

# MAVCOAT® RESIN SYSTEM AND PROCESS APPLICATION Selector Guide

Product Name	SK-4	SK-5	KS	K	KCP	CFR	EP-111	EM	GSMR
Carrier Base	Solvent	Solvent	Solvent	Solvent	Solvent	Water	Water	Water	Water
<b><u>SYSTEMS</u></b>									
Glossy Gel Coat			***		***	***			
Matte Gel Coat	***	**					***	**	
Non-Gel Coat Polyester	**	**	***	**	***	***	***	**	***
Epoxy	***	**	***	**	***				**
Vinyl Ester	**	**	***	**	***	***	***	**	***
<b><u>PROCESSES</u></b>									
Compression molding	***	***	***	**	***	***	***	**	
Vacuum Bagging	***	***	***	***	***	**	***	**	
RTM	***	***	***	*	***	**	***	**	
Cast/Polymer/Solid Surface	*	*	***	***	***	**	***		***
Hand Lay/Spray up	*	*	***	***		**	***		***
Filament Winding			***		***				***
Mandrel Built Layup					***		**	**	***

\* Recommended

\*\*\* Highly Recommended

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## MAVCOAT® Product Descriptions for Composites

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### MAVCOAT SK-4

is a medium evaporating, solvent-based, semi-permanent release coating that chemically bonds to the mold surface. It possesses high thermal stability allowing it to withstand all molding temperatures. SK-4 does not transfer to the finished part and releases epoxies, polyester resins, and thermoplastics.

### MAVCOAT SK-5

Is the faster evaporating version of SK-4. It is a Quick curing, solvent-based, release coating for epoxy, phenolic, and polyester resins that imparts a glossy finish.

### MAVCOAT KS

Serves as the K series “workhorse” release coating. KS is the best all-purpose release for composites. It is a medium evaporating, solvent-based, semi-permanent release that chemically bonds to the mold surface after curing. It possesses high thermal stability and does not transfer to the finished part. It is used for the release of epoxies, polyester, Resins, and thermoplastics.

### MAVCOAT K

Is a fast evaporating, solvent-based, semi-permanent, release coating that chemically bonds to the mold surface. Unique polymers allow for multiple releases without transfer to the finished part. Used for the release of epoxies, phenolic, polyester resins, and thermoplastics.

### MAVCOAT KCP

Contains unique additives for high slip and is used for difficult to release parts in the most demanding applications. KCP is fast evaporating, solvent-base, and semi-permanent. Used for the release of epoxies, phenolics, polyester resins, and thermoplastics.

### MAVCOAT CFR

Is a water-based release designed to yield a glossy surface finish. It is good for high volume production work where release needs to be applied to hot molds. It yields multiple releases with a single application. It is thermally stable and releases all thermoset composites.

### MAVCOAT EP-111

Is a water-based release designed to yield excellent surface cosmetics and a finish free of porosity or pinholes. Good for high volume production work where release needs to be applied to hot molds. Yields multiple releases with a single application. Withstands most molding temperatures and releases all resins, epoxies, and thermoplastics.

### MAVCOAT EM

Is a ready-to-use, water-based release system designed for high volume production where application to hot molds is more frequent and semi permanence is non-essential. Contains anti-slip, high lubricity polymers for all the thermoset composites in compression, RTM, and mandrel-molded applications.

### MAVCOAT GSMR

Is a concentrated, water-based release coating for primary use in filament winding and mandrel built parts during mechanical extraction of the mandrel. GSMR can be diluted with water for certain applications. It is good for release of all polyester resins, epoxies, and phenolics.

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## MAVCOAT® SK-4 SEMI PERMANENT MOLD RELEASE COATING FOR COMPOSITES

### DESCRIPTION

Mavcoat SK-4 is a dual purpose, medium evaporating 2-in-1 semi permanent mold sealer and release coating designed to release polyester, urethane, epoxy, and phenolic based resins.

#### Features

- No Transfer
- No Pre-Release
- Resists Build Up
- Easy to Apply
- Multiple Releases

#### Benefits

Excellent surface cosmetics  
Less scrap due to pre release  
Molds remain cleaner longer  
Simple procedures for operators to master  
Infrequent application means more production

### WHY MAVCOAT SK-4 IS UNIQUE

Mavcoat SK-4 release provides a semi permanent Coating. The finished part has little to no porosity Or pinholes.

### USE AND APPLICATION

Mavcoat SK-4 is designed ready to use. It can be Used on molds made from aluminum, steel, glass, polyester, epoxy, silicone, and fiberglass.

