

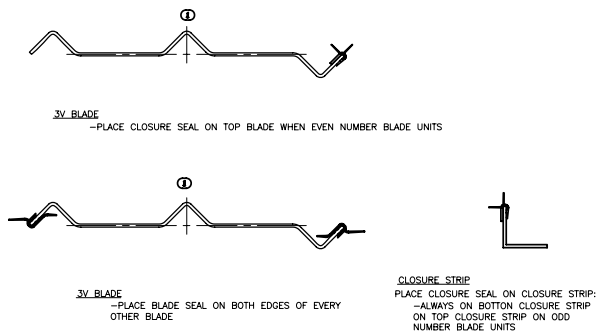
Greenheck offers three different blade styles and uses four different attachment methods for control damper blade seals. These instructions address either replacement or initial installation.

3-V Blade Style

Applicable to Models: VCD-18, VCD-23, SEVCD-23, SMD-201, SMD-202, FSD-211, FSD-212, FSD-231, CFSD-211, CFSD-212, OFSD-211, OFSD-212, SSFSD-211, SEFSD-211, HCD-120, HCD-220

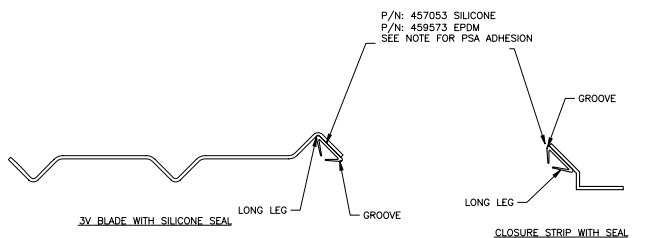
Clip-On

The vinyl seal, also known as dual-durometer, pushes onto the blade edge and is held by the friction between the blade material and directional projections inside the rigid plastic clip. Seal material is cut-to-length before installing. Seal is normally installed to the drive blade and to every blade tip on the same side of damper.



Stainless Steel/Silicone Composite

Silicone rubber seal has a stainless steel clip to mechanically fasten seal to the blade edge. Installation is the same as the vinyl seal.



Note:
 - Blade and closure strip must be cleaned with Isopropyl Alcohol to remove oil prior to application of seal to ensure complete adhesion.
 - Apply seal to blade and closure with moderate pressure with a roller.

Silicone or EPDM Seal with Pressure Sensitive Adhesive (PSA)

- Open blades. Use scraper to remove any existing seal or adhesive.
- Surface must be free from dust, dirt, oil and moisture. Clean blade edge with alcohol or similar solvents. Do not use mineral spirits or other petroleum based solvents that leave a residue.

- Install when blade surface is above 70°F or above.
- Cut seal material slightly longer than blade with release paper still on seal material.
- Start at one end of blade. Peel off 1-2 feet of release paper at a time and place seal firmly onto blade surface. Do NOT touch the adhesive. Use finger or roller to press seal to blade. Do NOT stretch seal as it will pop off in time.
- Trim seal material at blade end as required. Excess seal is prone to pulling from blade surface and will force jamb seal away, increasing leakage.

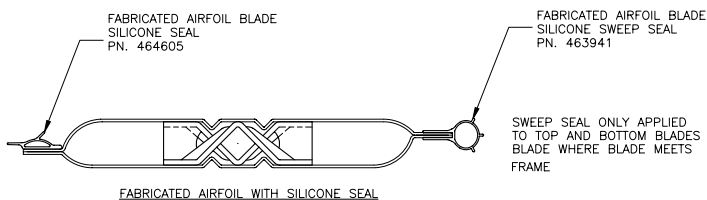
Silicone Seal with Silicone Adhesive

Tremco Spectrem 1 adhesive is used to adhere silicone seal to painted surfaces, as PSA adhesives will not bond to most powder painted surfaces.

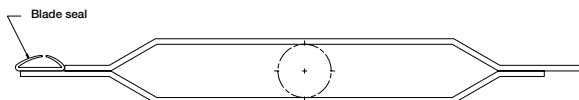
- Open blades. Use scraper to remove any existing seal or adhesive.
- Cut seal to approximate length with release material still on seal.
- Clean blade in the same manner as above. Temperature limits also apply.
- Apply thin 1/8 in. bead of Tremco Spectrem 1 to blade surface. Spread adhesive using a putty knife or scraper to approximately 1/2 in. (13 mm) wide.
- Install seal to blade edge, starting at one end and removing release paper as one moves down blade. Do NOT stretch seal.
- Press seal firmly into place. If seal was stretched, length will shrink.
- Allow adhesive material to cure 15 minutes. Trim seal to length.

