



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

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

OFFICE USE ONLY

**APPLICATION #: OSP-0886**

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

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Greenheck Fan Corporation

Manufacturer's Technical Representative: Robby Juedes

Mailing Address: 1110 Greenheck Drive, PO Box 410, Schofield, WI 54476

Telephone: (715) 393-9141 Email: Rob.Juedes@greenheck.com

**Product Information**

Product Name: SQ Horizontal Fans, KSQ Bottom Vertical Fans

Product Model Number(s): Varies (see attachment)

Product Category: Air Handling Units

Product Sub-Category: Air Handling Units – Fans

General Description: SQ Horizontal Discharge Fans and KSQ Bottom Vertical Discharge Fans

Mounting Description: Several - See Certified Product Tables

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

**Applicant Information**

Applicant Company Name: TRU Compliance, by Structural Integrity Associates

Contact Person: Daniel Zentner

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

Telephone: (541) 292-5839 Email: dzentner@structint.com

Title: Program Manager





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

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.

Name: LACHEZAR HANDZHIYSKI California License Number: S6515

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

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

**Certification Method**

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

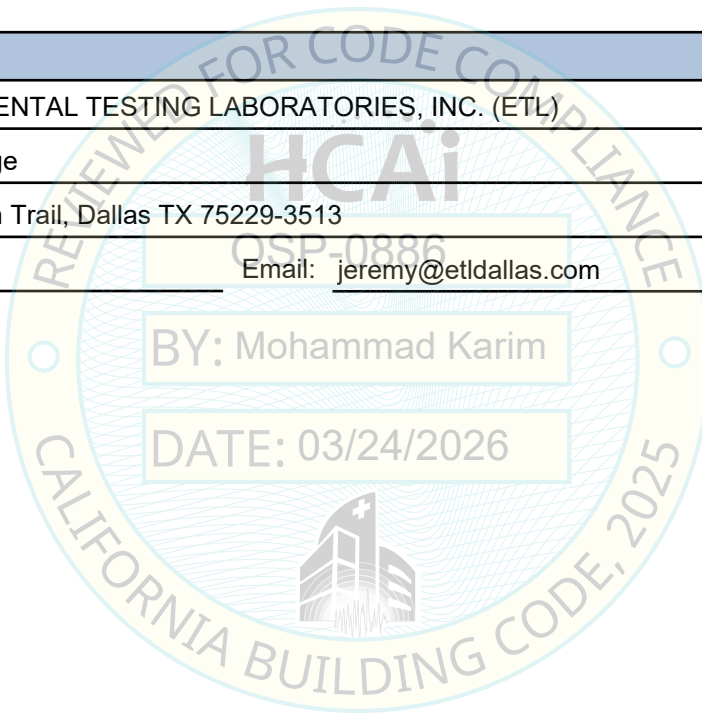
**Testing Laboratory**

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

Contact Person: Jeremy Lange

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

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





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**Seismic Parameters**

Certified Response Spectral Acceleration Factors:(Fp/Wp)

Horizontal	(A Flx-H), g=	<u>3.20</u>	(A Rig-H), g=	<u>2.15</u>
Vertical	(A Flx-V), g=	<u>2.13</u>	(A Rig-V), g=	<u>0.85</u>

SDS (Design spectral response acceleration at short period, g) = 2.00 @ z/h = 1; 3.20 @ z/h = 0

Hf (Force amplification height factor) = 3.5 @ z/h = 1; 1 @ z/h = 0

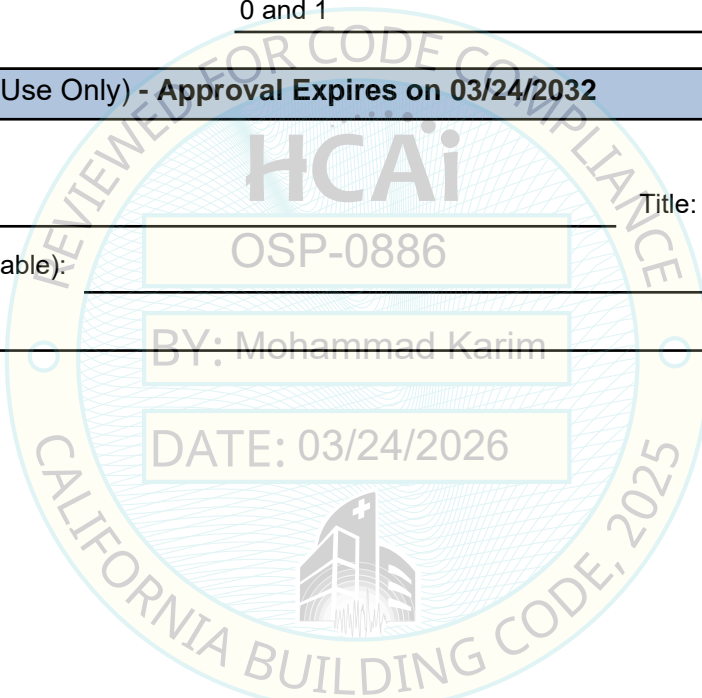
Ru (Structure ductility reduction factor) = 1.3 @ z/h = 1; 1 @ z/h = 0

Ip (Importance factor) = 1.5

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

**HCAI Approval (For Office Use Only) - Approval Expires on 03/24/2032**

Date:	<u>3/24/2026</u>	
Name:	<u>Mohammad Karim</u>	Title: <u>Supervisor, Health Facilities</u>
Condition of Approval (if applicable):	<u>OSP-0886</u>	
	<u>BY: Mohammad Karim</u>	
	<u>DATE: 03/24/2026</u>	









# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Fan Wheels (Ceiling suspended - isolated)	<b>TABLE 4.1</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Fan Wheels	Greenheck	Size 7	Composite, Wheel		45
		Size 9	Composite, Wheel		Interp.
		Size 9	Welded Al, Wheel		Interp.
		Size 12	Composite, Wheel		1
		Size 12	Welded Al, Wheel		Interp.
		Size 15	Welded Al, Wheel		Interp.
		Size 16	Welded Al, Wheel		Interp.
		Size 18	Welded Al, Wheel		Interp.
		Size 20	Welded Al, Wheel		2
		Size 22	Welded Al, Wheel		Interp.
		Size 24	Welded Al, Wheel		3
		Size 27	Welded Al, Wheel		Interp.
		Size 30	Welded Al, Wheel		Interp.
		Size 33	Welded Al, Wheel		4, 11

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Fan Wheels (Base mounted - isolated)	<b>TABLE 4.2</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Fan Wheels	Greenheck	Size 7	Composite, Wheel		44
		Size 9	Composite, Wheel		Interp.
		Size 9	Welded Al, Wheel		Interp.
		Size 12	Composite, Wheel		5
		Size 12	Welded Al, Wheel		Interp.
		Size 15	Welded Al, Wheel		26
		Size 16	Welded Al, Wheel		Interp.
		Size 18	Welded Al, Wheel		Interp.
		Size 20	Welded Al, Wheel		6
		Size 22	Welded Al, Wheel		Interp.
		Size 24	Welded Al, Wheel		7
		Size 27	Welded Al, Wheel		Interp.
		Size 30	Welded Al, Wheel		Interp.
		Size 33	Welded Al, Wheel		8, 12

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Fan Wheels (Base mounted on curb - rigid)	<b>TABLE 4.3</b>
<b>Model Line:</b> KSQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Fan Wheels	Greenheck	Size 7	Composite, Wheel		46
		Size 9	Composite, Wheel		Interp.
		Size 9	Welded Al, Wheel		Interp.
		Size 12	Composite, Wheel		9
		Size 12	Welded Al, Wheel		Interp.
		Size 15	Welded Al, Wheel		Interp.
		Size 16	Welded Al, Wheel		Interp.
		Size 18	Welded Al, Wheel		Interp.
		Size 20	Welded Al, Wheel		19
		Size 22	Welded Al, Wheel		Interp.
		Size 24	Welded Al, Wheel		Interp.
		Size 27	Welded Al, Wheel		Interp.
		Size 30	Welded Al, Wheel		Interp.
		Size 33	Welded Al, Wheel		10



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Filter Box (Base mounted - isolated)	<b>TABLE 5.2</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0\text{ g}$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2\text{ g}$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Filter Box (SQ / XID)	Greenheck	Size 7	23" x 14.38" x 14.38", 33lbs		Extrap.
		Size 9	27.75" x 18.13" x 18.13", 48lbs		Extrap.
		Size 12	27.75" x 21.25" x 21.25", 59 lbs		Extrap.
		Size 15	27.75" x 25" x 25", 74 lbs		Extrap.
		Size 16	25" x 27" x 27", 76 lbs		Extrap.
		Size 18	27.75" x 29.63" x 29.63", 95 lbs		Extrap.
		Size 20	27.75" x 32.25" x 32.25", 109 lbs		Extrap.
		Size 22	27.75" x 35" x 35", 117lbs		Extrap.
		Size 24	27.75" x 38.5" x 38.5", 141lbs		7
		Size 27	27.75" x 42" x 42", 155 lbs		Interp.
		Size 30	27.75" x 46" x 46", 168 lbs		Interp.
		Size 33	27.75" x 50.25" x 50.25", 193lbs		8, 12

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Filters (Ceiling suspended - isolated)	<b>TABLE 6.1</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Filter (SQ / XID)	Greenheck	10 x 25, Al. 1"	Aluminum		Extrap.
		10 x 25, Al. 2"	Aluminum		Extrap.
		14 x 25, Al. 1"	Aluminum		Extrap.
		14 x 25, Al. 2"	Aluminum		Extrap.
		16 x 25, Al. 1"	Aluminum		Extrap.
		16 x 25, Al. 2"	Aluminum		Extrap.
		20 x 25, Al. 1"	Aluminum		Extrap.
		20 x 25, Al. 2"	Aluminum		4, 11
		22 x 22, Al. 1"	Aluminum		Interp.
		22 x 22, Al. 2"	Aluminum		Interp.
		25 x 25, Al. 1"	Aluminum		Interp.
		25 x 25, Al. 2"	Aluminum		4, 11





# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Filters (Base mounted - isolated)	<b>TABLE 6.2</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Filter (SQ / XID)	Greenheck	10 x 25, Paper 1"	Pleated		Extrap.
		10 x 25, Paper 2"	Pleated		Extrap.
		14 x 25, Paper 1"	Pleated		Extrap.
		14 x 25, Paper 2"	Pleated		Extrap.
		16 x 25, Paper 1"	Pleated		Extrap.
		16 x 25, Paper 2"	Pleated		7
		20 x 25, Paper 1"	Pleated		Interp.
		20 x 25, Paper 2"	Pleated		8, 12
		22 x 22, Paper 1"	Pleated		Interp.
		22 x 22, Paper 2"	Pleated		Interp.
		25 x 25, Paper 1"	Pleated		Interp.
		25 x 25, Paper 2"	Pleated		8, 12

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Filters (Base mounted on curb - rigid)	<b>TABLE 6.3</b>
<b>Model Line:</b> KSQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Filter (KSQ / XKID)	Greenheck	18.25 x 10.5, Al. 1"	Aluminum		Extrap.
		22 x 14.25, Al. 1"	Aluminum		Extrap.
		26.75 x 17.5, Al. 1"	Aluminum		9
		34.5 x 21.25, AL. 1"	Aluminum		Interp.
		36.5 x 23.25, Al. 1"	Aluminum		Interp.
		39.25 x 25.75, Al. 1"	Aluminum		Interp.
		28.5 x 21.5, Al. 1"	Aluminum		Interp.
		31.25 x 23.75, Al.1"	Aluminum		Interp.
		34.75 x 26.5, Al. 1"	Aluminum		Interp.
		38.25 x 29, Al. 1"	Aluminum		Interp.
		40 x 21.25, Al. 1"	Aluminum		Interp.
		40 x 23.5, Al. 1"	Aluminum		10