1. For best results, mold surfaces should be cleaned thoroughly. Completely remove previous release agents, oils, and waxes.
2. Apply Mavcoat SK-4 by wiping onto the mold surface with a clean, lint-free cloth.
3. Apply 1 coating of Mavcoat SK-4 to a small area of the mold (1-2 square feet) so that a thin, wet, continuous film is deposited. Continue this way until the entire mold is covered.
4. Wait 20 minutes at temperatures 100°F or more. Allow 30 minutes or more at room temperatures.
5. Apply 2 more coats of SK-4 following the same application method and drying/cure time. Heating the release coated mold to a temperature that is 10-15 degrees higher

than the process temperature or resin exotherm will significantly improve performance.

6. Mold one part.
7. Reapply one coat of SK-4 and mold another part (at this point, the release only needs to dry.) Continue molding. Reapply as needed

Ease of release will depend upon the type and design of the mold. Conduct small-scale trial runs under actual operating conditions before use in production.

### SAFETY AND HANDLING

Mavcoat SK-4 should be handled with care:

1. FLAMMABLE! Handle with care!
2. Use only with adequate ventilation
3. Avoid prolonged breathing of vapors
4. Avoid skin and eye contact.
5. Mavcoat SK-4 is non-toxic

### STORAGE AND SHELF-LIFE

**FLAMMABLE! KEEP AWAY FROM SOURCES OF IGNITION.** Store in a cool, dry place. **KEEP TIGHTLY CLOSED WHEN NOT IN USE! THIS PRODUCT IS MOISTURE SENSITIVE.**



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## MAVCOAT® SK-5 SEMI PERMANENT MOLD RELEASE COATING FOR COMPOSITES

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### DESCRIPTION

Mavcoat SK-5 is a fast evaporating, dual purpose 2-in-1 semi permanent mold sealer and release coating designed to release polyester, urethane, epoxy, phenolic resins and thermoplastics with a high gloss finish.

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#### Features

- No Transfer
- No Pre-Release
- Resists Build Up
- Easy to Apply
- Multiple Releases

#### Benefits

- Excellent surface cosmetics
  - Less scrap due to pre release
  - Molds remain cleaner longer
  - Simple procedures for operators to master
  - Infrequent application means more production
- 

### WHY MAVCOAT SK-5 IS UNIQUE

Mavcoat SK-5 release provides a semi permanent Coating. The finished part retains a high gloss finish.

### USE AND APPLICATION

Mavcoat SK-5 is designed ready to use. It can be Used on molds made from aluminum, steel, glass, Polyester, epoxy, silicone, and fiberglass.

1. For best results, mold surfaces should be cleaned thoroughly. Completely remove previous release agents, oils, and waxes.
2. Apply Mavcoat SK-5 by wiping onto the mold surface with a clean, lint-free cloth.
3. Apply 1 coating of Mavcoat SK-5 to a small area of the mold (1-2 square feet) so that a thin, wet, continuous film is deposited. Continue this way until the entire mold is covered.
4. Wait 20 minutes at temperatures 100°F or more. Allow 30 minutes or more at room temperatures.
5. Apply 2 more coats of SK-5 following the same application method and drying/cure time. Heating the release coated mold to a temperature that is 10-15 degrees higher

than the process temperature or resin exotherm will significantly improve performance.

6. Mold one part.
7. Reapply one coat of SK-5 and mold another part (at this point, the release only needs to dry.) Continue molding. Reapply as needed

Ease of release will depend upon the type and design of the mold. Conduct small-scale trial runs under actual operating conditions before use in production.

### SAFETY AND HANDLING

Mavcoat SK-5 should be handled with care:

1. **FLAMMABLE!** Handle with care!
2. Use only with adequate ventilation
3. Avoid prolonged breathing of vapors
4. Avoid skin and eye contact.
5. Mavcoat SK-5 is non-toxic

### STORAGE AND SHELF-LIFE

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## MAVCOAT® KS

# SEMI PERMANENT MOLD RELEASE COATING FOR COMPOSITES

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### DESCRIPTION

Mavcoat KS is the “workhorse” release coating for composites. It is a semi-permanent mold sealer and release coating that withstands all high mold temperatures without migration. It releases polyester, urethane, epoxy, phenolic and vinylester resins to yield a cosmetic finish.

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#### Features

- No Transfer
- No Pre-Release
- Resists Build Up
- Easy to Apply
- Multiple Releases

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#### Benefits

- Excellent surface cosmetics
  - Less scrap due to pre release
  - Molds remain cleaner longer
  - Simple procedures for operators to master
  - Infrequent application means more production
- 

### WHY MAVCOAT KS IS UNIQUE

Mavcoat KS release provides a semi permanent Coating. The finished part retains a high gloss finish.

### USE AND APPLICATION

Mavcoat KS is designed ready to use. It can be used on molds made from aluminum, steel, kirksite, glass, polyester, epoxy, silicone, and fiberglass.

