



TECHNICAL DATA

Revised Date: 01/2008
Replaces Date: 02/2008

VE 9300 SERIES NOVOLAC VINYL ESTER

Product Description

VE 9300 Series linings are formulated using proprietary Vinyl Ester resins and glass flakes. The series are designed to provide long term corrosion protection under severe conditions of corrosive gasses, chemicals and high temperatures. Typical allocations include chemical tanks and pipes, flue gas desulfurizers, scrubbers, ducts, stacks, fans, and other equipment exposed to corrosive environments.

VE 9310 is trowel applied in 2 coats over a primed surface then topcoated with a resin-rich gel coat to obtain a very smooth surface. The total thickness obtained should be 65 – 85 mils.

VE 9360 is spray applied in 2 coats over a primed surface then topcoated with a resin-rich gel coat to obtain a very smooth surface. The total thickness obtained should be 65 – 85 mils.

VE9300AC uses the same base resin, and it is filled with an abrasion resistant powder to provide "abrasion control" in extreme abrasive and corrosive environments.

VE9300AR uses the same base resin, however, it is reinforced with 1 or 2 layers of matting and a surfacing veil to provide structural integrity along with abrasion resistance. It should be used on all internal corners and edges of large structures.

VE 9300 Primer is a low viscosity resin system that is applied immediately following the abrasive blasting operation. It must be applied by brush or roller to insure maximum surface wetting and coverage. The recoat interval between the primer and basecoat is 4 hours to 20 days. Recommend dry film thickness is 2 -4 mils and its pot life is 15 – 40 minutes.

Specification Data

| | |
|---------------------------------------|---------------------------|
| Tensile – ASTM D638 | 5688 psi |
| Elongation – ASTM D638 | < 1% |
| Flexural Strength | > 11000 psi |
| Permeability – ASTM E96 @ 80°C | 0.0006 perm inch |
| Adhesive Tensile Shear | 1778 psi |
| Coverage @ 80 mils | 15.5 ft ² /gal |
| Operating Temperature | |
| | Dry 392°F |
| | Wet 266°F |

VE 9300 Topcoat is applied over the base coats with a brush, roller or spray. This resin rich topcoat enhances chemical resistance and insures 100% curing of the base coats by preventing oxygen in the atmosphere from inhibiting the cure. It also provides a smooth, seamless surface which reduces drag and virtually eliminated material hang-up. Dry film thickness ranges from 4 to 12 mils depending upon base coat. Pot life at 75°F is 15 to 30 minutes.

Chemical Resistance VE 9300 Series

| | |
|------------------|-----------------|
| Inorganic Acids | 212°F (maximum) |
| Organic Acids | 176°F (maximum) |
| Alkalies | 140°F (maximum) |
| Salts | 248°F (maximum) |
| Organic Solvents | 140°F (maximum) |
| Oils | 212°F (maximum) |

Ordering Information

| | |
|-------------------|------------|
| Packaging: | 4 gal kits |
|-------------------|------------|

ITW FUTURA COATINGS, 1685 GALT INDUSTRIAL BLVD., ST LOUIS, MO, (314) 733-1110

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TECHNICAL DATA

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VE9300 BASE RESIN AC Mortar

MIX CHART FOR 10 LBS. OF RESIN WORKING LIFE AT 75°F = 40-50 MINUTES

| | 45°F | 55°F | 65°F | 75°F | 85°F |
|-----------|--|--|--|--|--|
| AC Powder | 30-40 lbs (1.8-2.3 gal) (6700-8900 cc) | 30-40 lbs (1.8-2.3 gal) (6700-8900 cc) | 30-40 lbs (1.8-2.3 gal) (6700-8900 cc) | 30-40 lbs (1.8-2.3 gal) (6700-8900 cc) | 30-40 lbs (1.8-2.3 gal) (6700-8900 cc) |
| MEKPO | 125 cc | 90 cc | 63 cc * | 46 cc | 40 cc |

* MEKPO should never be less than 35cc / 10 lb of resin.

Call ITW Futura Coatings Technical Support for temperatures beyond listed range (314/733-1110).