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Inlet / Outlet Guards (Ceiling suspended - isolated)	<b>TABLE 7.1</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Inlet/ Outlet Guard	Greenheck	Size 7	14.63" x 14.63", Carbon Steel		Extrap.
		Size 9	18.38" x 18.38", Carbon Steel		Extrap.
		Size 12	21.5" x 21.5", Carbon Steel		Extrap.
		Size 15	25.25" x 25.25", Carbon Steel		Extrap.
		Size 16	27.25" x 27.25", Carbon Steel		Extrap.
		Size 18	29.88" x 29.88", Carbon Steel		Extrap.
		Size 20	32.5" x 32.5", Carbon Steel		Extrap.
		Size 22	35.38" x 35.38", Carbon Steel		Extrap.
		Size 24	38.75" x 38.75", Carbon Steel		3
		Size 27	42.25" x 42.25", Carbon Steel		Interp.
		Size 30	46.25" x 46.25", Carbon Steel		Interp.
		Size 33	50.5" x 50.5", Carbon Steel		4, 11







# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Motors (Ceiling suspended - isolated)	<b>TABLE 9.1</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Motor	ABB/ Baldor	48	1/15HP, 115V-575V		Extrap.
		48	1/10HP, 115V-575V		Extrap.
		48 / 56	1/6HP, 115V-575V		Extrap.
		48 / 56	1/4 HP, 115V-575V		Extrap.
		48 / 56	1/3 HP, 115V-575V		Extrap.
		56	1/2 HP, 115V-575V		Extrap.
		56	3/4 HP, 115V-575V		Extrap.
		56 / 143T / 145T / 182T / 184T	1HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T	1-1/2 HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T	2 HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T / 213T / 215T	3 HP, 115V-575VP		Extrap.
		182T / 184T / 213T / 215T	5 HP, 115V-575V		Extrap.
		182T / 184T / 213T / 215T	7-1/2 HP, 115V-575V		Extrap.
		213T / 215T / 284T / 286T	10 HP, 115V-575V	UUT3: 215T	3
		284T / 286T	15 HP, 115V-575V	UUT4: 286T; UUT11: 286T	4, 11
		Vari Green	56	1 HP, 115V-575V	
	WEG	215T	5 HP, 115V-575V		2

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Motors (Base mounted - isolated)	<b>TABLE 9.2</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Motor	WEG	48	1/15HP, 115V-575V		Extrap.
		48	1/10HP, 115V-575V		Extrap.
		48 / 56	1/6 HP, 115V-575V		Extrap.
		48 / 56	1/4 HP, 115V-575V		Extrap.
		48 / 56	1/3 HP, 115V-575V		Extrap.
		56	1/2 HP, 115V-575V		Extrap.
		56 / 143T / 145T	3/4 HP, 115V-575V		Extrap.
		56 / 143T / 145T / 182T / 184T	1HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T	1-1/2 HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T	2 HP, 115V-575V	UUT5: 145T	5
		143T / 145T / 182T / 184T / 213T / 215T	3 HP, 115V-575V		Interp.
	182T / 184T / 213T / 215T	5 HP, 115V-575V	UUT6: 215T	6	
	Vari Green	215T	2HP, 115V-575V		7

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Motors (Base mounted - isolated)	<b>TABLE 9.2</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Motor	ABB/ Baldor	48	1/15HP, 115V-575V		Extrap.
		48	1/10HP, 115V-575V		Extrap.
		48 / 56	1/6HP, 115V-575V		Extrap.
		48 / 56	1/4 HP, 115V-575V		Extrap.
		48 / 56	1/3 HP, 115V-575V		Extrap.
		56	1/2 HP, 115V-575V		Extrap.
		56	3/4 HP, 115V-575V		Extrap.
		56 / 143T / 145T / 182T / 184T	1HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T	1-1/2 HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T	2 HP, 115V-575V	UUT26: 143T	26
		143T / 145T / 182T / 184T / 213T / 215T	3 HP, 115V-575VP		Interp.
		182T / 184T / 213T / 215T	5 HP, 115V-575V		Interp.
		182T / 184T / 213T / 215T	7-1/2 HP, 115V-575V		Interp.
		213T / 215T / 284T / 286T	10 HP, 115V-575V		Interp.
284T / 286T	15 HP, 115V-575V	UUT8: 286T; UUT12: 286T	8, 12		

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Motors (Base mounted on curb - rigid)	<b>TABLE 9.3</b>
<b>Model Line:</b> KSQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Motor	ABB/ Baldor	48	1/15HP, 115V-575V		Extrap.
		48	1/10HP, 115V-575V		Extrap.
		48 / 56	1/6HP, 115V-575V		Extrap.
		48 / 56	1/4 HP, 115V-575V		Extrap.
		48 / 56	1/3 HP, 115V-575V		Extrap.
		56	1/2 HP, 115V-575V		Extrap.
		56	3/4 HP, 115V-575V		Extrap.
		56 / 143T / 145T / 182T / 184T	1HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T	1-1/2 HP, 115V-575V		Extrap.
		143T / 145T / 182T / 184T	2 HP, 115V-575V	UUT19: 143T	19
		143T / 145T / 182T / 184T / 213T / 215T	3 HP, 115V-575VP	UUT9: 145T	9
		182T / 184T / 213T / 215T	5 HP, 115V-575V		Interp.
		182T / 184T / 213T / 215T	7-1/2 HP, 115V-575V		Interp.
		213T / 215T / 284T / 286T	10 HP, 115V-575V		Interp.
	284T / 286T	15 HP, 115V-575V	UUT10: 286T	10	
Vari Green	48	1/6HP, 115V-575V		46	

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Disconnect Switches (Ceiling suspended - isolated)	<b>TABLE 10.1</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Disconnect Switches	Pass & Seymour / Legrand	15A	NEMA-1		45
	Square-D / Appleton	15A	NEMA-1		Extrap.
		20A	NEMA-1		Extrap.
		25A	NEMA-1		Extrap.
		25A	NEMA-3R		Extrap.
		30A	NEMA-1		1
		30A	NEMA-3R		3
		30A	NEMA-4/4X		Interp.
		30A	NEMA-7&9		Interp.
		30A	NEMA-12		Interp.
		40A	NEMA-1		4
		40A	NEMA-3R		Interp.
	40A	NEMA-4/4X		Interp.	



