



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0356

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Greenheck, Inc.

Manufacturer's Technical Representative: Nathan Fetting

Mailing Address: 1100 Greenheck Dr., Schofield, WI 54476

Telephone: (715) 841-8549

Email: nathan.fetting@greenheck.com

Product Information

Product Name: Greenheck Sidewall Propeller Fans

Product Type: Sidewall Propeller Fans

Product Model Number: Varies (See Attachment)

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

General Description: Sidewall propeller fans with internal and external components as shown in the attachment.

UUT12 through 16 and related interpolated or extrapolated units shall be attached directly to wall/structure through unit housing, and shall not be attached to any other component.

Mounting Description: Wall Mounted

Applicant Information

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

Contact Person: Galen Reid

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

Telephone: 844-878-0200

Email: greid@structint.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 4/18/2019

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



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OSH-FD-759 (REV 12/16/15)

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

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

Name: Andrew M. Coughlin California License Number: S6082

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

Telephone: 844-878-0200 Email: acoughlin@structint.com

Supports and Attachments Preapproval

- ☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

Certification Method

- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): _____
- _____
- _____

Testing Laboratory

Company Name: Environmental Testing Laboratory

Contact Name: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas, TX 75229

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



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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.88

S_{DS} (Design spectral response acceleration at short period, g) = 2.50

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Attachments

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

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) = _____

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

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = Mohammad Aliaari

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = DATE: 08/17/2020

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☐ Manufacturer's Catalog

☒ Other(s) (Please Specify): Product Matrices

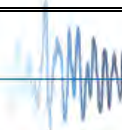
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: M. Aliaari Date: August 17, 2020

Print Name: Mohammad Aliaari Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.50 z/h = 1.0

Condition of Approval (if applicable): _____



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

1800859-CR-001 R0



Manufacturer: Greenheck Fan Corporation							TABLE 1	
Model Line: Sidewall Propeller Fans								
Certified Product Construction Summary: Panel/Drive Frame made of 12ga - 18ga carbon steel.								
Certified Options Summary:								
Mounting Configuration: Wall mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.								
Building Code: CBC 2019		Seismic Certification Limits:			$S_{DS}=$ 2.5 g	$z/h=$ 1.0	$I_p=$ 1.5	
Model Line	Model	Dimensions (in)			Fan Wt. (lb)	Max Wt. (lb)	Notes	UUT
		Depth	Width	Height				
Direct Drive Level 1 SE: Exhaust SS: Supply	8	8.0	13.0	13.0	15	70	Stamped aluminum blades with carbon steel hub.	Extrap.
	10	8.0	15.0	15.0	16	84		Extrap.
	12	13.1	18.0	18.0	20	104		Extrap.
	14	14.3	20.0	20.0	27	127		Extrap.
	16	14.0	22.0	22.0	30	144		Extrap.
	18	14.3	24.0	24.0	35	150		Extrap.
	20	18.0	26.0	26.0	39	156		Extrap.
	24	21.0	32.0	32.0	45	166		2
Direct Drive Level 2 SE: Exhaust SS: Supply	16	14.0	22.0	22.0	78	78	Carbon steel blades & hub - welded	3
	18	14.3	24.0	24.0	80	176		Interp.
	20	18.0	26.0	26.0	82	224		Interp.
	24	21.0	32.0	32.0	85	373		Interp.
	30	21.8	28.0	28.0	130	483		Interp.
	36	28.0	44.0	44.0	230	656		Interp.
	42	28.0	50.0	50.0	290	822		Interp.
	48	28.5	56.0	56.0	375	1007		Interp.
	54	30.1	62.0	62.0	561	1018		1
Direct Drive Level 3 SCE: Exhaust SCS: Supply SCR: Reversible	20	18.0	26.0	26.0	55	219	Cast aluminum blades and hub.	Interp.
	24	20.5	32.0	32.0	80	368		Interp.
	30	20.0	38.0	38.0	125	478		Interp.
	36	27.0	44.0	44.0	220	646		Interp.
	42	29.2	50.0	50.0	290	822		Interp.
	48	30.5	56.0	56.0	386	1007		Interp.
	54	142.3	68.4	68.4	561	1018		4

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SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