MIXING INSTRUCTIONS

1. Weigh out VE9300 AC Resin.
 - A full pail of VE9300 AC Resin weighs 43 lbs.
 - Weight per gallon is 9.0 lbs.

Note: The flash point is 70° - 80°F. Use a air-powered mixer or maintain good ventilation
2. Add MEKPO Catalyst.
WORKING LIFE STARTS NOW!
Stir for 1 minute.
3. Add AC Powder.
The powder must be kept dry.
Do not use damp or moist powder.
Stir for 1 minute
The amount of powder used can be varied from 300-400% of the resin weight.
4. Transfer into a second container and stir 30 seconds for a complete mix



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VE9300 BASE RESIN WELD STRIPE PUTTY

MIX CHART FOR 10 LBS. OF RESIN WORKING LIFE AT 75°F = 40-50 MINUTES

| | 45°F | 55°F | 65°F | 75°F | 85°F |
|-----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Primer Powder | 5-6 (16 oz pyrex cups) | 5-6 (16 oz pyrex cups) | 5-6 (16 oz pyrex cups) | 5-6 (16 oz pyrex cups) | 5-6 (16 oz pyrex cups) |
| TS-720 (Cab-o-sil) | 2 (16 oz pyrex cups) | 2 (16 oz pyrex cups) | 2 (16 oz pyrex cups) | 2 (16 oz pyrex cups) | 2 (16 oz pyrex cups) |
| MEKPO | 50 cc | 34 cc | 25 cc * | 17 cc | 16 cc |

MIXING INSTRUCTIONS

1. Weigh out VE9300 Base Resin.
 - A full pail of VE9300 Base Resin weighs 43 lbs.
 - Weight per gallon is 9.0 lbs.
 - *Note: The flash point is 70° - 80°F. Use a air-powered mixer or maintain good ventilation*
2. Add Primer Powder and power mix until smooth
3. Add TS-720 and stir until wetted out.
4. Add MEKPO Catalyst.
 - **WORKING LIFE STARTS NOW!**
 - Stir for 1 minute.
5. Transfer into a second container and stir 30 seconds for a complete mix



TECHNICAL DATA

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VE9300 BASE RESIN AR SATURANT

MIX CHART FOR 20 LBS. OF RESIN WORKING LIFE AT 75°F = 40-50 MINUTES

| | 45°F | 55°F | 65°F | 75°F | 85°F |
|-------------|--------|--------|--------|-------|--------|
| MEKPO | 190 cc | 140 cc | 100 cc | 67 cc | 67 cc |
| Retardant M | xxx | xxx | xxx | xxx | 5 cc * |

* If measuring equipment is not sufficiently accurate to measure 5 cc, then dilute one volume of Retardant M with 5 volumes of Thinner 9000 and add 30 cc of this mixture.

NOTE: MEKPO should never be less than 64 cc / 20 lbs of resin.

Call ITW Futura Coatings Technical Support for temperatures beyond listed range (314/733-1110).

Warning: Never allow a Promoter to contact the MEKPO Catalyst directly. Promoters must always be premixed into the resin before MEKPO Catalyst is added. Direct contact with Promoters will produce a vigorous reaction or an explosion.

MIXING INSTRUCTIONS

1. Weigh out VE9300 Base Resin.
 - A full pail of VE9300 Base Resin weighs 43 lbs.
 - Weight per gallon is 9.0 lbs.

Note: The flash point is 70° - 80°F. Use a air-powered mixer or maintain good ventilation

2. Add Retardant M if required. Stirring is not necessary..
3. Add MEKPO Catalyst.

WORKING LIFE STARTS NOW!

Stir for 1 minute

4. Transfer into a second container and stir 30 seconds for a complete mix



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VE9310 PRIMER

MIX CHART FOR 20 LBS. OF RESIN WORKING LIFE AT 75°F = 40-45 MINUTES

| | 45°F | 55°F | 65°F | 75°F | 85°F |
|----------------------------|--------|--------|--------|-------|---------------------|
| Primer Powder | 5 lbs | 5 lbs | 5 lbs | 5 lbs | 5 lbs |
| MEKPO ⁽¹⁾ | 210 cc | 142 cc | 100 cc | 67 cc | 67 cc |
| CH Catalyst ⁽²⁾ | 210 cc | 142 cc | 100 cc | 67 cc | 67 cc |
| Retardant M | xxx | xxx | xxx | xxx | 4 cc ⁽³⁾ |

- 1) For brush and roller application
- 2) For spray application
- 3) If measuring equipment is not sufficiently accurate to measure 4 cc, then dilute one volume of Retardant M with 5 volumes of Thinner 9000 and add 24 cc of this mixture.

NOTE: MEKPO should never be less than 64 cc / 20 lbs of resin.

Call ITW Futura Coatings Technical Support for temperatures beyond listed range (314/733-1110).

MIXING INSTRUCTIONS

1. Weigh out VE9310 Primer Resin.
 - A full pail of VE9300 Primer weighs 37 lbs.
 - Weight per gallon is 8.69 lbs.

Note: The flash point is 70° - 80°F. Use a air-powered mixer or maintain good ventilation
2. Add Retardant M if required. Stir for 30 seconds.
3. Add Primer Powder. Mix for 1 minute using a power mixer.

