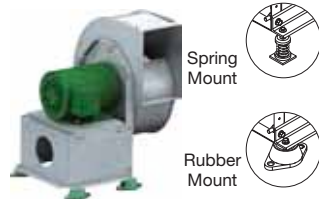


Accessories

Mounting Options - Utility, Centrifugal and Industrial Fans

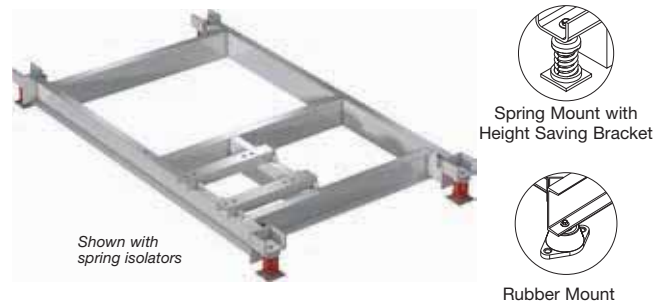
The mounting options shown here (type A and B) relate to the Selection Guide For Vibration Isolation as published in the latest ASHRAE applications handbook, HVAC Applications-Sound and Vibration Control.

Direct Mount, Type A - No base required. Isolators are attached directly to equipment. Direct isolation can be used if equipment is unitary and rigid without the use of additional support. Direct isolation is not recommended for equipment having large overhung loads (e.g. motors on Arrg. 9 fans). If there is any doubt that equipment can be supported directly on isolators, use rails, bases or consult the factory.



Isolation Bases, Type B2 - Isolation bases consist of steel members welded into a rigid one piece base. Motor slide rails are included where applicable. Bases are required for all Arrg. 1 and 3 fans with independently mounted motors. Isolation bases are available without isolators, with rubber mounts or with spring mounts.

Quick Build bases are standard dimensions with factory-supplied motor and drives.



Arrg.	Model	Mounting Selection	
		Direct Mount, Type A	Isolation Base, Type B2
1	CSW		✓
	IPO, IPW, IPA		✓
3	CSW		✓
	AFDW, BIDW		✓
4	SFD/SWD	✓	
9	CSW	✓	✓
	IPO, IPW, IPA		✓
10	SFB/SWB	✓	
	CSW	✓	✓
	IPO, IPW, IPA	✓	✓

Rubber Mounts

Type 2, 1/4- and 1/2-inch deflection



Neoprene mountings consist of a steel top plate and base plate completely embedded in colored (oil-resistant) neoprene for easy identification of capacity. Neoprene mountings are furnished with a tapped hole in the center. This enables the equipment to be bolted securely to the rubber mount.

Restrained Spring Mounts

Type 4A, 1-inch deflection



Restrained spring isolators consist of laterally stable, free-standing springs assembled into a steel housing. These assemblies are designed for vertical and horizontal motion restraint. Restrained spring isolators can be used for blocking during equipment installation and are provided with leveling bolts. Springs provide 50% overload capacity and are color coded or identified to indicate load capacity. Restrained spring mounts are recommended for equipment subject to wind loading or large torquing forces.

Free-Standing Open Spring Mounts

Type 3, 1-inch deflection



Free-standing spring isolators are unshoused laterally stable steel springs. They provide a minimum horizontal stiffness of 0.8 times the rated vertical stiffness and provide an additional 50% overload capacity. These isolators are equipped with a top mounted adjusting bolt and an acoustical nonskid base. Springs are color coded or identified to indicate load capacity.

Housed Spring Mounts

Type 4B, 1-inch deflection



Housed spring isolators consist of steel springs assembled into a telescoping housing with a top mounted adjusting bolt and an acoustical non-skid base. Housed spring isolators include resilient inserts to prevent metal-to-metal contact and provide snubbing for side loads. Springs provide an additional 50% overload capacity and are color coded or identified to indicate load capacity.

Mounting Options - Horizontal Inline Centrifugal Fans

For ease of installation, knockouts are provided at each location where mounting brackets are shown. Universally adjustable brackets are available to mount the fan in hanging or base mounted positions.

Hanging Isolators - Complete hanging isolator kits are available with either spring, rubber, or neoprene isolators. The isolators are sized to match the weight of the fan. (Hanging rods supplied by others).

Base Isolators - Complete base isolator kits are available with either neoprene or spring isolators and are sized to match the weight of the fan.