1800859-CR-001 R0



Manufacturer: Greenheck Fan Corporation							TABLE 2	
Model Line: Sidewall Propeller Fans								
Certified Product Construction Summary: Panel/Drive Frame made of 12ga - 18ga carbon steel.								
Certified Options Summary:								
Mounting Configuration: Wall mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.								
Building Code: CBC 2019		Seismic Certification Limits:			$S_{DS}=$ 2.5 g	$z/h=1.0$	$I_p= 1.5$	
Model Line	Model	Dimensions (in)			Fan Wt. (lb)	Max Wt. (lb)	Notes	UUT
		Depth	Width	Height				
Belt Drive Level 1 SBE: Exhaust SBS: Supply	20	42.9	32.3	32.3	60	158	Carbon steel blades and hub - Riveted	8
Belt Drive Level 2 SBE: Exhaust SBS: Supply	20	19.5	26.0	26.0	65	229	Dual thickness carbon steel blades and hub - Riveted	Extrap.
	24	99.8	38.3	38.3	75	329		5
	30	21.5	38.0	38.0	100	453		Interp.
	36	25.0	50.0	50.0	160	586		Interp.
	42	25.0	50.0	50.0	160	692		Interp.
	48	25.0	56.0	56.0	260	740		Interp.
	54	26.0	62.0	62.0	315	789		Interp.
	60	105.3	74.4	74.4	370	805		6
Belt Drive Level 3 SBE: Exhaust SBS: Supply	24	19.0	32.0	32.0	90	378	Cold rolled carbon steel blades and hub - Welded	Extrap.
	30	21.5	38.0	38.0	140	493		Extrap.
	36	28.0	44.0	44.0	260	686		Extrap.
	42	31.5	56.0	56.0	420	952		Extrap.
	48	31.5	56.0	56.0	420	1052		Extrap.
	54	35.8	62.0	62.0	590	1520		Extrap.
	60	35.0	68.0	68.0	755	1673		Extrap.
	72	73.0	91.1	91.1	1050	1942		7

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TABLE 2

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800859-CR-001 R0



Manufacturer: Greenheck Fan Corporation		Table Description: Fan Motors			TABLE 3
Model Line: Sidewall Propeller Fans					
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 2.5g$ $z/h = 1.0$ $I_p = 1.5$			
Component Type	Manufacturer	Model	Description	Notes	UUT
Fan Motor	WEG	1/100 HP	3 lbs.		Extrap.
		...	...		Extrap.
		1/2 HP	15 lbs.	UUT: 115V - 1 Phase	8
		...	...		Interp.
		7.5 HP	200 lbs.	UUT: 230V - 3 Phase	1
	Vari-Green	1/100 HP	3 lbs.		Extrap.
		...	...		Extrap.
		1/4 HP	10 lbs.	UUT: 115V - 1 Phase	3
		...	...		Interp.
		2.0 HP	40 lbs.	UUT: 230V - 1 Phase	4
	Marathon	1/100 HP	3 lbs.		Extrap.
		...	...		Extrap.
		3/4 HP	15 lbs.	UUT: 115V - 1 Phase	2
		5 HP	120 lbs.	UUT: 460V - 3 Phase	6
		...	...		Interp.
		20 HP	283 lbs.	UUT: 460V - 3 Phase	9
	Baldor	1/100 HP	3 lbs.		Extrap.
		...	...		Extrap.
		1 HP	38 lbs.	UUT: 115V - 1 Phase	5
		...	...		Interp.
		2 HP	45 lbs.	UTT: 230/460V - 3 Phase	10
		...	...		Interp.
		20 HP	534 lbs.	UUT: 460V - 3 Phase	7,11

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800859-CR-001 R0



Manufacturer: Greenheck Fan Corporation		Table Description: Dampers					TABLE 4	
Model Line: Sidewall Propeller Fans								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 2.5 g$ $z/h = 1.0$					$I_p = 1.5$	
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Greenheck, Inc. Backdraft Dampers	VCD-20	5.13	6	6	10	Carbon steel frame and blades		Extrap.
		...	...	...	...			Extrap.
		5.25	26	26	25			2
		...	...	...	...			Interp.
		5.25	74	74	120			7
	VCD-23	5.13	6	6	10	Carbon steel frame and blades		Extrap.
		...	...	...	...			Extrap.
		5.25	62	62	95			6
		...	...	...	...			Extrap.
		5.25	74	74	165			Extrap.
	VCD-34(Motorized)	5.13	10	6	15	Carbon steel frame and blades		Extrap.
		...	...	...	...			Extrap.
		5.25	74	74	165			9
	VCD-42 (Motorized) ¹	5.13	6	6	10	Carbon steel frame and aluminum blades		Extrap.
		...	...	...	...			Extrap.
		5.25	22	22	24			8
		5.25	56	56	75	Carbon steel frame and aluminum blades		4
		...	...	...	...			Interp.
		5.25	74	74	164			12
Notes:								
1. Dampers interpolated by UUT12, UUT13, or UUT14 shall be attached directly to wall/structure through unit housing, and shall not be attached to any other component.								