Note: Primer Powder must be kept dry. Do not store out doors.
4. Add MEKPO Catalyst.
WORKING LIFE STARTS NOW!
Stir for 1 minute
5. Transfer into a second container and stir 30 seconds for a complete mix



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VE9310 TROWEL BASE

MIX CHART FOR 45 LBS. OF RESIN WORKING LIFE AT 75°F = 35-40 MINUTES

| | 45°F | 55°F | 65°F | 75°F | 85°F |
|-------------|--------|--------|--------|--------|---------|
| MEKPO | 570 cc | 420 cc | 275 cc | 145 cc | 145 cc |
| Retardant M | xxx | xxx | xxx | xxx | 11 cc * |

* If measuring equipment is not sufficiently accurate to measure 11 cc, then dilute one volume of Retardant M with 5 volumes of Thinner 9000 and add 66 cc of this mixture.

NOTE: MEKPO should never be less than 64 cc / 20 lbs of resin.

Call ITW Futura Coatings Technical Support for temperatures beyond listed range (314/733-1110).

Warning: Never allow a Promoter to contact with the MEKPO Catalyst directly. Promoters must always be premixed into the resin before the MEKPO Catalyst is added. Direct contact with Promoters will produce a vigorous reaction or an explosion.

MIXING INSTRUCTIONS

1. Weigh out VE9310 Trowel Base Resin.
 - A full pail of VE9310 Trowel Base Resin weighs 45 lbs.
 - Weight per gallon is 11.7 lbs.

Note: The flash point is 70° - 80°F. Use a air-powered mixer or maintain good ventilation
2. Add Retardant M if required. Stir for 1 minute.
3. Add MEKPO Catalyst.
WORKING LIFE STARTS NOW!
Stir for 1 minute
4. Transfer into a second container and stir 30 seconds for a complete mix



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VE9360 SPRAY BASE

MIX CHART FOR 40 LBS. OF RESIN WORKING LIFE AT 75°F = 60-70 MINUTES

| | 45°F | 55°F | 65°F | 75°F | 85°F |
|----------------------------|--------|--------|----------|----------|--------|
| CH Catalyst | 400 cc | 300 cc | 190 cc * | 140 cc * | 140 cc |
| CH Catalyst (by volume) | 2.8 % | 2.1 % | 1.4 % | 1.0 % | 1.0 % |
| Retardant M | xxx | xxx | xxx | xxx | 150 cc |

* For plural component spray equipment, 1.5% by volume of CH Catalyst, may be used between 60-85°F.

Call ITW Futura Coatings Technical Support for temperatures beyond listed range (314/733-1110).

MIXING INSTRUCTIONS

1. Weigh out VE9360 Base Resin.
 - A full pail of VE9300 Base Resin weighs 40 lbs.
 - Weight per gallon is 10.7 lbs.

Note: The flash point is 70° - 80°F. Use a air-powered mixer or maintain good ventilation
2. Add Retardant M if required. Stir for 1 minute.
3. Add CH Catalyst.
WORKING LIFE STARTS NOW!
Stir vigorously for 1 minute
4. Transfer into a second container and stir 30 seconds for a complete mix
5. For plural component spray equipment, stir the original pail for 1 minute prior to use, even if no additives are required.



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VE9360 TOPCOAT

MIX CHART FOR 40 LBS. OF RESIN WORKING LIFE AT 75°F = 55-65 MINUTES

| | 45°F | 55°F | 65°F | 75°F | 85°F * |
|----------------------------|--------|--------|--------|--------|--------|
| CH Catalyst | 520 cc | 520 cc | 200 cc | 140 cc | 140 cc |
| CH Catalyst (by volume) | 4.0 % | 4.0 % | 1.5 % | 1.1 % | 1.1 % |
| Retardant M | xxx | xxx | xxx | xxx | 55 cc |

* This formula, mixed at 75°F, will provide a 40 – 50 minute working life. 10 cc of Retardant M will provide an additional 10 minutes working life.

NOTE: For plural component spray equipment, 1.5% by volume of CH Catalyst may be used between 65 – 85°F.

Call ITW Futura Coatings Technical Support for temperatures beyond listed range (314/733-1110).

MIXING INSTRUCTIONS

1. Weigh out VE9360 Topcoat Resin.
 - A full pail of VE9300 Topcoat Resin weighs 40 lbs.
 - Weight per gallon is 11.0 lbs.

Note: The flash point is 70° - 80°F. Use a air-powered mixer or maintain good ventilation
2. Add Retardant M if required. Stir for 1 minute.
3. Add CH Catalyst.
WORKING LIFE STARTS NOW!
Stir for 1 minute
4. Transfer into a second container and stir 30 seconds for a complete mix
5. For plural component spray equipment, stir each pail for 1 minute prior to usage, even if no additives are required.