Fabricated Airfoil Blades

Applicable to models: VCD-33, VCD-34, SEVCD-33, SMD-301, SMD-302, FSD-311, FSD-312, FSD-311V, CFSD-311, CFSD-312, HCD-130, HCD-135, HCD-230, HCD-330, HCD-430, HCD-530



Note: Wipe down blade with Isopropyl Alcohol before seals are applied to blades.



HCD Fabricated Airfoil with Silicone Seal

Silicone or EPDM Seal with Pressure Sensitive Adhesive (PSA)

- Open blades. Use scraper to remove any existing seal or adhesive.
- Surface must be free from dust, dirt, oil and moisture. Clean blade edge with alcohol or similar solvents. Do not use mineral spirits or other petroleum based solvents that leave a residue.
- Install when blade surface is above 70°F or above.
- Cut seal material slightly longer than blade with release paper still on seal material.
- Start at one end of blade. Peel off 1-2 feet of release paper at a time and place seal firmly onto blade surface. Do NOT touch the adhesive. Use finger or roller to press seal to blade. Do NOT stretch seal as it will pop off in time.
- Trim seal material at blade end as required. Excess seal is prone to pulling from blade surface and will force jamb seal away, increasing leakage.

Silicone Seal with Silicone Adhesive

Tremco Spectrem 1 adhesive is used to adhere silicone seal to painted surfaces, as PSA adhesives will not bond to most powder painted surfaces.

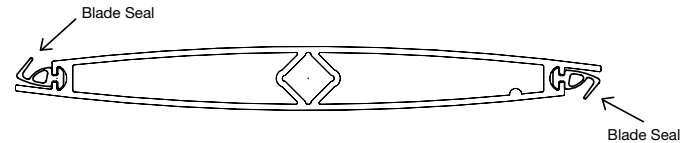
- Open blades. Use scraper to remove any existing seal or adhesive.
- Cut seal to approximate length with release material still on seal.
- Clean blade in the same manner as above. Temperature limits also apply.
- Apply thin 1/8 in. bead of Tremco Spectrem 1 to blade surface. Spread adhesive using a putty knife or scraper to approximately 1/2 in. (13 mm) wide.
- Install seal to blade edge, starting at one end and removing release paper as one moves down blade. Do NOT stretch seal.

- Press seal firmly into place. If seal was stretched, length will shrink.
- Allow adhesive material to cure 15 minutes. Trim seal to length.

SS/Silicone Composite

Silicone rubber seal has a stainless steel clip to mechanically fasten seal to the blade edge. Seal material is cut-to-length before installing. Seal is normally installed to the drive blade and to every blade tip on the same side of damper.

Aluminum Airfoil Blades



Applicable to models: VCD-40, VCD-42, VCD-43, SMD-401, ICD-45, HCD-140, HCD-240, HSD-401
Extruded aluminum blades have a groove at both blade edges to hold seal. Blade ends are crimped to prevent seal from sliding out.

- Open blades. Remove existing seal. It is usually easiest to pull seal from blade end rather than pulling it out of groove along blade edge.
- Cut seal slightly longer than blade length. Do NOT stretch, as seal will creep back to original length.
- Start at one blade end. The non-attached seal lip is installed away from the blade surface. Seal can usually be stretched sufficiently to pass under existing blade end crimp. Needle nose pliers works well in grasping seal end.
- Use a center punch to re-crimp blade end if necessary.
- Trim seal to length.

Blade Type	Elastomer Material	Blade Attachment	Blade Thickness		Greenheck Part number	Temperature °F (°C)	
			Minimum	Maximum		Minimum	Maximum
3-V	Vinyl	Clip-on	16 ga.	14 ga.	455501	-20	180
	Silicone	Adhesive	All	All	457053	-60	400
	SS/Silicone	Clip-on	16 ga.	12 ga.	220108	-60	400
Fabricated Airfoil	Silicone	PSA	All	All	464605	-60	350
	Silicone	Adhesive	All	All	457053	-60	400
	EPDM	PSA	All	All	468644	-20	250
	SS/Silicone	Clip-on	16 ga.	12 ga.	220108	-60	400
Aluminum Airfoil	Silicone	Groove	n/a	n/a	461254	-60	400
	EPDM	Groove	n/a	n/a	460115	-20	250

