LabCoat™

for Laboratory Exhaust Applications

VEKTOR™

LabCoat™ …a superior coating for superior fan endurance in laboratory exhaust applications

Fact: Coating quality for corrosive exhausts, based on coating thickness, is a myth. A greater number of mils of coating (thicker), is not necessarily better.

Greenheck LabCoat™ Advantages:

- Base material preparation (cleaning) to bond with the coating
- Coating composition
- Coating application

The Greenheck LabCoat™ finish for laboratory exhaust fans addresses these coating issues…

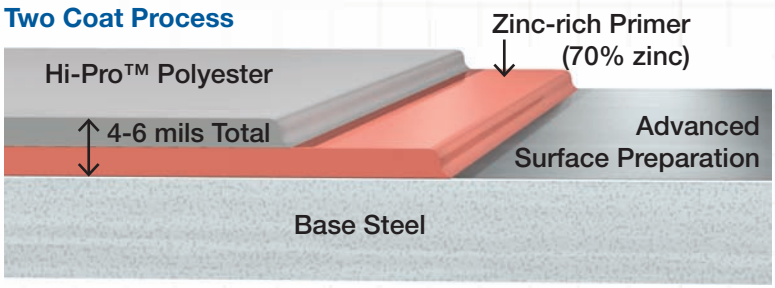
Base material preparation:

The LabCoat™ process starts with multistage washes to clean and treat all fan surfaces prior to the coating application process. Simply stated, cleaner surfaces result in better coating adhesion and durability.

Better Coating:

The coatings of "yesteryear", which have resulted in specs stating 10-20 mils thick and greater, were the result of liquid coatings applied in multiple stages. For fan applications, these thicker, manually applied coatings create difficulty in balancing fan impellers, as the coating is not uniformly applied across a surface. This uneven thickness creates coating "voids" where corrosion can occur and an imbalance of the fan wheel resulting in undesirable fan vibration.

LabCoat™ Cross Section



LabCoat™ corrosion-resistant coating is electrostatically applied uniformly in two steps which bonds the coating to the properly cleaned and prepared metal surface.

Step 1: A zinc-rich epoxy primer is applied and partially cured

Step 2: The finish coat of polyester resin (Hi-Pro™ Polyester) is applied and then fully cured at 400ºF (204ºC)

LabCoat™ is not affected by the UV component of sunlight (does not chalk), and has superior corrosion resistance to acid, alkali, solvents, and harsh environments (high humidity, coastal applications). The LabCoat™ system exceeds 4000 hour ASTM B117 Salt Spray Resistance—several times that of other corrosion-resistant coatings commonly offered.

GREENHECK
Building Value in Air.

May 2009

LabCoat™ Test Data

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Salt Spray ASTM B117

Hours	1000	2000	3000	4000
Permatector™				
Hi-Pro™ Poly				
Perma-Z™				
LabCoat™				

Durability

Pencil Hardness ASTM D3363	Cross-Hatch Adhesion ASTM D3359-B
3H	No Failure
2H	No Failure
3H	No Failure
2H	No Failure

* Chemical Resistance Ratings

Bleach	Sulfuric Acid (10%)	HCl (10%)	MEK	Chlorine (0.1%)	NaOH (20%)
0	0	0	1	0	1

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

*For additional chemical resistance of Hi-Pro™ Polyester, see Greenheck Product Application Guide FA/110-04R2

Specification: Laboratory Exhaust Corrosion Resistant Coating

All fan and system components (fan, nozzle, windband, plenum, stack extensions) shall be coated with LabCoat™, a two-part electrostatically applied and baked, sustainable, corrosion-resistant coating system; or Heresite P-413C.

All parts shall be cleaned and chemically prepared for coating using a multistage wash system which includes acid pickling to remove oxide, increase surface area and improve coating bond to the substrate.

The first powder coat applied over the prepared surface shall be a zinc-rich epoxy primer (no less than 70% zinc). After application, the coating shall be heated to a gelatinous consistency (partial cure) at which time the second powder coat of Hi-Pro™ Polyester resin shall be electrostatically applied and then be simultaneously cured at a uniform temperature of 400ºF (*204ºC*).

The coating system shall not be less than a total thickness of 6 mils, shall not be affected by the UV component of sunlight (does not chalk), and have superior corrosion resistance to acids, alkalis, and solvents. Coating system shall exceed 4000 hour ASTM B117 Salt Spray Resistance.

Note that 10-20 mil thick wet coating systems pollute the environment (air and water), and that these manually applied coatings are not uniform over the impeller surface and can cause fan imbalance and vibration.

VEKTOR™

Family of Lab Exhaust Systems



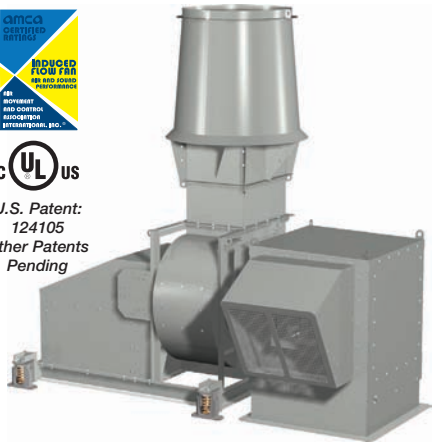
Vektor™-H

U.S. Patent: 7048499, 7320636 Mexico Patents: 243465, 258949 China (PR) Patent: CN1294361C Singapore Patent: 124106, 124135 Other Patents Pending



Vektor™-MD

U.S. Patent: 124105 Other Patents Pending



Vektor™-CD

Our Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year (Vektor™-H) or three years (Vektor™-MD, Vektor™-CD) from the shipment date. Any units or parts which prove defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid. Should motors furnished by Greenheck prove defective during this period, they should be returned to the nearest authorized motor service station. Greenheck will not be responsible for any removal or installation costs.

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

U.S. GREEN BUILDING COUNCIL MEMBER

Prepared to Support Green Building Efforts

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