

PRODUCT SELECTOR GUIDE

COATINGS & LININGS for STORAGE TANKS

**A GUIDE TO CHOOSING THE RIGHT COATING SYSTEM FOR
THE INTERNAL LINING AND EXTERNAL COATING OF ALL
TYPES OF STORAGE VESSELS:**

- SHOP FABRICATED AND FIELD ERECTED
- INTERIOR OR EXTERIOR SURFACES
- BELOW GROUND OR ABOVE



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INTRODUCTION

Welcome to the Madison Chemical **"Tank Coatings Product Selector Guide."**

This document will help you to choose the ideal system for your tank coating application from our family of coatings and linings for storage tanks, including:

CorroCote™
Estran™
Flexcel™
TufSheen™
AcrylaThane™

This **Product Selector Guide** focuses on some typical tank-related end uses and makes specific product recommendations concerning those end uses. The tank coatings group is constantly expanding, so double check with your Madison representative for the latest updates.

We have strived to make the selection process as easy as possible by having two main sections. The first one lists a number of common applications and end uses for our tank coatings, each is accompanied by one or more "system codes". Each code consists of the prefix "TC" and a three digit number, e.g. TC-250. The second section explains what each one of the system codes means.

The potential applications are numerous. Thus, for the sake of brevity, this guide deals primarily with liquid handling/storage environments of various kinds. There are separate **Product Selector Guides** dealing with Pipes and Pipelines, Municipal (Water and Sewage Treatment), Marine, Transportation Equipment and Miscellaneous.

A companion brochure -- **Product Information Brochure – Coatings and Linings for Storage Tanks** -- focuses on the handling and performance characteristics of the products named above and several others that are used for the coating and lining of storage tanks.

Please note that the capitalized terms used in this guide are defined in the glossary on Page 8.

TYPICAL END USES**DESCRIPTION****SYSTEM CODE**

Steel Tanks,
Below Ground, Exterior
(Single or Dual Wall)

System TC-105 to a thickness of 10 mils on shell, 15 mils on head of tank
(U.L. approved with anodes)
System TC-150 or TC-155 to a thickness of 16 mils throughout (U.L. approved with anodes)
System TC-405 @ 70 mils (U.L. approved with *no* anodes required)

Shop Fabricated Steel Tanks
Above Ground, Exterior

System TC-505 or 550 @ 4-5 dry mils for commercial service, 8-10 dry mils for heavy duty service. For severe service, system TC-505 or 510 to a thickness of 20 mils or more.
For non-critical applications, System TC-560
System TC-705 (economical but silver gray color only)

Field Erected Steel Tanks
Above Ground, Exterior

System TC-505, 510 or 550, with Commercial or Near-White Blast in each case
System TC-560 for non-critical applications
Where steel is shop primed and field topcoated, System TC-710 in the shop and System TC-505 or TC-550 in the field
System TC-705 (economical but silver gray only)

Potable Water Tanks,
Interior

System TC-250 or TC-255 to a thickness of 20 mils average, 16 mils minimum
Where steel is shop primed and field topcoated, System TC-710 in the shop and System TC-250 or TC-255 in the field

As above but Concrete	Seal surface with System TC-650. Then apply System TC-450 or TC-660 (elastomeric); or System TX-250 or TC-255 (structural).
Vertical Bulk Fuel and De-icing Fluid Tanks, Steel, Interior	For heavy duty applications on floors, System TC-300 or 355 to a thickness of 50 mils average, 40 mils minimum For walls and for medium duty service on floors (no physical abuse anticipated), System TC-300 or 600 to a thickness of 25 mils average, 20 minimum
Vertical Bulk Fuel Tanks Double bottom	System TC-420
Horizontal Bulk Fuel Tanks, Interior	System TC-300 or 600 to a thickness of 20 mils average, 15 mils minimum
Fertilizer Tanks, Interior	System TC-105, 150, 155, 200, 205, 300, 305, 600 or 605 to a thickness of 20 mils average, 15 mil minimum
Chemical Storage Tanks, Interior	System TC-300 or 600 to a thickness of 25 mils average, 20 mils minimum
Oil Water Separators, Interior and Exterior	UL approved systems are TC-150, 155, 200 and 205 System TC-600 also suitable
Process Water Tanks, Steel	Same as Fertilizer Tanks, above, plus TC-250 and 255 as Potable Water grade alternatives
Process Water Tanks, Concrete	Seal surface with System TC-650. Then apply System TC-450, TC-455 or TC-460; otherwise same as steel
Wastewater Tanks, Concrete	System TC-660