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Greenheck Fan Corporation		Table Description: Housing Options					TABLE 5	
Model Line: Sidewall Propeller Fans								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 2.5g$ $z/h = 1.0$					$I_p = 1.5$	
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Wall Collar (Greenheck)	8	16	16	16	18	20ga Carbon Steel		Extrap.
	10	16	18	18	20			Extrap.
	12	16	21	21	24			Extrap.
	14	18	23	23	27			Extrap.
	16	18	25	25	38			Extrap.
	18	18	27	27	41			Extrap.
	20	18	29	29	47	18 -12ga Carbon Steel	UUT: 18ga Carbon Steel	8
	24	18	38	38	60		UUT: 18ga Carbon Steel	2
	30	18	44	44	71			Interp.
	36	19	50	50	83			Interp.
	42	19	56	56	94			Interp.
	48	19	62	62	105			Interp.
	54	20	68	68	141			Interp.
	60	21	74	74	160		UUT: 16ga Carbon Steel	6
	72	22	89	89	320		14 -12ga Carbon Steel	
Short Wall Housing (Greenheck)	8	19	16	16	26	20 - 12ga Carbon Steel		Interp.
	10	19	18	18	32			Interp.
	12	24	21	21	41			Interp.
	14	26	23	23	50			Interp.
	16	27	25	25	56	18 - 12ga Carbon Steel	UUT: 20ga Carbon Steel	3
	18	28	27	27	64			Interp.
	20	32	29	29	85			Interp.
	24	37	38	38	125			Interp.

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Greenheck Fan Corporation		Table Description: Housing Options					TABLE 5	
Model Line: Sidewall Propeller Fans								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 2.5g$ $z/h = 1.0$					$I_p = 1.5$	
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Short Wall Housing (Greenheck)	30	38	44	44	148	18 - 12ga Carbon Steel		Interp.
	36	39	50	50	177			Interp.
	42	44	56	56	207			Interp.
	48	44	62	62	250	14 - 12ga Carbon Steel		Interp.
	54	51	68	68	365			Interp.
	60	54	74	74	450			Interp.
	72	54	89	89	1100	12ga Carbon Steel		Interp.
Long Wall Housing (Greenheck)	8	25	16	16	26	20ga Carbon Steel		Interp.
	10	25	18	18	32			Interp.
	12	29	21	21	41			Interp.
	14	32	23	23	50			Interp.
	16	33	25	25	56			Interp.
	18	34	27	27	64			Interp.
	20	38	29	29	85	18 - 12ga Carbon Steel		Interp.
	24	43	38	38	125			Interp.
	30	44	44	44	148			Interp.
	36	45	50	50	177			Interp.
	42	48	56	56	207			Interp.
	48	50	62	62	250	20 - 14ga Carbon Steel		Interp.
	54	56	68	68	365			Interp.
	60	60	74	74	450			Interp.
	72	60	89	89	1100	12ga Carbon Steel	UUT: 12ga Carbon Steel	7

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer:	Greenheck Fan Corporation	Table Description:	Options and Accessories	TABLE 6
Model Line:	Sidewall Propeller Fans			

Building Code: CBC 2019

Seismic Certification Limits: $S_{DS} = 2.5g$ $z/h = 1.0$

$I_p = 1.5$

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Motor Side Guard ¹ (Greenheck)	20	17	28	28	15	18ga Welded carbon steel wire	UUT8: 18ga Carbon Steel	8
	24	20	34	34	20		UUT2: 18ga Carbon Steel	2
	30	23	40	40	26			Interp.
	36	24	46	46	30			Interp.
	42	26	53	53	37			Interp.
	48	29	59	59	42			Interp.
Damper Guard ¹ (Greenheck)	8	6	10	10	6	18ga Carbon Steel Frame with expanded steel screen		Interp.
	10	7	12	12	8			Interp.
	12	5	14	14	9			Interp.
	14	6	16	16	11			Interp.
	16	7	18	18	13			Interp.
	18	6	20	20	14			Interp.
	20	7	22	22	17		UUT8: 18ga Carbon Steel	8
	24	6	26	26	21			Interp.
	30	7	32	32	22			Interp.
	36	4	38	38	24			Interp.
	42	10	44	44	38			Interp.
	48	9	50	50	39			Interp.
	54	8	56	56	44			Interp.
	60	7	62	62	48			Interp.
	72	8	74	74	58			Interp.