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>Table Description:</b> Disconnect Switches (Base mounted - isolated)	<b>TABLE 10.2</b>
<b>Model Line:</b> SQ		

<b>Building Code:</b> CBC 2025	<b>Seismic Certification Limits:</b>	$S_{DS} = 2.0 g$ $z/h=1.0$	$R_{\mu} = 1.3$	$H_f = 3.5$	$I_p = 1.5$
		$S_{DS} = 3.2 g$ $z/h=0.0$	$R_{\mu} = 1.0$	$H_f = 1.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT	
Disconnect Switches	Pass & Seymour / Legrand	15A	NEMA-1		44	
		20A	NEMA-1		26	
		30A	NEMA-1		5	
	Square-D / Appleton	15A	NEMA-1			Extrap.
		20A	NEMA-1			Extrap.
		25A	NEMA-1			Extrap.
		25A	NEMA-3R			Extrap.
		30A	NEMA-1			Interp.
		30A	NEMA-3R			Interp.
		30A	NEMA-4/4X			6
		30A	NEMA-7&9			12
		30A	NEMA-12			Interp.
	ABB	40A	NEMA-12			8
Killark / Hubbell	60A	NEMA-3R			7	



# UNIT UNDER TEST (UUT) SUMMARY SHEET

2551855-CR-001-R1



**Manufacturer:** Greenheck Fan Corporation (Accurex, Larkin)

**Model Line:** SQ, KSQ

UUT	Unit Description (mounting)	Report Number (UUT#)	Testing Lab	Tested	ISO 17025?	S <sub>DS</sub>	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>
1	SQ Horizontal Fan - Size 12 (ceiling suspended / spring vibration isolated and cable braced)	17807, Rev. 1 (UUT1)	Environmental Testing Lab (ETL)	19-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
2	SQ Horizontal Fan - Size 20 (ceiling suspended / spring vibration isolated and cable braced)	17807, Rev. 1 (UUT2)	Environmental Testing Lab (ETL)	26-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
3	SQ Horizontal Fan - Size 24 (ceiling suspended / spring vibration isolated and cable braced)	17807, Rev. 1 (UUT3)	Environmental Testing Lab (ETL)	19-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
4	SQ Horizontal Fan - Size 33 (ceiling suspended / spring vibration isolated and cable braced)	17807, Rev. 1 (UUT4)	Environmental Testing Lab (ETL)	10-Oct 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
5	SQ Horizontal Fan - Size 12 (base mounted - spring vibration isolated)	17807, Rev. 1 (UUT5)	Environmental Testing Lab (ETL)	17-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
6	SQ Horizontal Fan - Size 20 (base mounted - spring vibration isolated)	17807, Rev. 1 (UUT6)	Environmental Testing Lab (ETL)	16-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
7	SQ Horizontal Fan - Size 24 (base mounted - spring vibration isolated)	17807, Rev. 1 (UUT7)	Environmental Testing Lab (ETL)	17-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
8	SQ Horizontal Fan - Size 33 (base mounted - spring vibration isolated)	17807, Rev. 1 (UUT8)	Environmental Testing Lab (ETL)	17-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
9	KSQ Bottom Vertical Fan - Size 12 (curb mounted - rigid)	17807, Rev. 1 (UUT9)	Environmental Testing Lab (ETL)	17-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
10	KSQ Bottom Vertical Fan - Size 33 (curb mounted - rigid)	17807, Rev. 1 (UUT10)	Environmental Testing Lab (ETL)	16-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
11	SQ Horizontal Fan w/ Side Panels Removed - Size 33 (ceiling suspended / spring vibration isolated and cable braced)	17807, Rev. 1 (UUT11)	Environmental Testing Lab (ETL)	10-Oct 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5
12	SQ Horizontal Fan w/ Side Panels Removed - Size 33 (base mounted - spring vibration isolated)	17807, Rev. 1 (UUT12)	Environmental Testing Lab (ETL)	17-Sept 2025	Yes	2.00 3.20	1.0 0.0	1.3 1.0	3.5 1.0	1.5

TRU Compliance, by Structural Integrity Associates, Inc.

844-TRU-0200 | info@trucompliance.com



# UNIT UNDER TEST (UUT) SUMMARY SHEET

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 1</b>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	SQ	
<b>Model Number:</b>	SQ Horizontal Fan (Size 12)	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		17807, Rev. 1 (UUT1)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
124.0	47.75	21.25	21.25	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**

Carbon Steel Enclosure and Internal Structural Members.  
Size 12 - Fan Wheel (composite), Filter Box (SQ/XID) and Inlet Baffle

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 1)	Square-D / Appleton	30A
Filter (SQ / XID) (Pleated)	Greenheck	16 x 25, Paper 2"
Motor	Vari Green	56

**Test Mounting Details:**



UUT1 was ceiling suspended / spring vibration isolated and cable braced.  
Isolators: six (6) Mason RW30N-A-41.  
Unit to Isolators: Attached using six (6) 1/2" Ø A307 threaded hanger rods with rod stiffeners and ten (10) 1/8" Ø diag. cable braces with Mason SCB-1/SCBH-1 clips at each end. Cables were looped around the bolt and re-run back through the outside of the clamp to prevent slippage.  
Isolators to Fixture: Attached using six (6) 1/2" Grade 8 bolts.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 2</b>
<b>Product Type:</b> Centrifugal Fans	
<b>Model Line:</b> SQ	
<b>Model Number:</b> SQ Horizontal Fan (Size 20)	
<b>Serial Number:</b> n/a	
<b>Test Report:</b> 17807, Rev. 1 (UUT2)	