Hanging Spring



Hanging Rubber



Hanging Neoprene



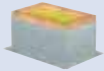

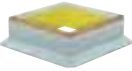
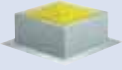
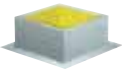
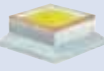
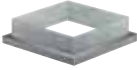





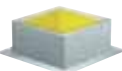
Standing Neoprene



Standing Spring

Roof Curbs, Extensions and Equipment Supports

A wide variety of roof curbs are available including flanged, straight-sided, canted, pitched, ridged, vented, sound-absorbing. Extensions raise the fan discharge and can provide an accessible mouting location for dampers.

Product Type	Model	Description	Best Available
 Flat, insulated or non-insulated roof decks	GPI - Galvanized 12-inch high, with or without damper tray, square sizes	Welded, straight-sided construction with rigid fiberglass insulation and 2-inch mounting flange	In Stock
 Flat, pitched or ridged, insulated or non-insulated roof decks	GPI - Aluminum or galvanized, other heights, non-stock square and rectangular sizes		In Stock
 Flat, non-insulated roof decks	GPS - All types, sized to meet your requirements	Welded, canted construction with rigid fiberglass insulation	1 Day
 Flat, pitched or ridged, non-insulated roof decks	GPF - All types, sized to meet your requirements	Welded, straight-sided construction with rigid fiberglass insulation and 5-inch mounting flange	In Stock
 Flat, insulated roof decks	GPFHL - All types, galvanized and aluminum	Welded, straight-sided construction with single roof flashing flange 5-inch width. One inch thick insulation.	10 Days
	GPFHD - All types, galvanized	Welded, straight-sided construction with double-thick roof flashing flange 5-inch width. One inch thick insulation.	10 Days
 Flat, insulated roof decks	GPR - All types, sized to meet your requirements	Welded, raised cant construction with rigid fiberglass insulation	1 Day
 Adaptors/Reducers	Curb Adaptors and Reducers	Used to match new fans to existing roof curbs. Welded galvanized steel or aluminum.	1 Day
 Flat roof decks in kitchen applications	GPFV - Galvanized, square sizes	Welded, vented straight-sided curb designed for use with our model CUBE fan to provide the 40 inch minimum discharge height above the roof line (per NFPA 96)	In Stock
	GPFV - Aluminum or galvanized, other heights, nonstock square sizes		1 Day
 Curb extensions in kitchen systems	VCE - Galvanized, square sizes	Welded, vented curb extension designed for use with an 8-inch high roof curb and our model CUBE fan to provide the 40 inch minimum discharge height above the roof line (per NFPA 96)	In Stock <i>(size 22 only)</i>
	VCE - Aluminum or galvanized, other heights, non-stock square sizes		1 Day
 Curb extensions	GPE, GPEX	Welded, with access door for easy access to the damper and damper actuator as well as fulfilling additional height requirements	1 Day
 Equipment supports	GESS, GESR Equipment supports	Welded aluminum or galvanized canted construction	1 Day
 Insulated and non-insulated flat roof decks, pitched roofs, curb extensions	ATS, ATR, ATE, ATI Sound attenuating curbs	Welded aluminum or galvanized canted construction for curbs, straight-sided for extensions with rigid fiberglass insulation	10 Days
 Specifically for Laboratory Exhaust Fans	GPFHL, GPFHD	Welded, straight-sided, insulated, 5-inch flashing flange	5 Days

Sizing: Curb with wood nailer should be 1-1/2 inches undersized from curb cap dimension.
Curb without wood nailer should be 1 inch undersized from curb cap dimension.

Options and Accessories		
<ul style="list-style-type: none"> • Damper trays 	<ul style="list-style-type: none"> • Step for insulation - GPR only - up to 6 inches 	<ul style="list-style-type: none"> • Ridge mount - GPI, GPF and ATS
<ul style="list-style-type: none"> • Insulation - all except GPE, VCE and GPFV 	<ul style="list-style-type: none"> • Single pitch - GPI, GPF and ATS 	<ul style="list-style-type: none"> • Double-shell construction - all except AT and GPE



Electrical Accessories

Call our parts department toll free at 800-355-5354—for parts orders only—with fan model and the serial number located on the fan nameplate.