¹ Damper Guard, Motor Side Guard, OSHA Side Guard are structually the same.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800859-CR-001 R0



Manufacturer: Greenheck Fan Corporation		Table Description: Options and Accessories					TABLE 6	
Model Line: Sidewall Propeller Fans								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 2.5 g$ $z/h = 1.0$					$I_p = 1.5$	
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
OSHA Side Guard ¹ (Greenheck)	8	10	13	13	8	20ga Carbon Steel Frame with steel screen		Interp.
	10	10	15	15	12			Interp.
	12	12	18	18	17			Interp.
	14	12	20	20	19			Interp.
	16	12	22	22	21		UUT: 20ga Carbon Steel	3
	18	12	24	24	24	18 - 12ga Carbon Steel Frame with steel screen		Interp.
	20	18	26	26	26			Interp.
	24	20	32	32	27		UUT: 18ga Carbon Steel	5
	30	22	38	38	36			Interp.
	36	24	44	44	63			Interp.
	42	29	50	50	67	16 - 12ga Carbon Steel Frame with steel screen		Interp.
	48	28	56	56	72			Interp.
	54	34	62	62	98		UUT: 16ga Carbon Steel	4
	60	34	68	68	105		UUT: 16ga Carbon Steel	6
	72	34	82	82	132		UUT: 12ga Carbon Steel	7
Steel Weatherhood 45° Turn Down (Greenheck)	8	13	11	12	9	18 - 16ga Carbon steel		Extrap.
	10	15	13	14	12			Extrap.
	12	46	15	17	15			Extrap.
	14	18	17	19	18			Extrap.
	16	19	19	21	21			Extrap.
	18	22	21	23	26			Extrap.

¹ Damper Guard, Motor Side Guard, OSHA Side Guard are structually the same.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800859-CR-001 R0



Manufacturer: Greenheck Fan Corporation		Table Description: Options and Accessories					TABLE 6	
Model Line: Sidewall Propeller Fans								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 2.5 g$ $z/h = 1.0$					$I_p = 1.5$	
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Steel Weatherhood 45° Turn Down (Greenheck) ¹	20	25	23	25	31	18 - 16ga Carbon steel		Extrap.
	24	27	29	22	43			Extrap.
	30	29	35	38	53			Extrap.
	36	33	41	44	68	16ga Carbon steel		Extrap.
	42	36	47	50	81			Extrap.
	48	40	53	56	105			Extrap.
	54	45	60	62	150		UUT: 16ga Carbon Steel w/bird screen	1
	60	48	66	68	184			Interp.
	72	53	78	81	213.5		UUT: 16ga Carbon Steel w/bird screen	15
Steel Weatherhood 90° Turn Down (Greenheck)	8	16	11	13	12	18 - 16ga Carbon steel		Interp.
	10	19	13	15	16			Interp.
	12	20	15	18	20			Interp.
	14	23	17	20	24			Interp.
	16	25	19	22	29			Interp.
	18	28	21	24	35			Interp.
	20	30	23	26	42			Interp.
	24	36	29	33	61		UUT: 18ga Carbon steel w/bird screen	5
	30	40	35	39	79	16 - 12ga Carbon steel		Interp.
	36	46	41	45	104			Interp.
	42	49	47	51	127			Interp.
	48	56	53	57	163			Interp.

¹ UUT12 thru 16 and related interpolated units shall be attached directly to wall/structure through unit housing, and shall not be attached to any other component.

¹ UUT12 thru 16 and related interpolated units shall be attached directly to wall/structure through unit housing, and shall not be attached to any other component.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800859-CR-001 R0



Manufacturer: Greenheck Fan Corporation		Table Description: Options and Accessories					TABLE 6	
Model Line: Sidewall Propeller Fans								
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 2.5g$ $z/h = 1.0$					$I_p = 1.5$	
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Aluminum Weatherhood 45° Turn Down (Greenheck)	8	13	11	12	5	0.063 Aluminum		Extrap.
	10	15	13	14	7			Extrap.
	12	46	15	17	8			Extrap.
	14	18	17	19	10			Extrap.
	16	19	19	21	12			Extrap.
	18	22	21	23	14			Extrap.
	20	25	23	25	17			Extrap.
	24	27	29	22	24			Extrap.
	30	29	35	38	29			Extrap.
	36	33	41	44	37			Extrap.
	42	36	47	50	44			Extrap.
	48	40	53	56	56			Extrap.
	54	45	60	62	71			Extrap.
	60	48	66	68	90		UUT: 16ga Aluminum w/bird screen	6
	72	53	78	81	115.5			Interp.
Aluminum Weatherhood 90° Turn Down (Greenheck)	8	16	11	13	7	0.063 Aluminum		Interp.
	10	19	13	15	8			Interp.
	12	20	15	18	11			Interp.
	14	23	17	20	13			Interp.
	16	25	19	22	16			Interp.
	18	28	21	24	19			Interp.
	20	30	23	26	22			Interp.
	24	36	29	33	32			Interp.

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1800859-CR-001 R0



¹ UUT12 thru 16 and related interpolated units shall be attached directly to wall/structure through unit housing, and shall not be attached to any other component.