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
335.5	29.75	32.25	32.25	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**

Carbon Steel Enclosure and Internal Structural Members.  
Size 20 - Fan Wheel (aluminum) and Inlet/Outlet Duct Adaptor

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 1)	ABB	25A
Motor	WEG	215T

**Test Mounting Details:**



UUT2 was ceiling suspended / spring vibration isolated and cable braced.  
Isolators: four (4) Mason RW30N-B-138.  
Unit to Isolators: Attached using four (4) 1/2" Ø A307 threaded hanger rods with rod stiffeners and eight (8) 3/16" Ø diag. cable braces with Mason SCB-2/SCBH-2 clips at each end. Cables were looped around the bolt and re-run back through the outside of the clamp to prevent slippage.  
Isolators to Fixture: Attached using four (4) 1/2" Grade 8 bolts.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<h2>UUT 3</h2>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	SQ	
<b>Model Number:</b>	SQ Horizontal Fan (Size 24)	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		17807, Rev. 1 (UUT3)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
360.5	35.50	38.50	38.50	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**

Carbon Steel Enclosure and Internal Structural Members.  
Size 24 - Fan Wheel (aluminum), Inlet/Outlet Duct Adaptor and Inlet/Outlet Guard

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 3R)	Square-D / Appleton	30A
Motor	ABB/Baldor	215T

**Test Mounting Details:**



UUT3 was ceiling suspended / spring vibration isolated and cable braced.  
Isolators: four (4) Mason RW30N-B-138.  
Unit to Isolators: Attached using four (4) 1/2" Ø A307 threaded hanger rods with rod stiffeners and eight (8) 3/16" Ø diag. cable braces with Mason SCB-2/SCBH-2 clips at each end. Cables were looped around the bolt and re-run back through the outside of the clamp to prevent slippage.  
Isolators to Fixture: Attached using four (4) 1/2" Grade 8 bolts.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 4</b>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	SQ	
<b>Model Number:</b>	SQ Horizontal Fan (Size 33)	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		17807, Rev. 1 (UUT4)

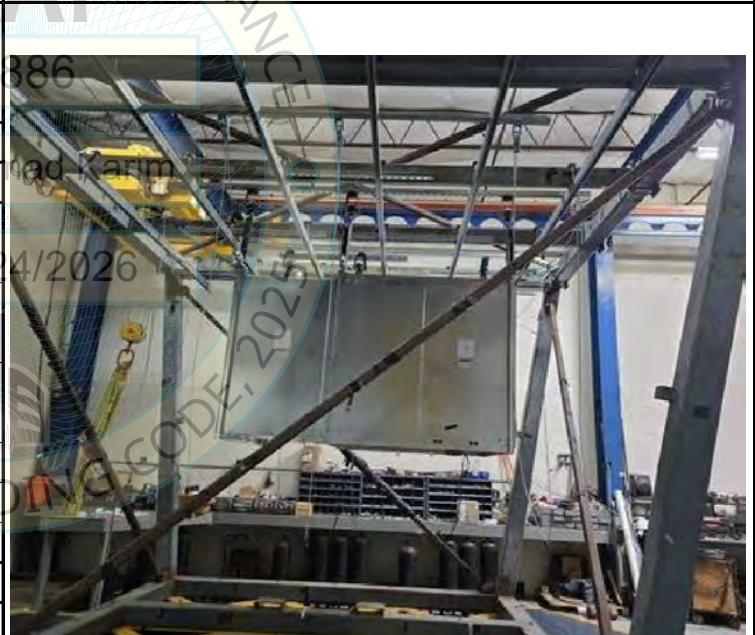
UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
948.0	75.00	50.25	50.25	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**

Carbon Steel Enclosure and Internal Structural Members.  
Size 33 - Fan Wheel (aluminum), Filter Box (SQ/XID),  
Inlet/Outlet Duct Adaptor and Inlet/Outlet Guard

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 1)	Square-D / Appleton	40A
Filter (SQ / XID) (Aluminum)	Greenheck	20 x 25, Al. 2"; 25 x 25, Al. 2"
Filter (SQ / XID) (Pleated)	Greenheck	20 x 25, Paper 2"; 25 x 25, Paper 2"
Motor	ABB/ Baldor	286T

**Test Mounting Details:**



UUT4 was ceiling suspended / spring vibration isolated and cable braced.  
Isolators: six (6) Mason RW30N-B-278.  
Unit to Isolators: Attached using six (6) 1/2" Ø A307 threaded hanger rods with rod stiffeners and ten (10) 1/4" Ø diag. cable braces with Mason SCB-3/SCBH-3 clips at each end. Cables were looped around the bolt and re-run back through the outside of the clamp to prevent slippage.  
Isolators to Fixture: Attached using six (6) 1/2" Grade 8 bolts.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 7</b>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	SQ	
<b>Model Number:</b>	SQ Horizontal Fan (Size 24)	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		17807, Rev. 1 (UUT7)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
379.5	63.25	38.50	38.50	15.03	22.15	11.65

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**  
Carbon Steel Enclosure and Internal Structural Members.  
Size 24 - Fan Wheel (aluminum) and Filter Box (SQ/XID)

**Test Mounting Details:**

Options/Subcomponent Summary:		
Description	Manufacturer	Part Number
Disconnect Switches (NEMA 3R)	Killark / Hubbell	60A
Filter (SQ / XID) (Pleated)	Greenheck	16 x 25, Paper 2"
Motor	Vari Green	215T



UUT7 was base mounted - spring vibration isolated using six (6) AMSR-1C-100-SB isolators.  
Unit to Isolators: Attached using six (6) 1/2" Grade 8 bolts.  
Isolators to Fixture: Attached using twelve (12) 1/2" Grade 8 bolts, two (2) bolts per isolator.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 8</b>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	SQ	
<b>Model Number:</b>	SQ Horizontal Fan (Size 33)	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		17807, Rev. 1 (UUT8)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
958.0	75.00	50.25	50.25	3.31	3.41	5.07

