Civil Engineering

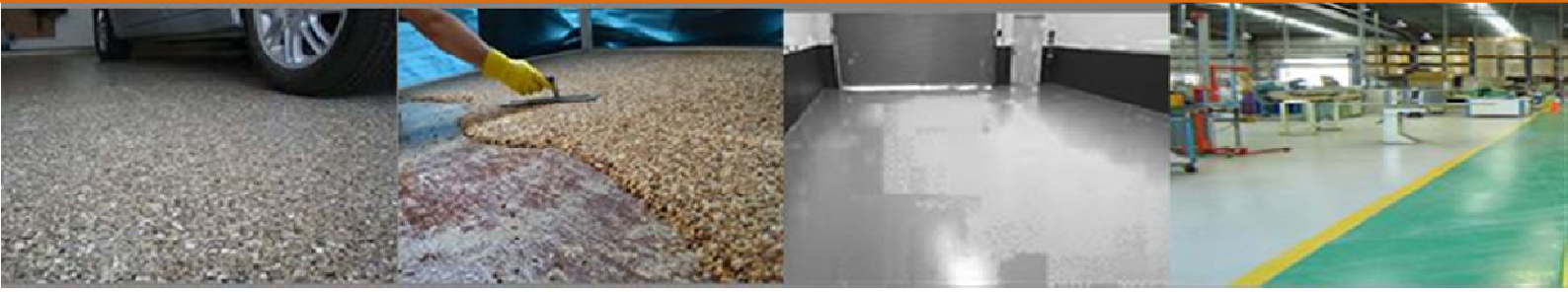
Solventless and Durable

Multi Component Epoxy Floor Systems

SLV EPOXY FLOOR SYSTEM

GUIDE FOR CONCRETE FLOORS

www.abolinco.com



Benefits of Being the Best Option!

99,5 % SOLIDS IN LIQUID FORM

Fit-for-purpose, solventless two component epoxy systems, give contractors and building owners the opportunity to get the highest performance you can expect from epoxy and still adhere to environmental regulations at the same total cost.

Solventless Epoxy is a type of polymer material that begins as a liquid and is converted to a solid state through a controlled chemical reaction. Because of this change in state, epoxy floor coatings are typically a mechanically strong and chemically resistant type of flooring.

Epoxy floor coatings are highly adhesive during the conversion from liquid to solid allowing them to create a secure bond with both new and old concrete flooring surfaces. Regulatory initiatives to meet clean air standards continue to be the main impetus for coating formulators to consider waterborne epoxy systems. This aggressive regulatory environment is nothing new and has been the case for over 20 years, since the passing of the Clean Air Act in 1990. Today, the US Environmental Protection Agency (EPA), Ozone Transport Commission (OTC), California Air Resources Board (CARB) and South Coast Air Quality Management District (SCAQMD) continue to set more and more restrictive limits on the Volatile Organic Compound (VOC) content in architectural and industrial maintenance (AIM) coatings. However, there is a change in the air again. New drivers for change are now being exercised by asset owners and architects, creating a high demand for green and sustainable products that can be certified. No longer is it just a legislative requirement that is pushing for change, but consumer demand.

OUR SLV FLOOR EPOXIES

Are: multi component, coloured with excellent chemical and mechanical properties.
For industrial properties: floors, warehouses, parking, ... Available in many colours

- Almost 0-VOC
- Very low odor
- Non-flammable/non-combustible
- Fast dry and re-coat
- Ease of cleanup (no solvents needed)
- Balanced overall performance properties
- Recommended for Heavy Duty Traffic