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UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer: Greenheck Fan Corporation

Model Line: Sidewall Propeller Fans

UUT	Unit Description	Report Number	Testing Laboratory	S _{DS}	z/h	I _p
1	SE2-54-416-C75 Direct Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
2	SE1-24-432-B7 Direct Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
3	SE2-16-423-A3 Direct Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
4	SCS3-54-315-C75 Direct Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
5	SBS-2H24-10 Belt Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
6	SBE-2H60-50 Belt Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
7	SBS-3L72-200 Belt Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
8	SBE-1L20-5 Belt Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
9	SBCR-72-200 Belt Drive	12774, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
10	AER - 20	15133, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
11	AER - 60	15133, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
12*	VCD-42 Damper (On Fan)	15133, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
13*	VCD-43 Damper (On Fan)	15133, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
14*	WD - 300/400 Damper (On Fan)	15133, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
15*	45° Turndown Weatherhood (On Fan)	15133, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5
16*	90° Turndown Weatherhood (On Fan)	15133, Rev.1	Environmental Testing Laboratory (ETL)	2.5	1.0	1.5

Notes:

* UUT12 thru 16 are only dampers attached directly to wall/structure through unit housing.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 1
Model Line:	Sidewall Propeller Fans	
Model Number:	SE2-54-416-C75 – Direct Drive	
Serial Number:		N/A

Product Construction Summary:
14ga carbon steel fan panel. Propeller made of steel blades and hub – welded.

Options/Subcomponent Summary:
Motor: WEG motor 7.5HP/230V-3phase. Damper: Greenheck gravity operated damper WD300 56Wx56H. Disconnect: Square-D NEMA-1 toggle – 30A. Options & Accessories: 16ga carbon steel weatherhood 45° turn down with bird screen.

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
561*	30.1	62.0	62.0	N/A	N/A	N/A			
UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2010)	2.5	1.0	1.5	4.00	3.00	1.67	0.67	

Test Mounting Details:




*Weight of fan only



Unit attached to the test fixture using 16-3/8" x 3" lag screws. Greenheck damper and weatherhood attached using 18 and 20-3/8" x 3" lag screws, respectively.

Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 2
Model Line:	Sidewall Propeller Fans	
Model Number:	SE1-24-432-B7 – Direct Drive	
Serial Number:		N/A

Product Construction Summary:
18ga carbon steel fan panel. Propeller made of stamped aluminum blades with carbon steel hub.

Options/Subcomponent Summary:
Motor: Marathon motor 0.75HP / 115V-1phase. Damper: Greenheck motorized VCD-20. Damper Actuator: Honeywell ML4202F1000 (20in-lbs). Disconnect: Square-D NEMA-3R toggle – 30A. Housing Options: Wall collar made 18ga carbon steel. Options & Accessories: 18ga steel motor side guard.

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
166	21.0	32.0	32.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2010)	2.5	1.0	1.5	4.00	3.00	1.67	0.67	

Test Mounting Details:



Unit attached to the test fixture using 12-3/8" x 3" lag screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 3
Model Line:	Sidewall Propeller Fans	
Model Number:	SE2-16-423-A3 – Direct Drive	
Serial Number:		N/A

Product Construction Summary:
18ga carbon steel fan panel. Propeller made of steel blades and hub - welded.

Options/Subcomponent Summary:
Motor: Vari-Green 0.25HP / 115V-1phase. Disconnect: Square-D NEMA-4-30A. Housing Options: Short wall housing made of 20ga carbon steel. Options & Accessories: 20ga carbon steel OSHA side guard.

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
78	14.0	22.0	22.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2010)	2.5	1.0	1.5	4.00	3.00	1.67	0.67	

Test Mounting Details:



Unit attached to the test fixture using 12-3/8" x 3" lag screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 4
Model Line:	Sidewall Propeller Fans	
Model Number:	SCS3-54-315-C75 – Direct Drive	
Serial Number:	N/A	

Product Construction Summary:
14ga carbon steel fan panel. Propeller made of cast aluminum blades and hub.

Options/Subcomponent Summary:
Motor: Vari-Green motor 2HP / 230V-1phase. Damper: Greenheck motorized VCD-42 56Wx56H. Damper Actuator: Honeywell MS4120F1006 (175in-lbs). Disconnect: Square-D NEMA-3R heavy duty – 30A. Housing Options: Filtered wall housing made of 16ga carbon steel. Filters: (12) Research Products filters 23.25Wx20.75H. Options & Accessories: 16ga carbon steel OSHA side guard and 16ga aluminum weatherhood 90° turn down with bird screen. Discharge Diffuser: 2-way 56Wx56H carbon steel.