Basement and Farm Tanks	System TC-200 or TC-205 to thickness of 3-4 mils System TC-650 to thickness of 3-4 mils. Detergent Wash may be adequate surface preparation
Secondary Containment	System TC-470 to a thickness of 80 mils or as specified

SYSTEMS

SYSTEM TC-105	CorroCote II Classic™, in One Multi-Pass Coat. Use Fast Set with Standard Plural Component Equipment or Slow Set with Single Component or Pressure Pot Equipment. Near White Blast.
SYSTEM TC-150	CorroCote II Plus™ High Build, in One Multi-Pass Coat using Standard Plural Component Equipment. Snap Set and Fast Set are usually applied with this equipment configuration. Near White Blast.
SYSTEM TC-155	CorroCote II Plus™, as above but using Medium Set product, applied with a Whip End Configuration. Slow Set (special order only) can also be applied with Single Component or Pressure Pot Equipment. Near White Blast.
SYSTEM TC-200	CorroCote II Plus™ Low Viscosity Snap Set or Fast Set, in One Multi-Pass Coat using Standard Plural Component Equipment. Near White Blast.
SYSTEM TC-205	CorroCote II Plus™, as above but using Medium Set version and using a Whip End Configuration. Near White Blast.
SYSTEM TC-250	CorroCote II PW™, in One Multi-Pass Coat, using Standard Plural Component Equipment. White Metal Blast.
SYSTEM TC-255	CorroCote II PW™, as above but using Medium Set version and a Whip End Configuration.
SYSTEM TC-300	CorroCote II UltraLiner™, in One Multi-Pass Coat, using Standard Plural Component Equipment. White Metal Blast.

- SYSTEM TC-355 Estran "S"TM, sprayed in conjunction with chopped glass fibre strand (1/4" preferred), applied using Single Component Equipment. Fibreglass matting or woven roving may be substituted for chopped glass. Near White Blast.
- SYSTEM TC-405 Rhino Hide CompositankTM : Consists of FibreThane IITM or FibreThane II PlusTM at desired thickness (70 mils complies with UL 1746 for underground storage tanks). Glass fibre may be added to the spray at the user's option (overall 100 mils).
- SYSTEM TC-420 DualWall Tank Bottom: Blast steel, apply 10 mils of UltraLiner. Cement CorroPlast interstitial board to floor with Madison MG-225 epoxy. Seal seams and edges with nylon screening and MG-220 epoxy. Apply 100 mils of UltraLiner II in One Multi-Pass Coat.
- SYSTEM TC-450 Flexcel IITM, in One Multi-Pass Coat. Use Fast Set with Standard Plural Component Equipment or Medium Set with a Whip End Configuration. Near White Blast. (see System TC-660 also).
- SYSTEM TC-455 Flexcel II TXTM, in One Multi-Pass Coat, using Standard Plural Component Equipment.
- SYSTEM TC-460 Flexcel PreCatalyzedTM, in three to four paint-like coats. Or add 5% of Madison C-13 Catalyst and apply two thicker coats rather than 3-4 thin ones. Near White Blast. Apply by brush, roller, Single Component or Pressure Pot Equipment. TX version can be used for economy.
- SYSTEM TC-470 Flexcel II 201-15TM, in One Multi-Pass Coat, using Standard Plural Component Equipment
- SYSTEM TC-505 TufSheen IITM in One Multi-Pass Coat. Use Fast Set with Standard Plural Component Equipment or Medium Set with Whip End Configuration. Commercial or Near White Blast (preferred).
- SYSTEM TC-510 CorroCote II Plus and AcrylaThane; this consists of System TC-150, 155, 200 or 205 plus one 3-5 mil coat of AcrylaThane (your choice of 55, 85 or 5200 versions) applied by brush, roller, Single Component or Pressure Pot Equipment. Commercial or Near White Blast (preferred).
- SYSTEM TC-550 AcrylaThane (your choice of 55, 85 or 5200 versions) in a Fogcoat/Fullcoat Technique or in two separate coats. Apply by brush,