Description	Part Number	Rated up to: HP/AMPS	Voltage	Phase	Notes	
Disconnect, Standard or Weatherproof						
	NEMA-1	N1TS-1	1/2 hp	115	1	2x4 j-box included
		N1TS-2	1 hp	115	1	2x4 j-box included
		N1TS-3	2 hp	115	1	2x4 j-box included
		N1TS-4	2 hp	200/277	1	2x4 j-box included
	NEMA-3R	N1TS-6	7-1/2 hp	200/600	3	2x4 j-box included
		N3RTS-1	1/2 hp	115	1	Weatherproof enclosure
N3RTS-6	7-1/2 hp	200/600	3	Weatherproof enclosure		
Motor Starters						
	NEMA-1, 4, 4X	MS1P	1 hp	110/240	1	Mounts in 2x4 j-box
	NEMA-1, 3R	MSSC	25 hp	200/600	3	
	NEMA-1, 3R, 4X	MSAC	25 hp	200/600	3	
Manual Switch						
	NEMA-1	MS-15	1/6 hp	115	1	Three speed
		MS-1	1/2 hp	115	1	Single speed
		MS-16	1/2 hp	115	1	Single speed Pilot light
		381977	2 hp	200/277	1	Single speed
		383786	2 hp	200/600	3	Single speed
Speed Control						
		385031	5 amps	115/127	1	2x4 j-box required
		385205	10 amps	115/127	1	2x4 j-box required
		385206	15 amps	115/127	1	2x4 j-box required
		380896	5 amps	220/240	1	2x4 j-box required
		385032	8 amps	220/240	1	2x4 j-box required
		382136	5 amps	277	1	2x4 j-box required
Switches						
		435099	15 amps	115	1	1 function
		435097	16 amps	115	1	2 function
Motion Detector						
		383008	12.5 amps	115	1	0 to 20 minutes 2x4 j-box required
Time Delay						
		GTD	7.5 amps	115	1	0 to 60 minutes 2x4 j-box required
Transformer						
		383167	2.0 amps	230/277 to 115	1	
		383168	4.3 amps	230/277 to 115	1	
		383169	6.5 amps	230/277 to 115	1	
		383170	8.6 amps	230/277 to 115	1	
Fire Stat						
		380028	8.0/4.0 amps	115/220	1	Type II Limit control temperature Auto reset
		383668	8.0/4.0 amps	115/220	1	Type III Adjustable Air Stat Close circuit - 120°F to 200°F Open circuit - 100°F
Thermostat						
		380044	16 amps	115	1	Reverse Acting Thermostat Contacts close on temperature rise Adjustable range 30° to 110°F

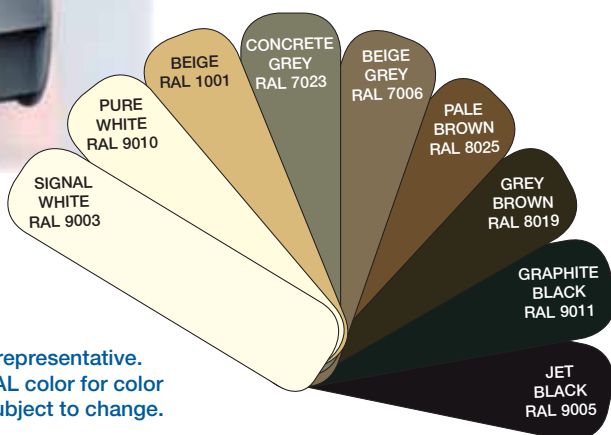


Coatings

Greenheck offers protective powder coatings for many of the Quick Build products.

Decorative coatings are ideal for projects where the fan exterior appearance is important and additional chemical resistance is not required. Customers can choose from nine standard RAL colors.

RAL is an independent organization providing a global color language. Referencing an RAL color ensures color uniformity worldwide.



Colors shown are only representative. Reference a specific RAL color for color matching. Colors are subject to change.



Protective coatings are available in a choice of four electrostatically applied powders. Powders available range from polyester urethanes to high performance epoxy providing an available selection for most environments.

Powder coatings offer a number of advantages over most wet coatings. Electrostatic painting involves applying a dry, charged particle to a grounded sheet metal. The results are uniform coverage and thickness with heavier coverage in the high charge areas (edges, corners, and pockets), that are difficult to reach with wet paint. Another advantage is environmental friendliness.

The following is a brief description of the protective coatings offered. For more information consult your local representative.

Permatector™

Permatector™

Permatector™ is the standard coating applied to all steel fans. Typical applications include corrosion resistance in indoor and outdoor environments.