1. For best results, mold surfaces should be cleaned thoroughly. Completely remove previous release agents, oils, and waxes.
2. Apply Mavcoat KS by wiping onto the mold surface with a clean, lint-free cloth.
3. Apply 1 coating of Mavcoat KS to a small area of the mold (1-2 square feet) so that a thin, wet, continuous film is deposited. Continue this way until the entire mold is covered.
4. Wait 20 minutes at temperatures 100°F or more. Allow 30 minutes or more at room temperatures.
5. Apply 2 more coats of KS following the same application method and drying/cure time. Heating the release coated mold to a temperature that is 10-15 degrees higher

- than the process temperature or resin exotherm will significantly improve performance.
6. Mold one part.
7. Reapply one coat of KS and mold another part (at this point, the release only needs to dry.) Continue molding. Reapply as needed

Ease of release will depend upon the type and design of the mold. Conduct small-scale trial runs under actual operating conditions before use in production.

### SAFETY AND HANDLING

Mavcoat KS should be handled with care:

1. **FLAMMABLE!** Handle with care!
2. Use only with adequate ventilation
3. Avoid prolonged breathing of vapors
4. Avoid skin and eye contact.
5. Mavcoat KS is non-toxic

### STORAGE AND SHELF-LIFE

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## MAVCOAT® K SEMI PERMANENT MOLD RELEASE COATING FOR COMPOSITES

### DESCRIPTION

Mavcoat K is a solvent based, fast evaporating, semi-permanent mold sealer and release coating that chemically bonds to the mold surface to yield a low coefficient of friction. The unique chemistry allows for multiple releases without transfer to the finished part or polyester, epoxy, vinyl ester and gel coat parts.

Features	Benefits
<ul style="list-style-type: none"><li>• No Transfer</li><li>• No Pre-Release</li><li>• Resists Build Up</li><li>• Easy to Apply</li></ul>	<ul style="list-style-type: none"><li>• Excellent surface cosmetics</li><li>• Less scrap due to pre release</li><li>• Molds remain cleaner longer</li><li>• Simple procedures for operators to master</li></ul>

### WHY MAVCOAT K IS UNIQUE

Mavcoat K release coating provides a mirror finish on parts through a semi-permanent coating. It withstands high temperatures and allows for easy recoats when needed

### USE AND APPLICATION

Mavcoat K is designed ready to use. It can be used on molds made from aluminum, steel, glass, polyester, epoxy, fiberglass and urethane.

1. For best results, mold surfaces should be cleaned thoroughly. Completely remove previous release agents, oils, and waxes.
2. Apply Mavcoat K by wiping onto the mold surface with a clean, lint-free cloth.
3. Apply 1 coating of Mavcoat K to a small area of the mold (1-2 square feet) so that a thin, wet, continuous film is deposited. Continue this way until the entire mold is covered.
4. Wait 20 minutes at temperatures 100°F or more. Allow 30 minutes or more at room temperatures.
5. Apply 2 more coats of K following the same application method and drying/cure time. Heating the release coated mold to a

- temperature that is 10-15 degrees higher than the process temperature or resin exotherm will significantly improve performance.
6. Mold one part.
7. Reapply one coat of K and mold another part (at this point, the release only needs to dry.) Continue molding. Reapply as needed

Ease of release will depend upon the type and design of the mold. Conduct small-scale trial runs under actual operating conditions before use in production.

### SAFETY AND HANDLING

Mavcoat K should be handled with care:

1. **FLAMMABLE!** Handle with care!
2. Use only with adequate ventilation
3. Avoid prolonged breathing of vapors
4. Avoid skin and eye contact.

### STORAGE AND SHELF-LIFE

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## MAVCOAT® KCP

# SEMI PERMANENT MOLD RELEASE COATING FOR COMPOSITES

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### DESCRIPTION

Mavcoat KCP contains high slip chemistry for use in the most demanding release applications. It is based on a fast evaporating solvent and delivers a semi permanent coating. It has high thermal stability and releases polyester, epoxy, vinyl ester and gel coat parts wherever high gloss surface finish is required.

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#### Features

- No Pre-Release
- Resists Build Up
- Easy to Apply
- Multiple Releases

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#### Benefits

- Less scrap due to pre release
  - Molds remain cleaner longer
  - Simple procedures for operators to master
  - Infrequent application means more production
- 

### WHY MAVCOAT KCP IS UNIQUE

Mavcoat K release coating provides a mirror finish on parts through a semi-permanent coating. It withstands high temperatures and allows for easy recoats when needed

### USE AND APPLICATION

Mavcoat K is designed ready to use. It can be used on molds made from aluminum, steel, glass, polyester, epoxy, fiberglass and urethane.