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

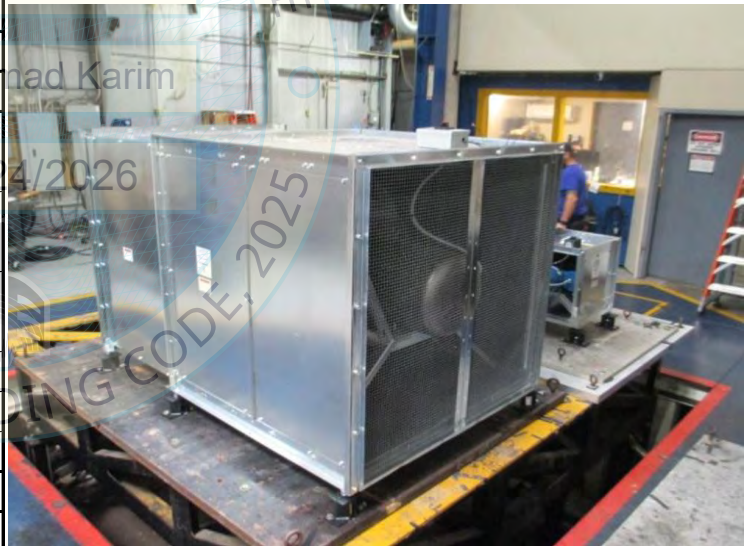
**Product Construction Summary:**

Carbon Steel Enclosure and Internal Structural Members.  
Size 33 - Fan Wheel (aluminum), Filter Box (SQ/XID),  
Inlet/Outlet Duct Adaptor and Inlet/Outlet Guard

**Test Mounting Details:**

**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 12)	ABB	40A
Filter (SQ / XID) (Aluminum)	Greenheck	20 x 25, Al. 2"; 25 x 25, Al. 2"
Filter (SQ / XID) (Pleated)	Greenheck	20 x 25, Paper 2"; 25 x 25, Paper 2"
Motor	ABB/ Baldor	286T



**Test Mounting Details:**



UUT8 was base mounted - spring vibration isolated using six (6) AMSR-1C-250-SB isolators.  
Unit to Isolators: Attached using six (6) 1/2" Grade 8 bolts.  
Isolators to Fixture: Attached using twelve (12) 1/2" Grade 8 bolts, two (2) bolts per isolator.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 9</b>
<b>Product Type:</b> Centrifugal Fans	
<b>Model Line:</b> KSQ	
<b>Model Number:</b> KSQ Bottom Vertical Fan (Size 12)	
<b>Serial Number:</b> n/a	<b>Test Report:</b> 17807, Rev. 1 (UUT9)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
185.5	50.00	22.13	23.25	28.34	25.10	29.19

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**  
Carbon Steel Enclosure and Internal Structural Members.  
Size 12 - Fan Wheel (composite)

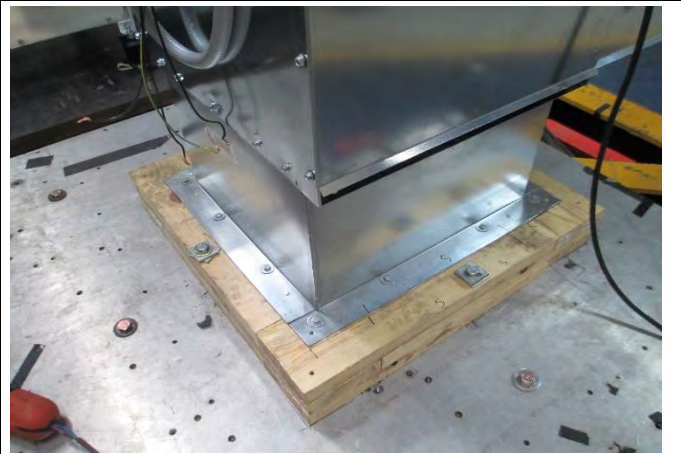
**Test Mounting Details:**

**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 3R)	ABB	25A
Filter (KSQ / XKID) (Aluminum)	Greenheck	26.75 x 17.5, Al. 1"
Filter (KSQ / XKID) (Pleated)	Greenheck	26.75 x 17.5, Paper 2"
Motor	ABB/ Baldor	145T



**Test Mounting Details:**



UUT9 was base mounted - rigid on curb using twelve (12) 1/4" lag screws.  
Curb specifications: 18ga carbon steel, 12" height.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 10</b>
<b>Product Type:</b> Centrifugal Fans	
<b>Model Line:</b> KSQ	
<b>Model Number:</b> KSQ Bottom Vertical Fan (Size 33)	
<b>Serial Number:</b> n/a	<b>Test Report:</b> 17807, Rev. 1 (UUT10)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,367.5	121.38	51.25	52.25	6.46	8.81	15.03

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**  
Carbon Steel Enclosure and Internal Structural Members.  
Size 33 - Fan Wheel (aluminum)

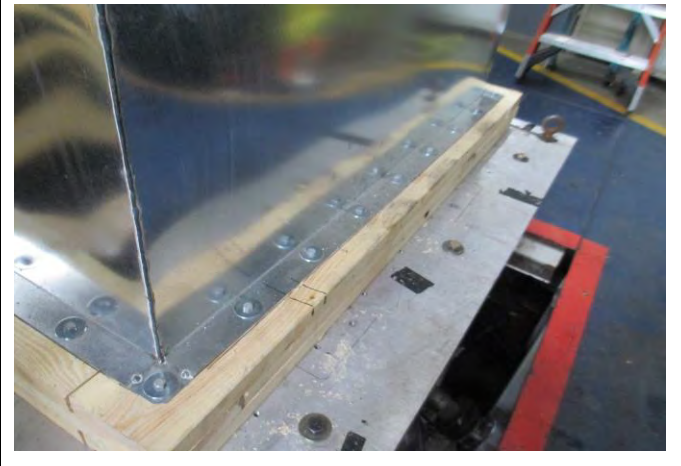
**Test Mounting Details:**

**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 7&9)	Killark / Hubbell	30A
Filter (KSQ / XKID) (Aluminum)	Greenheck	40 x 23.5, Al. 1"
Filter (KSQ / XKID) (Pleated)	Greenheck	40 x 23.5, Paper 2"
Motor	ABB/ Baldor	286T