**RAL 7023 concrete gray (standard)*

Hi-Pro Polyester

Hi-Pro Polyester (used in lieu of Air Dry Phenolic)

This coating is resistant to salt water, chemical fumes, and moisture in more corrosive atmospheres. It has superior chemical resistance, excellent abrasion and outdoor UV protection. This coating has protective qualities that exceed Air Dried Heresite.

Epoxy

Epoxy

Epoxy has excellent moisture resistance and moderate to good chemical resistance. Greenheck's epoxy is light tan in color so it will resist fading and chalking when exposed to sunlight.

Industrial Epoxy

Industrial Epoxy

Industrial Epoxy is a high performance epoxy with excellent chemical resistance in interior applications to a wide variety of chemicals including acids, caustics, solvents, and high moisture.

Two Coat System

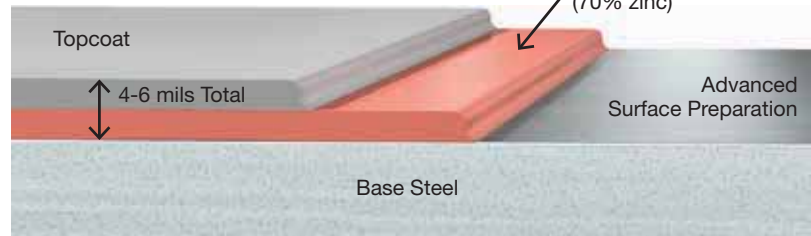
When compared to a traditional single coat application, the benefits of the two coat system include:

- An automatic powder coat application produces uniform coverage and unmatched paint quality.
- The double coat thickness provides superior durability and protection from air and water.
- The zinc-rich primer includes an epoxy component that provides additional corrosion protection.
- The zinc-rich primer provides chemical protection of exposed steel to prevent corrosion.

One Coat Process



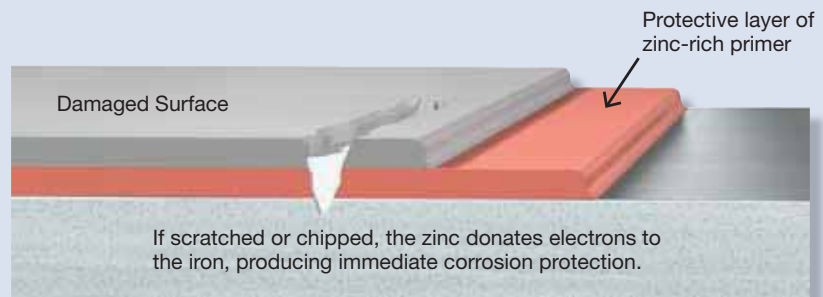
Two Coat Process



The Zinc Advantage

The zinc-rich primer *actively* and *passively* protects the base steel if the coating becomes damaged and the steel is exposed to air and water.

The zinc-rich primer has a lower electrochemical potential than the base steel. As a result, the steel is *actively* held in a neutral state when exposed to a corrosive environment—the driving force of corrosion is halted. A protective layer forms over the damaged surface as a by-product of the chemical reaction and *passively* protects the exposed steel from further corrosion due to air and water.



Salt Spray ASTM B117					Durability		*Chemical Resistance Ratings					
Hours	1000	2000	3000	4000	Pencil Hardness ASTM D3363	Cross-Hatch Adhesion ASTM D3359-B	Bleach	Sulfuric Acid (10%)	HCl (10%)	MEK	Chlorine (0.1%)	NaOH (20%)
							0	0	0	1	0	1
Permatector™	[Progressive bar chart]				3H	No Failure	0 - No effect 1 - Slight change in gloss or color 2 - Surface etching, severe staining, but film integrity remains 3 - Significant pitting, cratering, swelling, or erosion with obvious surface deterioration					
Hi-Pro Polyester	[Progressive bar chart]				2H	No Failure						
Perma-Z™	[Progressive bar chart]				3H	No Failure						
LabCoat™	[Progressive bar chart]				2H	No Failure						

*For additional chemical resistance of Hi-Pro Polyester, see Greenheck's Product Application Guide FA/110-04R4, Performance Coatings for Ventilation Products

Salt Spray ASTM B117 is a comparative test that indicates the corrosion resistance of powder paint coatings.

Pencil Hardness and Cross-Hatch Adhesion tests determine the durability of coating to withstand scratches, nicks and chips.

Chemical Resistance Ratings provide information on how each coating option will hold-up in certain chemical environments.