1. For best results, mold surfaces should be cleaned thoroughly. Completely remove previous release agents, oils, and waxes.
2. Apply Mavcoat KCP by wiping onto the mold surface with a clean, lint-free cloth.
3. Apply 1 coating of Mavcoat KCP to a small area of the mold (1-2 square feet) so that a thin, wet, continuous film is deposited. Continue this way until the entire mold is covered.
4. Wait 20 minutes at temperatures 100°F or more. Allow 30 minutes or more at room temperatures.
5. Apply 2 more coats of KCP following the same application method and drying/cure time. Heating the release coated mold to a

temperature that is 10-15 degrees higher than the process temperature or resin exotherm will significantly improve performance.

6. Mold one part.
7. Reapply one coat of KCP and mold another part (at this point, the release only needs to dry.) Continue molding. Reapply as needed

Ease of release will depend upon the type and design of the mold. Conduct small-scale trial runs under actual operating conditions before use in production.

### SAFETY AND HANDLING

Mavcoat KCP should be handled with care:

1. **FLAMMABLE!** Handle with care!
2. Use only with adequate ventilation
3. Avoid prolonged breathing of vapors
4. Avoid skin and eye contact.

### STORAGE AND SHELF-LIFE

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## **MAVCOAT® CFR SEMI-PERMANENT ENGINEERED RELEASE COATING FOR COMPOSITES**

### **DESCRIPTION**

Mavcoat CFR is a water-based dispersion that imparts a fine film and produces a slick, friction-free surface with excellent lubricity and antistatic properties. When baked on, multiple releases are possible with Mavcoat CFR. The film is chemically and thermally stable, non-flammable and excellent for RTM or compression molding of pre-preg carbon fiber.

### **Properties**

- Highly nonstick (low coefficient of friction)
- Thermally stable over a wide range of temperatures
- Nonflammable
- Chemically Inert
- Resistant to Corrosive Chemicals
- Clean, not oily, and not staining
- Insoluble
- Nonmigrating

These properties make it an excellent release agent for composites such as Kevlar and carbon fiber because it does not transfer to the part.

### **Technical Data**

<b>Parameter</b>	<b>Description</b>
Color	Clear translucent film
Application Temperature	- 65°F to 450°F
Shelf Life	One year from date of shipment
Solvent	Water
VOC content, g/L	0

- Mavcoat CFR is ready to use and requires no dilution. Further Mavcoat CFR should not be diluted because the dispersion may be rendered inactive or precipitate from solution



## **APPLICATION**

Mavcoat CFR is applied by any of several methods such as dipping, spraying, or brushing onto a prepared surface. The film is air-dried or baked on and releases parts after the evaporation of water. The coating may be applied at any mold temperature and go straight into production.

**However, permanence and release properties are enhanced when the solution is applied to a hot mold and allowed to bake on at process temperature for one cycle.**

### **Spraying**

Apply to a cold or hot mold using a mist. Most often, a trigger sprayer will work. Airbrush systems work best

### **Wiping or Brushing**

This method is especially useful for coating continuous surfaces such as rods, tubing, or sheets. In addition, wiping and brushing are appropriate for coating small, selected areas of a larger part. One variation of this method is flood-coating followed by wiping.

## **DESCRIPTION OF TYPICAL APPLICATION PROCESS FOR COMPRESSION MOLDING**

1. Clean mold
2. Heat mold to minimum 140°F. However any process temperature above 212°F is better
3. If possible, use an airbrush to apply a light coating of Mavcoat CFR. If an airbrush is not available, a spray bottle (trigger sprayer) can be used. Wiping or brushing will also work (see step 4).
4. Try not to allow CFR to pool during the application process. If this occurs, soak a cloth with CFR, wring dry, and wipe excess. A soft paint brush can also be used to smooth out any large droplets on the surface of the mold.
5. Mold is now prepared to make parts.
6. Reapply only when removing parts becomes difficult. **A SINGLE APPLICATION OF MAVCOAT CFR WILL PROVIDE MULTIPLE RELEASES**

## **TROUBLESHOOTING**

1. Parts should easily demold. If difficulty is encountered, try a heavier coating of CFR.
2. If finished parts have excess CFR on the surface, too much release has been applied. Simply wipe out the mold with a cloth/brush and mold another part without reapplication of CFR

## **STORAGE & HANDLING**

### **Storage and Shelf-Life**

Under normal warehouse conditions, this emulsion is stable in unopened containers for twelve (12) months provided it is stored at temperatures below 110°F and above 32°F. Do not allow to freeze! For best results use this material within 12 months from date of purchase.