**Test Mounting Details:**



UUT10 was base mounted - rigid on curb using thirty two (32) 5/16" lag screws.  
Curb specifications: 18ga carbon steel, 48" height.  
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

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<h2>UUT 11</h2>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	SQ	
<b>Model Number:</b>	SQ Horizontal Fan (Size 33)	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		17807, Rev. 1 (UUT11)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
921.0	75.00	50.25	50.25	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**

Carbon Steel Enclosure and Internal Structural Members.  
Size 33 - Fan Wheel (aluminum), Filter Box (SQ/XID), Inlet/Outlet Duct Adaptor and Inlet/Outlet Guard.  
Panels Removed for Left, Right, and Inline Discharge.

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 4/4X)	ABB	40A
Filter (SQ / XID) (Aluminum)	Greenheck	20 x 25, Al. 2"; 25 x 25, Al. 2"
Filter (SQ / XID) (Pleated)	Greenheck	20 x 25, Paper 2"; 25 x 25, Paper 2"
Motor	ABB/ Baldor	286T

**Test Mounting Details:**



UUT11 was ceiling suspended / spring vibration isolated and cable braced.  
Isolators: six (6) Mason RW30N-B-278.  
Unit to Isolators: Attached using six (6) 1/2" Ø A307 threaded hanger rods with rod stiffeners and ten (10) 1/4" Ø diag. cable braces with Mason SCB-3/SCBH-3 clips at each end. Cables were looped around the bolt and re-run back through the outside of the clamp to prevent slippage.  
Isolators to Fixture: Attached using six (6) 1/2" Grade 8 bolts.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 12</b>
<b>Product Type:</b> Centrifugal Fans	
<b>Model Line:</b> SQ	
<b>Model Number:</b> SQ Horizontal Fan (Size 33)	
<b>Serial Number:</b> n/a	
<b>Test Report:</b> 17807, Rev. 1 (UUT12)	

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
906.0	75.00	50.25	50.25	3.04	3.02	5.37

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**

Carbon Steel Enclosure and Internal Structural Members.  
Size 33 - Fan Wheel (aluminum), Filter Box (SQ/XID), Inlet/Outlet Duct Adaptor and Inlet/Outlet Guard.  
Panels Removed for Left, Right, and Inline Discharge.

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 7&9)	Square-D / Appleton	30A
Filter (SQ / XID) (Aluminum)	Greenheck	20 x 25, Al. 2"; 25 x 25, Al. 2"
Filter (SQ / XID) (Pleated)	Greenheck	20 x 25, Paper 2"; 25 x 25, Paper 2"
Motor	ABB / Baldor	286T

**Test Mounting Details:**



UUT12 was base mounted - spring vibration isolated using six (6) AMSR 1C-250-SB isolators.  
Unit to Isolators: Attached using six (6) 1/2" Grade 8 bolts.  
Isolators to Fixture: Attached using twelve (12) 1/2" Grade 8 bolts, two (2) bolts per isolator.  
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

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 19</b>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	G	
<b>Model Number:</b>	G-203-B Downblast Fan	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		14238, Rev. 2 (UUT19)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
229.0	36.00	36.00	70.00	7.30	11.80	7.30

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**

Aluminum housing, Size 20 - Fan Wheel (aluminum), Aluminum curb cap with prepunched mounting holes. Motor and drives isolated on shock mounts.

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 1)	Square-D / Appleton	30A
Motor	ABB / Baldor	143T

**Test Mounting Details:**



UUT19 was base mounted - rigid on curb using (16) 5/16" Grade 8 bolts.  
Curb specifications: 18ga carbon steel, 42" height.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<h2>UUT 26</h2>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	SQ	
<b>Model Number:</b>	SQ-160HP-VG Horizontal Fan	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		14238, Rev. 2 (UUT26)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
111.0	29.00	26.00	26.00	2.80	6.40	17.70

UUT Highest Passed Seismic Run Information											
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85	
		3.2	0.0	1.0	1.0						

**Product Construction Summary:**

Carbon Steel Housing. Size 15 - Fan Wheel (aluminum). Two Bolted Access Panels. Integral Duct Connection Flanges. Ball Bearing Motor. Corrosion Resistant Fasteners.

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Motor	ABB/Baldor	143T
Disconnect Switches (NEMA 1)	Pass & Seymour / Legrand	20A

**Test Mounting Details:**



UUT26 was base mounted - spring vibration isolated using four (4) VMC AMSR-1C-100 isolators.  
Unit to Isolators: Attached using four (4) 1/2" Grade 8 bolts.  
Isolators to Fixture: Attached using eight (8) 1/2" Grade 8 bolts, two (2) bolts per isolator.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b>	Greenheck Fan Corporation (Accurex, Larkin)	<h2>UUT 44</h2>
<b>Product Type:</b>	Centrifugal Fans	
<b>Model Line:</b>	SQ	
<b>Model Number:</b>	SQ-95-D Horizontal Fan	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		15332, Rev. 1 (UUT44)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
56.0	19.00	15.00	15.00	3.55	5.31	7.40

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**  
Carbon Steel Housing. Size 7 - Fan Wheel (composite). Two Bolted Access Panels. Integral Duct Connection Flanges. Sleeve Bearing Motor. Corrosion Resistant Fasteners.

