits of busway over wire and conduit

- Lower installed cost
- Smaller size, lighter weight
- Better efficiency
- No cutters, benders, oils, jellies, grease, scrap or cable reels
- Future expansion flexibility
- Higher short-circuit ratings
- Lower voltage drop
- Higher integrity and reliability

—
11 Installation labor cost

Spectra series busway plug-in labor measurements are the same as feeder labor measurements.

—
11



Spectra series busway requires less space than wire and conduit. Layout and measurement support are available. Contact your local ABB Account Manager for more information.

—
Table 10: Compact size

	Width	
Amperes	**AL**	**CU**
225–600	4.375	4.375
800	5.625	4.375
1000	6.125	5
1200	7	5.625
1350	8.5	6.125
1600	9.25	7
2000	11	8.5
2500	15.5	10.25
3000	18	14.5
3200	19.5	15.5
4000	23	18
5000	-	21.5
6000	-	29.75

Dimensions: Representative in inches for aluminum and copper housings. All depths are 4.5".

—
Table 11: Low weight

Amperes	**AL3W**	**4W**	**CU3W**	**4W**
225–600	4	5	6	7
800	6	7	8	9
1000	7	8	10	12
1200	8	9	12	15
1350	9	10	14	17
1600	10	12	16	20
2000	12	15	21	26
2500	17	20	29	37
3000	19	23	32	40
3200	21	24	34	43
4000	25	30	42	52
5000	-	-	58	74
6000	-	-	68	86

Pounds / 1 Foot: Representative for aluminum and copper housings with 3 wire and 4 wire applications.

Spectra series busway provides optimum performance in the most demanding applications. Through superior design and applied materials technology, it assures uptime and reliability, even in severe-duty weather environments.