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## MAVCOAT® EP-111 SEMI-PERMANENT ENGINEERED RELEASE COATING FOR COMPOSITES

### DESCRIPTION

Mavcoat EP-111 is a water-based white dispersion that imparts a fine film and produces a slick, friction-free surface with excellent lubricity and antistatic properties. When baked on, multiple releases are possible with Mavcoat EP-111. The film is chemically and thermally stable, and non-flammable and excellent for RTM or compression molding of pre-preg carbon fiber

### Properties

- Highly nonstick (low coefficient of friction)
- Thermally stable over wide range of temperatures
- Nonflammable
- Chemically inert
- Resistant to corrosive chemicals
- Clean, nonoily, and nonstaining
- Insoluble
- Nonmigrating

These properties make it an excellent release agent for composites such as Kevlar and carbon fiber because it does not transfer to the part.

### TECHNICAL DATA

Parameter	Description
Color	Clear translucent film
Application Temperature	- 65°F to 450°F
Shelf Life	One year from date of shipment
Solvent	Water
VOC content, g/L	0

- Mavcoat EP-111 is ready to use and requires no dilution. Further Mavcoat EP-111 should not be diluted because the dispersion may be rendered inactive or precipitate from solution.

## **APPLICATION**

Mavcoat EP-111 is applied by any of several methods such as dipping, spraying, or brushing onto a prepared surface. The film is air-dried or baked-on and releases parts after the evaporation of water. The coating may be applied at any mold temperature and go straight into production. **However, permanence and release properties are enhanced when the solution is applied to a hot mold and allowed to bake on at process temperature for one cycle.**

### **Spraying**

Apply to a cold or hot mold using a mist. Most often, a trigger sprayer will work. Airbrush systems work best.

### **Wiping or Brushing**

This method is especially useful for coating continuous surfaces such as rods, tubing, or sheets. In addition, wiping and brushing are appropriate for coating small, selected areas of a larger part. One variation of this method is flood-coating followed by wiping.

## **DESCRIPTION OF TYPICAL APPLICATION PROCESS FOR COMPRESSION MOLDING**

1. Clean mold
2. Heat mold to minimum 140°F. However, any process temperature above 212°F is better.
3. If possible, use an airbrush to apply a light coating of Mavcoat EP-111. If an airbrush is not available, a spray bottle (trigger sprayer) can be used. Wiping or brushing will also work (see step 4).
4. Try not to allow EP-111 to pool during the application process. If this occurs, just wipe with a cloth that has been previously soaked in EP-111 and wrung out. A soft paint brush can also be used to smooth out any large droplets on the surface of the mold.
5. Mold is now prepared to accept parts.

## **TROUBLESHOOTING**

1. Parts should easily demold. If difficulty is encountered, try a heavier coating of EP-111.
2. If parts have excess EP-111 on the surface, too much release has been applied. Wipe out the mold with a cloth or brush and mold another part without reapplication of EP-111.

## **STORAGE & HANDLING**

### **Storage and Shelf Life**

Under normal warehouse conditions, this emulsion is stable in unopened containers for twelve (12) months provided it is stored at temperatures below 110°F and above 32°F. **Do not allow to freeze!** For best results, use this material within 12 months from date of purchase. Keep closed to avoid contamination. For specific information, refer to the Material Safety Data Sheet.

### **Safe Handling**

Adequate ventilation is important when Mavcoat EP-111 is applied and care should be taken to avoid inhaling spray mist or fumes containing Mavcoat EP-111.

### **Ordering Information**

Mavcoat EP-111 is supplied in 5-gallon pails and 55-gallon drums.



## **MAVCOAT® EM MOLD RELEASE COATING FOR COMPOSITES**

### **DESCRIPTION**

Mavcoat EM is a water-based, white emulsion that imparts a thin film and produces a slick, low friction surface with excellent lubricity and antistatic properties. The film is chemically and thermally stable. Mavcoat EM is designed to coat mandrels and release carbon fiber composites used in the production of tubes found in aerospace struts, hockey, golf, and arrow shafts, drilling shafts, gun barrels, drive shafts, and kayak handles

### **Properties**

- Highly nonstick (low coefficient of friction)
- Thermally stable over wide range of temperatures
- Nonflammable
- Chemically inert
- Resistant to corrosive chemicals
- Clean, nonoily, and nonstaining
- Insoluble
- Nonmigrating

These properties make it an excellent release agent for carbon fiber and Kevlar composites due to little or no transfer to the finished part.

### **TECHNICAL DATA**

<b>Parameter</b>	<b>Description</b>
Color	Clear translucent film
Application Temperature	35°F to 450°F
Shelf Life	Six months from date of shipment
Solvent	Water

### **USE**

- Mavcoat EM is ready to use. Conduct trial evaluations on small parts to ensure proper release.