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
1018	142.3	68.4	68.4	N/A	N/A	N/A			
UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2010)	2.5	1.0	1.5	4.00	3.00	1.67	0.67	

Test Mounting Details:



Unit attached to the test fixture using 16-3/8" x 3" lag screws, 2- 1/2" all threaded rods and 20-1/4" tek screws (weatherhood). Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 5
Model Line:	Sidewall Propeller Fans	
Model Number:	SBS-2H24-10 – Belt Drive	
Serial Number:		N/A

Product Construction Summary:
18ga carbon steel fan panel. H type Propeller made of dual thickness carbon steel blades and hub – riveted.

Options/Subcomponent Summary:
Motor: Baldor motor 1HP / 115V-1phase. Damper: Greenheck motorized VCD-43 26Wx26H. Damper Actuator: Honeywell ML8202F1006 (175in-lbs). Disconnect: Square-D NEMA-4 heavy duty – 30A. Housing Options: Filtered wall housing made of 18ga carbon steel. Filters: (4) Research Products filters 23.25Wx16.25H. Options & Accessories: 18ga carbon steel OSHA side guard and 18ga carbon steel weatherhood 90° turn down with bird screen. Discharge Diffuser: 4-way 26Wx26H carbon steel.

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
329	99.8	38.3	38.3	N/A	N/A	N/A				
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156 (2010)		2.5	1.0	1.5	4.00	3.00	1.67	0.67



Unit attached to the test fixture using 12-3/8" x 3" lag screws and (2) 1/2" all threaded rods.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 6
Model Line:	Sidewall Propeller Fans	
Model Number:	SBE-2H60-50 – Belt Drive	
Serial Number:		N/A

Product Construction Summary:
14ga carbon steel fan panel. H type Propeller made of dual thickness carbon steel blades and hub – riveted.

Options/Subcomponent Summary:
Motor: Marathon motor 5HP / 460V-3phase. Damper: Greenheck motorized VCD-23 62Wx62H. Damper Actuator: Honeywell MS4120F1006 (175in-lbs). Disconnect: Square-D NEMA-3R Toggle – 30A. Housing Options: Wall collar made of 16ga carbon steel. Options & Accessories: 16ga carbon steel OSHA side guard and 16ga aluminum weatherhood 45° turn down with bird screen.

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
805	105.3	74.4	74.4	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2010)	2.5	1.0	1.5	4.00	3.00	1.67	0.67	

Test Mounting Details:

Unit attached to the test fixture using 16-3/8" x 3" lag screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 7
Model Line:	Sidewall Propeller Fans	
Model Number:	SBS-3L72-200 – Belt Drive	
Serial Number:		N/A

Product Construction Summary:
12ga carbon steel fan panel. L type propeller made of steel blades and hub – welded.

Options/Subcomponent Summary:
Motor: Baldor motor 20HP / 460V-3phase. Damper: Greenheck motorized VCD-20 74Wx74H. Damper Actuator: Honeywell MS8120F1002 (175in-lbs). Disconnect: ABB NEMA-4X Toggle – 40A. Housing Options: Long wall housing made of 12ga carbon steel. Options & Accessories: 12ga carbon steel OSHA side guard.

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
1942	73.0	91.1	91.1	N/A	N/A	N/A			
UUT Highest Passed Seismic Run Information									
Building Code		Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156 (2010)	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



Unit attached to the test fixture using 20-3/8" x 3" lag screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



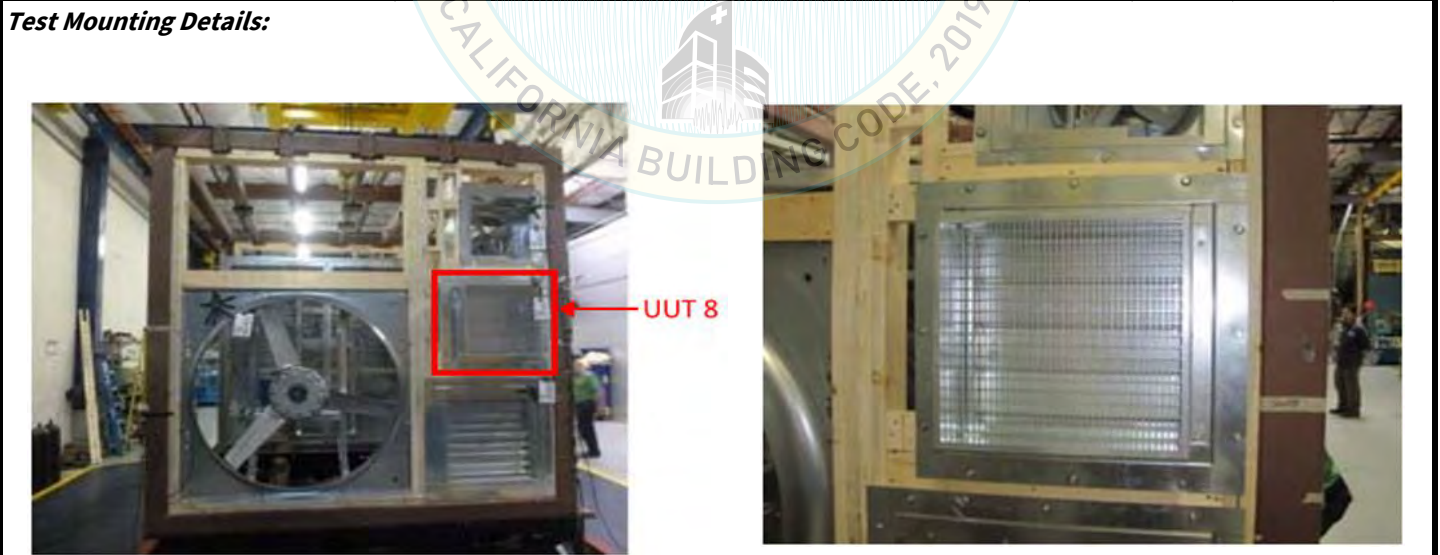
1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 8
Model Line:	Sidewall Propeller Fans	
Model Number:	SBE-1L20-5 – Belt Drive	
Serial Number:		N/A