- roller Single Component or Pressure Pot Equipment. Commercial or Near White (preferred) Blast.
- SYSTEM TC-560 MG-201 plus AcrylaThane™; this system is for non-blasted steel or for exterior concrete. Apply 1 coat of **MG-201** primer/ sealer to a thickness of 3-4 mils. Finish with one coat of AcrylaThane™ (your choice of 55, 85 or 5200) Apply by brush, roller, Single Component or Pressure Pot Equipment. If grease present, Detergent Wash surface first.
- SYSTEM TC-600 CorroCote "S"™, applied in 2 to 3 coats. Use C-10 catalyst (slow setting, permits 5-6 wet mils per coat), C-7 catalyst (faster setting, permits 8-10 wet mils per coat) or C-4 catalyst (fastest setting, permits 12-15 wet mils per coat). Apply by brush, roller, Single Component or Pressure Pot Equipment. Near White Blast.
- SYSTEM TC-605 CorroCote PreCatalyzed™, in two to three coats. For more even cure and higher build, add 5% of Madison C-7 or C-10 Catalyst. TX version (economy grade) has higher per-coat build. Apply by brush, roller, Single Component or Pressure Pot Equipment. Near White Blast.
- SYSTEM TC-650 MG-201 epoxy primer/sealer, to a thickness of 3 to 4 mils. Degrease metal first. Apply by brush, roller, Single Component or Pressure Pot Equipment. (For potable water immersion, specify EC-120 instead)
- SYSTEM TC-660 MG-201 epoxy primer/sealer or MG-220 self-priming base coat (depending on concrete roughness), followed by 30 to 50 mils of Flexcel II 201-15. Use CM (ceramic modified) version for enhanced abrasion resistance.
- SYSTEM TC-705 CorroPrime™, in two coats of 2 to 3 wet mils each. Total build about 3 to 4 mils dry. Apply by brush, roller, Single Component or Pressure Pot Equipment. Preparation: detergent wash as necessary, then scrape, wire brush and/or sand.
- SYSTEM TC-710 MG-201™, one 3-4 mil coat in the shop plus a suitable topcoat (depending on the service) in the field. (when N.S.F. label required, specify EC-120 instead)

GLOSSARY OF TERMS and GENERAL COMMENTS

SURFACE PREPARATION

"**Commercial Blast**" means a NACE No. 3 blast or SSPC-SP6 blast.

"**Near White Blast**" means NACE No. 2 blast or SSPC-SP10 blast.

"**White Metal Blast**" means NACE No. 1 blast or SSPC-SP5 blast.

"**Detergent Wash**" means the application of a solution of detergent **and** tri-sodium phosphate (1% of each) in 160°F hot water, applied with a high pressure washer at 2,500 p.s.i..

"**Scrape and Sand**" means to scrape surface with wire brush (manual or power) or scraping tool, then abrade surface with sandpaper.

EQUIPMENT

"**One Multi-Pass Coat**" refers to the application of several passes, typically in a cross-hatching manner, to achieve the desired build. If sags occur, wait a few seconds between passes.

"**Pressure Pot Equipment**" means airless pump, hose and gun drawing from a pressure cup or pot.

"**Single Component Equipment**" means airless pump, hose and gun drawing from a pail or drum.

"**Standard Plural Component Equipment**" means two component 1:1 airless pump with primary heaters, dual heated hose and gun with in-head mixing.

"**Whip End Configuration**" means as above but remove in-head mixing type gun and replace with manifold, several feet of standard airless hose and regular airless spray gun.

"**Fogcoat/Fullcoat Technique**" is a spray method which involves striping the welds and corners first, fogging two to three mils on the body of the structure and then, after several moments, spraying a full coat on the entire structure.

GENERAL

Always use sand or steel grit for blasting, never shot. Synthetic grit or slag-based grits may cause contamination of surface and must be used with extreme caution. 24 to 32 grit size recommended. Never use finer than 40 mesh.

Unless otherwise indicated, no primer is required.

This brochure is updated frequently. Refer to date at bottom. ALWAYS double check with a Madison representative before proceeding to write a specification or commence an application.

With all systems, "fogging" a mil or two of coating on corners and sharp edges improves performance.

Detailed application instructions will be made available on request. This Product Selector Guide is not intended to be definitive.

1 mil equals .001 inches and is approximately equal to 25 microns.