## **1. SEASON AND CONDITION MANDRELS BEFORE USE!**

- **NEW OR CLEANED MANDRELS SHOULD HAVE AT LEAST TWO OR THREE COATINGS APPLIED AND DRIED BEFORE HIGH VOLUME PRODUCTION**

## **2. APPLICATION METHODS**

Apply Mavcoat EM by any of several methods such as dipping, spraying, wiping, or brushing. The film is air-dried or baked on after application. The coating may be applied at any mold temperature and go straight into production. **However, permanence and release properties are enhanced when the solution is applied to a mandrel and allowed to bake on at process temperature for one cycle.**

- **SPRAYING**

Apply to a cold or hot mandrel using a mist. Most often, a trigger spray will work. Airbrush systems work best.

- **WIPING, BRUSHING, AND DIPPING**

This method is especially useful for coating continuous surfaces such as long rods and tubing mandrels. One variation of this method is flood-coating followed by drip-drying or wiping.

## **STORAGE & HANDLING**

### **Shelf Life**

Under normal warehouse conditions, this emulsion is stable in unopened containers for six (6) months provided it is stored at temperatures below 110°F and above 32°F. **Do not allow material to freeze!** For best results, use this material within 6 months from date of purchase. Keep closed to avoid contamination. For specific information, refer to the Material Safety Data Sheet.

### **Safe Handling**

Adequate ventilation is important during application and care should be taken to avoid inhaling spray mist or fumes containing Mavcoat EM.

### **Ordering Information**

Mavcoat EM is supplied in 5-gallon pails and 55-gallon drums.



## **MAVCOAT® GSMR MANDREL MOLD RELEASE COATING**

### **DESCRIPTION**

Mavcoat GSMR is a concentrated formulation designed to be diluted with water when needed. It produces a slick, low friction surface with excellent lubricity and antistatic properties. The film is chemically and thermally stable. Mavcoat GSMR is designed to coat mandrels and release carbon fiber composites used in the production of golf, kayak, or any tube/shaft.

### **Properties**

- Highly nonstick (low coefficient of friction)
- Thermally stable over wide range of temperatures
- Nonflammable
- Chemically inert
- Resistant to corrosive chemicals
- Clean, nonoily, and nonstaining
- Insoluble
- Nonmigrating

These properties make it an excellent release agent for carbon fiber composites and Kevlar because of little to no transfer to the finished part.

### **TECHNICAL DATA**

<b>Parameter</b>	<b>Description</b>
Color	Clear translucent film
Application Temperature	- 65°F to 450°F
Shelf Life	Twelve months from date of shipment
Solvent	Water

### **USE**

- Mavcoat GSMR is ready to use. However, it can be diluted up to 3 or 4 parts water to 1 part concentrate. Conduct trial evaluations before deciding on final dilution ratio. We

recommend starting with 2:1 dilution ratio to ensure release. Upon success with 2:1 dilution, move to 3:1 and then to 4:1 making sure release is satisfactory at each level.

## **1. SEASON AND CONDITION MANDRELS BEFORE USE!**

- **NEW OR CLEANED MANDRELS SHOULD HAVE AT LEAST TWO COATINGS APPLIED AND DRIED BEFORE HIGH VOLUME PRODUCTION**

## **2. APPLICATION METHODS**

Apply Mavcoat GSMR by any of several methods such as dipping, spraying, wiping, or brushing. The film is air-dried or baked on after application. The coating may be applied at any mold temperature and go straight into production. **However, permanence and release properties are enhanced when the solution is applied to a mandrel and allowed to bake on at process temperature for one cycle.**

- **SPRAYING**

Apply to a hot or cold mandrel using a mist. Most often, a trigger spray will work. Airbrush systems work best

- **WIPING, BRUSHING, AND DIPPING**

This method is especially useful for coating continuous surfaces such as long rods and tubing. One variation of this method is flood-coating followed by drip-drying or wiping.

## **STORAGE & HANDLING**

### **Shelf Life**

Under normal warehouse conditions, this emulsion is stable in unopened containers for twelve (12) months, provided it is stored at temperatures below 110°F and above 32°F. **Do not allow to freeze!** For best results, use this material within 12 months from date of purchase. Keep closed to avoid contamination. For specific information, refer to the Material Safety Data Sheet.

### **Safe Handling**

Adequate ventilation is important during application and care should be taken to avoid inhaling spray mist or fumes containing Mavcoat GSMR.

### **Ordering Information**

Mavcoat GSMR is supplied in 5-gallon pails and 55-gallon drums.



Keep closed to avoid contamination. For specific information, refer to the Material Safety Data Sheet.

**Safe Handling**

Adequate ventilation is important when Mavcoat CFR is applied and care should be taken to avoid inhaling spray mist or fumes containing Mavcoat CFR.