Product Construction Summary:
18ga carbon steel fan panel. L type propeller made of carbon steel blades and hub - riveted.

Options/Subcomponent Summary:
Motor: WEG motor 0.5 HP / 115V-1phase. Damper: Greenheck motorized VCD-42 22Wx22H. Damper Actuator: Belimo TF120 (22in-lbs). Disconnect: Square-D NEMA-3R heavy duty – 30A. Housing Options: Wall collar made of 18ga carbon steel. Options & Accessories: 18ga steel motor side guard and 18ga carbon steel damper guard.

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
157.5	42.9	32.3	32.3	N/A	N/A	N/A				
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156 (2010)		2.5	1.0	1.5	4.00	3.00	1.67	0.67



Unit attached to the test fixture using 12-3/8" x 3" lag screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 9
Model Line:	Sidewall Propeller Fans	
Model Number:	SBCR-72-200 – Belt Drive	
Serial Number:		N/A

Product Construction Summary:
12ga galvanized steel fan panel. Cast aluminum blades and hub.

Options/Subcomponent Summary:
Motor: Marathon motor 20HP / 460V-3phase. Damper: Greenheck motorized VCD-34 74Wx74H. Damper Actuator: Belimo AFBUP-S (180 in-lbs). Disconnect: ABB NEMA-4 Toggle – 40A.

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
860*	35.0	82.0	82.0	N/A	N/A	N/A				
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156 (2010)		2.5	1.0	1.5	4.00	3.00	1.67	0.67



*Weight of fan only

Unit attached to the shake table fixture using 40-3/8" x 3" lag screws. Greenheck Damper attached using 22-3/8" x 3" lag screws. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

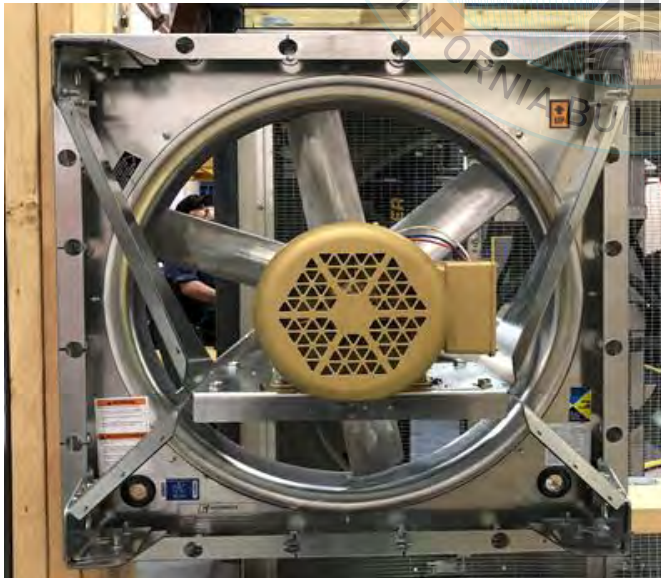
Manufacturer:	Greenheck Fan Corporation	UUT 10
Model Line:	Sidewall Propeller Fans	
Model Number:	AER - 20	
Serial Number:		15743375

Product Construction Summary:
16 ga carbon steel fan panel. Cast aluminum blades and hub.

Options/Subcomponent Summary:
Baldor 2 HP 230/460 V Motor

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
82*	20.0	26.0	26.0	N/A	N/A	N/A				
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156 (2015)		2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



*Weight of fan only

UUT was wall mounted to the test fixture with eight (8) 3/8" x 2" lag bolts with washers.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 11
Model Line:	Sidewall Propeller Fans	
Model Number:	AER - 60	
		Serial Number: 15698227

Product Construction Summary:
14 ga carbon steel fan panel. Cast aluminum blades and hub.