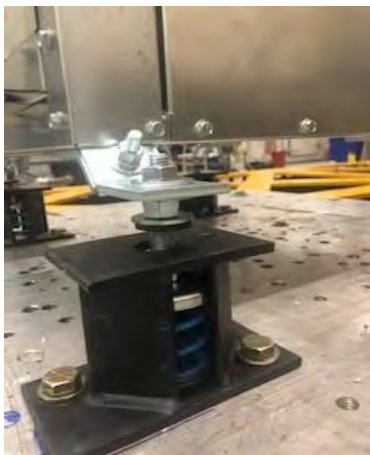
**Test Mounting Details:**

**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 1)	Pass & Seymour / Legrand	15A
Motor	ABB/ Baldor	48



**Test Mounting Details:**



UUT44 was base mounted - spring vibration isolated using four (4) VMC AMSR-1C-50 isolators.  
Unit to Isolators: Attached using four (4) 1/2" Grade 8 bolts.  
Isolators to Fixture: Attached using eight (8) 1/2" Grade 8 bolts, two (2) bolts per isolator.  
 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

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 45</b>
<b>Product Type:</b> Centrifugal Fans	
<b>Model Line:</b> SQ	
<b>Model Number:</b> SQ-95-D Horizontal Fan	
<b>Serial Number:</b> n/a	
<b>Test Report:</b> 15332, Rev. 1 (UUT45)	

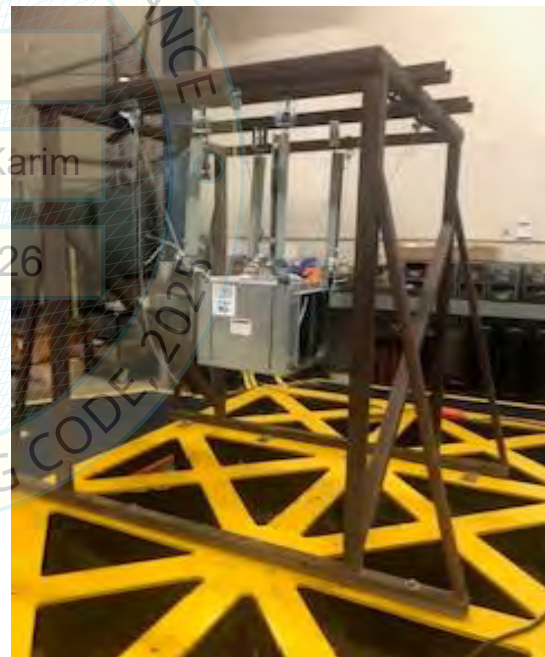
UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
66.0	19.00	15.00	15.00	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85
		3.2	0.0	1.0	1.0					

**Product Construction Summary:**

Carbon Steel Housing. Size 7 - Fan Wheel (composite). Two Bolted Access Panels. Integral Duct Connection Flanges. Sleeve Bearing Motor. Corrosion Resistant Fasteners.

**Test Mounting Details:**



**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Disconnect Switches (NEMA 1)	Pass & Seymour / Legrand	15A
Motor	ABB/ Baldor	48

**Test Mounting Details:**



UUT45 was ceiling suspended / spring vibration isolated and cable braced.

**Isolators:** four (4) Kinetics Noise Control SHAA-25.

**Unit to Isolators:** Attached using four (4) 3/8" Ø A307 threaded hanger rods with rod stiffeners and eight (8) 3/32" Ø diag. cable braces with Mason SCB-0/SCBH-0 clips at each end. Cables were looped around the bolt and re-run back through the outside of the clamp to prevent slippage.

**Isolators to Fixture:** Attached using four (4) 3/8" Grade 5 bolts.

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

2551855-CR-001-R1



<b>Manufacturer:</b> Greenheck Fan Corporation (Accurex, Larkin)	<b>UUT 46</b>
<b>Product Type:</b> Centrifugal Fans	
<b>Model Line:</b> G	
<b>Model Number:</b> G-095-V6-6-X Downblast Fan	
<b>Serial Number:</b> n/a	<b>Test Report:</b> 15332, Rev. 1 (UUT46)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
67.0	22.00	22.00	16.00	15.40	15.80	24.10

UUT Highest Passed Seismic Run Information											
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	R <sub>μ</sub>	H <sub>f</sub>	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2025	ICC-ES AC 156-24	2.0	1.0	1.3	3.5	1.5	3.20	2.15	2.13	0.85	
		3.2	0.0	1.0	1.0						

**Product Construction Summary:** Aluminum housing, Size 7 - Fan Wheel (composite), Aluminum curb cap with prepunched mounting holes. Motor and drives isolated on shock mounts.

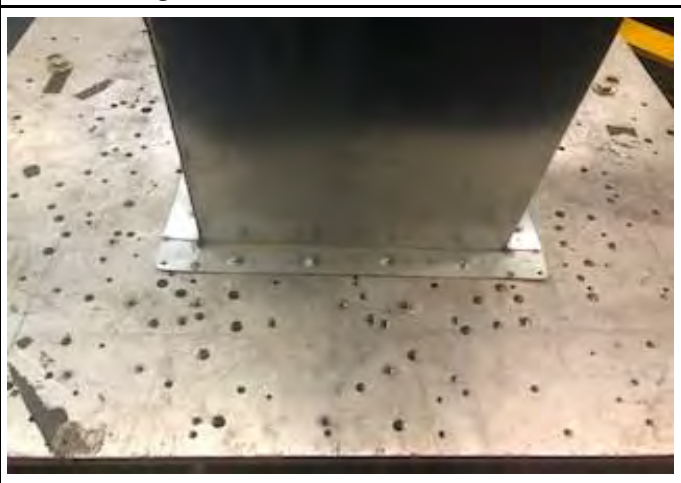
**Test Mounting Details:**

Aluminum housing, Size 7 - Fan Wheel (composite), Aluminum curb cap with prepunched mounting holes. Motor and drives isolated on shock mounts.

**Options/Subcomponent Summary:**

Description	Manufacturer	Part Number
Motor	Vari Green	48

**Test Mounting Details:**



UUT46 was base mounted - rigid on curb using (16) 5/16" Grade 8 bolts with washers.  
Curb specifications: 18ga carbon steel, 42" height.  
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.