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## MAVCOAT® AD

### Mold Sealer for Composite Tools

#### DESCRIPTION

Mavcoat AD is designed to seal new or “green” composite tools made from fiberglass reinforced polyester, epoxy, phenolics, thermoplastics, and other resins commonly used to make molds in the aerospace, medical, fiberglass, and automotive industries,

Features	Benefits
<ul style="list-style-type: none"> <li>• Seals Micro-porosity</li> <li>• No Pre-Release</li> <li>• Easy to Apply</li> </ul>	<ul style="list-style-type: none"> <li>Better prepares surface to yield high gloss finish</li> <li>Less scrap due to pre release</li> <li>Simple procedures for operators to master</li> </ul>

#### USE AND APPLICATION

The mold surface must be clean and free of previous release agents, oils, or waxes. For new or “green” molds, apply minimum of three coats. For old, or “seasoned molds, apply only 1-2 coats. In order for mavcoat AD to work effectively, the coating must cure.

1. Apply Mavcoat AD at room temperature (77°F/25°C) by wiping on with a clean, lint-free cotton cloth.
2. Apply 1 coating of Mavcoat AD to a small area of the mold (2-3 square feet) so that a thin, wet, continuous film is deposited. Cloth should be wet, but not dripping. After applying Mavcoat AD, wait 30 seconds and gently wipe with a second dry cloth. Use

only the weight of the cloth to push the film around and take up any excess. Do not exert excessive pressure! Too much pressure may remove coating. If cloth becomes too wet, find dry spot, and continue. The goal is to create a uniform, streak-free coating. Use this process for each section.

3. Overlap each 2-3 square foot section until The entire mold is covered. Overlap each Application section so a uniform streak-Free coating is present.

4. To be effective, the coating must cure. Allow only 15-20 minutes or more at room temperatures for each section to cure. Before applying subsequent coats. Wait only 10 minutes when temperature is 100° or more.
5. Once the final coat is completely applied, allow the coating to cure at room temperature for 20-30 minutes. The tool is now ready to accept Mavcoat Release Coatings.

The goal of this procedure is to apply Mavcoat AD in a streak-free, uniform finish. The coating will cure and create a barrier that fills in the micro-voids, pits and porosity associated with composite tooling. This coating is now ready to accept the appropriate Mavcoat® Mold Release Agent.

#### SAFETY AND HANDLING

1. **FLAMMABLE!** Handle with care!
2. Use only with adequate ventilation
3. Avoid skin and eye contact.

#### STORAGE AND SHELF-LIFE

**FLAMMABLE! KEEP AWAY FROM SOURCES OF IGNITION.** Store in a cool, dry place. **KEEP TIGHTLY CLOSED WHEN NOT IN USE! THIS PRODUCT IS MOISTURE SENSITIVE.**

## Mavcoat® Mold Release Coatings Competitive Product Cross Reference Guide

Maverix Solutions Mavcoat	Loctite Frekote	Zyvax	Axel	Airtech
Cleaner 212	PMC	Surface Cleaner		
AD	FM Sealer	Sealer GP		
ND	B-15 Sealer	Sealer GP		
IRV	WOLO			
TUS	SOLO			
SK-3	FRP-NC	Fiberglass Shield		
DHS	Frewax			
SK-4	44-NC	Composite Shield		
SK-5	55-NC	Composite Shield		
KS	700-NC	Multishield	F57NC	
K	770-NC	Multishield	F57NC	
CFR	Aqualine C-200	Enviroshield		30
EP-111	Aqualine C-210	Enviroshield		30
EM				20

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## MAVCOAT® DHSR Mold Release Coating for Polyurethane Foam

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### DESCRIPTION

Mavcoat DHSR is a solvent-based release agent for cast elastomers and rigid or flexible polyurethane foam systems. It will adhere to any mold surface such as steel, aluminum, epoxy, concrete, wood, or urethane.

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#### Features

- Penetrates and seals mold pores
- Easy to Apply
- Fast evaporation
- Excellent wetting properties

#### Benefits

High quality finish & less rejects  
Increased production time  
Decreased pooling in mold cavities  
Better surface finish

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### WHY MAVCOAT DHSR IS UNIQUE

Mavcoat DHSR releases parts with the use of a high performance resin polymer. Multiple releases are possible with a single coating

Ease of release will depend upon the urethane system, type, and design of the mold. Conduct small-scale trial runs under actual operating conditions before use in production.

### USE AND APPLICATION

Mavcoat DHSR is designed ready to use. Mold surfaces should be cleaned prior to application. Mavcoat DHSR may be applied by brushing, wiping, or spraying.

1. Season new or just cleaned molds with at least 2-3 coats prior to use in production. Allow to dry completely between coats.
2. During production, apply one coat prior to each molding or as needed
3. No bake cycle is required because the coating spreads easily and adheres to the mold after the evaporation of the solvent.
4. Reapply as needed. Multiple releases are possible with a single coating.

### SAFETY AND HANDLING

Mavcoat DHSR should be handled with care. Avoid repeated skin and eye contact. Combustible. Avoid ignition sources.