Options/Subcomponent Summary:
Baldor 20Hp motor-3 phase 460V

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
838*	35.0	68.0	68.0	N/A	N/A	N/A				
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156 (2015)		2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



*Weight of fan only
UUT was wall mounted to the test fixture with twenty (20) 3/8" x 2" lag bolts with washers.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 12
Model Line:	Sidewall Propeller Fans	
Model Number:	VCD - 42 Damper	
Serial Number:		N/A

Product Construction Summary:
Carbon steel frame (16 ga), with aluminum blades (0.063" Thick)

Options/Subcomponent Summary:
Damper Actuator: Honeywell (PN: MS4120F), Baldor 10 HP Motor 230/460V

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
164	5.3	74.0	74.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2015)	2.5	1.0	1.5	4.00	3.00	1.67	0.67	

Test Mounting Details: wall mounted rigid



UUT 12 was mounted to the unit housing with twenty two (22) #12 x 5/8" self tapping screws and rubber washer. The unit housing was wall mounted-rigid to the test fixture with nineteen (19) 3/8" x 2" lag bolts with washer. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 13
Model Line:	Sidewall Propeller Fans	
Model Number:	VCD - 43 Damper	
Serial Number:		N/A

Product Construction Summary:
Aluminum frame (0.125" thick) with aluminum blades (0.063 thick)

Options/Subcomponent Summary:
Damper Actuator: Honeywell (PN: MS4120F), Baldor 10 HP Motor 230/460V

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
149.5	5.0	74.0	74.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2015)	2.5	1.0	1.5	4.00	3.00	1.67	0.67	

Test Mounting Details:



UUT 13 was mounted to the unit housing with twenty two (22) #12 x 5/8" self tapping screws and rubber washers. The unit housing was wall mounted-rigid to the test fixture with nineteen (19) 3/8" x 3" lag bolts with washer. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 14
Model Line:	Sidewall Propeller Fans	
Model Number:	WD-300/400	
Serial Number:		N/A

Product Construction Summary:
Carbon steel frame (18 ga) with aluminum blades (0.025" thick)

Options/Subcomponent Summary:
Manual damper control

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
61	3.5	74.0	74.0	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2015)	2.5	1.0	1.5	4.00	3.00	1.67	0.67	

Test Mounting Details:



UUT 14 was mounted to the unit housing with twenty two (22) #12 x 5/8" self tapping screws and rubber washers. The unit housing was wall mounted-rigid to test fixture with nineteen (19) 3/8" x 3" lag bolts with washers. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

Manufacturer:	Greenheck Fan Corporation	UUT 15
Model Line:	Sidewall Propeller Fans	
Model Number:	45 Degree Weatherhood	
Serial Number:		N/A

Product Construction Summary:
16 ga Carbon Steel

Options/Subcomponent Summary:
Birdscreen

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
155.5	53	78	81	N/A	N/A	N/A				
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156 (2015)		2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



UUT 15 was mounted to the unit housing with eighteen (18) #12 x 5/8" self tapping screws and rubber washers. The housing was wall mounted-rigid to the test fixture with twenty (20) 3/8" x 3" lag bolts with washers. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800859-CR-001 R0

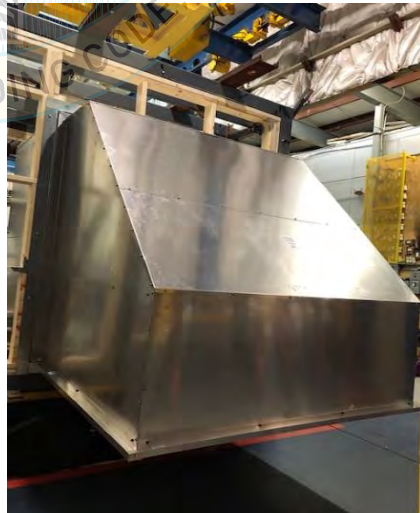
Manufacturer:	Greenheck Fan Corporation	UUT 16
Model Line:	Sidewall Propeller Fans	
Model Number:	90 Degree Weatherhood	
Serial Number:		N/A

Product Construction Summary:
16 ga. Aluminum

Options/Subcomponent Summary:
Rainguard, birdscreen

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
148	72	78	82	N/A	N/A	N/A				
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019		ICC-ES AC156 (2015)		2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



UUT 16 was mounted to the unit housing with twenty-one (21) #12 x 5/8" self tapping screws and rubber washers. The unit housing was wall mounted-rigid to the test fixture with nineteen (19) 3/8" x 2" lag bolts with washers. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.