### STORAGE AND SHELF-LIFE

Under normal warehouse conditions, this product is stable in unopened containers for twelve (12) months provided it is stored at temperatures below 110°F and above 32°F. For specific information, refer to the Material Safety Data Sheet.

### ORDERING INFORMATION

Mavcoat DHSR is supplied in 5-gallon pails and 55-gallon drums.



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## MAVCOAT® GHS Mold Release Coating for Urethane

### DESCRIPTION

Mavcoat GHS is designed for production environments where a concentrated mold release for urethane is required. GHS is also used in critical processes such as making master molds. It provides an easy release of polyurethane and epoxy through a heat-stable, noncarbonizing-parting film.

#### Features

- Odorless
- Penetrates and seals mold pores
- Multiple releases from a single coating

#### Benefits

- Friendly to use
- High quality finish and less rejects
- Increased production time.

### WHY MAVCOAT GHS IS UNIQUE

Mavcoat GHS is best suited for making masters or in urethane casting operations that employ aggressive elastomer chemistry. It has been chemically engineered to wet the mold surface quickly and uniformly and provide exceptional release over long manufacturing runs. It saves money because molds do not have to be cleaned as often. It provides a smooth clear release without breakdown or attack of the urethane skin.

### USE AND APPLICATION

Mavcoat GHS is designed ready to use. Mold surfaces should be cleaned prior to application. Mavcoat GHS may be applied by brushing, wiping, or spraying. Apply 2-3 coats on new or refurbished molds, wiping each time lightly with a soft cloth before putting a mold into production. Multiple releases should be possible from a single application, but Mavcoat GHS may be applied before every pour. No drying time is required. For best results, lightly spray mold after each cast. Ease of release will depend upon the type of chemistry being molded and design of the mold. Conduct small scale trial runs under actual operating conditions before use in production.

### SAFETY AND HANDLING

Mavcoat GHS is a combustible material over 350°F/176°C. Like any chemical it should be handled with care. The following precautions should be observed:

1. Keep material away from open flames
2. Use only with adequate ventilation.
3. Avoid prolonged breathing of vapors.
4. Avoid repeated skin contact.
5. Avoid eye contact.

### STORAGE AND SHELF-LIFE

For best results, use this material within 12 months from date of purchase. Keep closed to avoid contamination. Mavcoat GHS is combustible. Keep away from open flames and do not use welding equipment, even on empty drums. For specific information, refer to the Material Safety Data Sheet.

### ORDERING INFORMATION

Mavcoat GHS is supplied in 5-gallon pails and 55-gallon drums.



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## MAVCOAT® TPC Mold Release Coating for Urethane

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### DESCRIPTION

Mavcoat TPC releases the most tenacious polyurethane elastomers, epoxies, and thermoplastic polymers from aluminum, epoxy, urethane, and steel molds. The chemistry of **Mavcoat TPC** produces a very low coefficient of static friction. This gives our coating one of the lowest surface tension values in the mold release industry.

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#### Features

- Low coefficient of static friction
- Inert, non staining, non migrating

#### Benefits

- Excellent release and demold
  - Minimal cleaning for post finishing
- 

### WHY MAVCOAT TPC IS UNIQUE

Mavcoat TPC is unique because it offers mold release chemistry never before used in the urethane casting industry. It has been chemically engineered to quickly and uniformly wet the mold surface and provide exceptional release over long manufacturing runs. It saves money because molds do not have to be cleaned as often. It provides a smooth clear release without breakdown or attack of the urethane skin.

### USE AND APPLICATION

Mavcoat TPC is designed ready to use. Mold surfaces should be cleaned prior to application. Mavcoat TPC may be applied by brushing, wiping, or spraying.

1. Season new molds by applying 3-4 coats and baking at minimum 160°F between each coat.
2. Once in production, lightly spray mold after each cast. However, multiple releases are possible.
3. Ease of release will depend upon the type of chemistry being molded and the design of the mold.

Conduct small-scale trial runs under actual operating conditions before use in production.

### STORAGE AND SHELF-LIFE

Mavcoat TPC is a flammable material and should be handled with care. The following precautions should be observed:

1. Keep material from open flames.
2. Use only with adequate ventilation.
3. Avoid prolonged breathing of vapors.
4. Avoid repeated skin and eye contact

### STORAGE AND SHELF-LIFE

For best results, use this material within 12 months from date of purchase. Keep closed to avoid contamination. Mavcoat TPC is flammable. Keep away from open flames and do not use welding equipment, even on empty drums. For specific information, refer to the Material Safety Data Sheet.

### ORDERING INFORMATION

Mavcoat TPC is supplied in aerosol cans (12 cans/case), 5-gallon pails and 55-gallon drums.