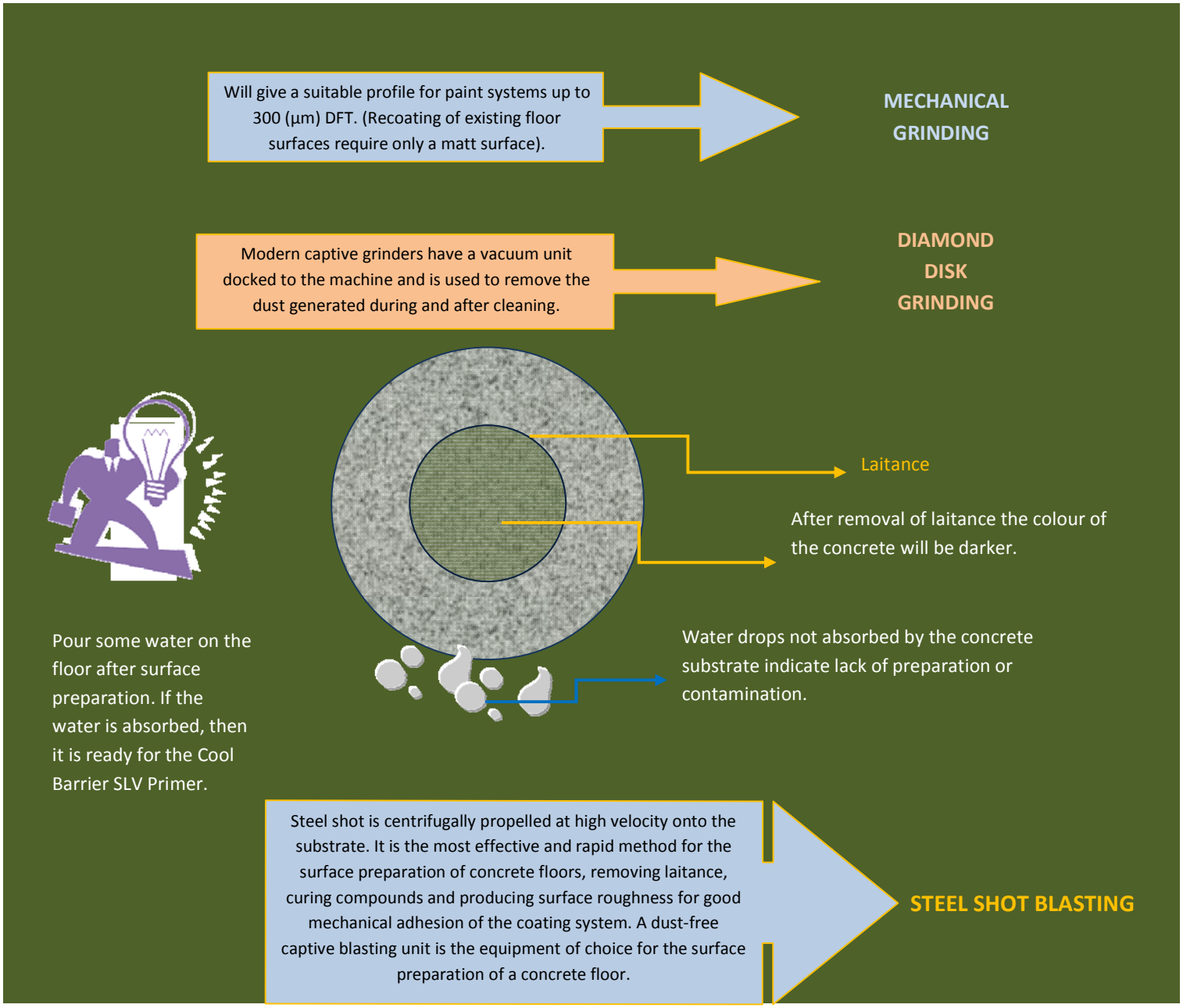
Setting Projects Up for **Success**

This brochure is an easy to use guide for coating new and existing concrete floors. Topics include:
surface preparation, painting tools, selection and application of the recommended paint systems.

- **WAREHOUSES**
- **TECHNICAL ROOMS**
- **SERVICE AREAS**
- **PRODUCTION AREAS**
- **SHOPS/SHOWROOMS**
- **FABRICATORS**
- **WORKSHOPS/GARAGES**
- **DECORATIVE EXTERIOR FLOORS**

SURFACE PREPARATION

This is the most important phase of a floor coating project. A proper surface preparation will help secure a good bonding between the substrate and the covering system. Good surface preparation will remove laitance, curing compounds, contamination and give the surface profile. Vacuum clean the surface before any application starts.

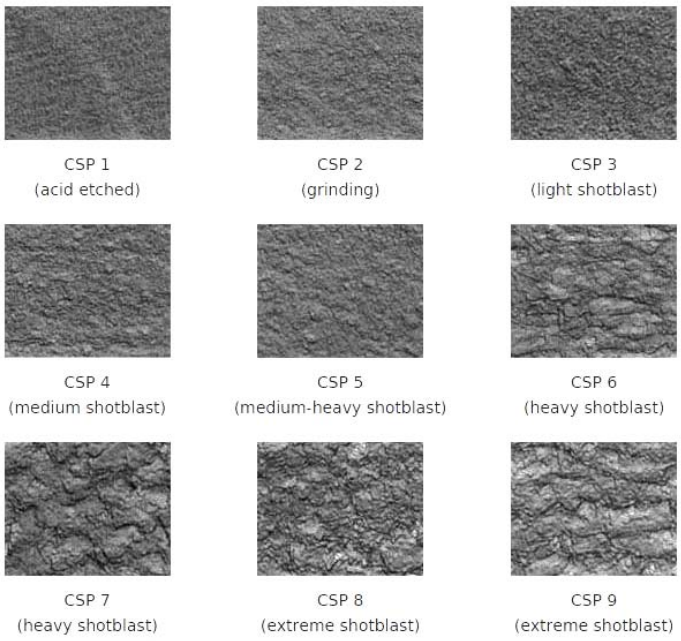


- The correct surface preparation of the concrete floor is crucial for applying Cool Barrier SLV products.
- Concrete substrates need to be cured, sound, clean, dry and free from any form of contamination such as laitance, loose particles, oil, grease, curing compounds, shuttering oil and others. This can be achieved by mechanical means.
- Unsound concrete, blowholes, pinholes and other surface defects should be repaired using an approved repair material.

GUIDELINES FOR SURFACE PREPARATION

The purpose of this guideline is to ensure the preparation of a clean and suitably roughened surface so that the adhesion between the substrate and the coating systema is secure. Recommended surface preparation should follow the guideline from the International Concrete Repair Institute (ICRI). The Society for Protective Coating (SSPC) currently follows the guideline from ICRI.

The International Concrete Repair Institute (ICRI) has created a technical guideline #03732, “Selecting and specifying concrete surface preparation for sealers, coatings, and polymer overlays.” This guideline provides concrete surface profiles of CSP 3 to 9 which are used under the following conditions.



COATING TO BE APPLIED	FILM DFT	CONCRETE SURFACE PROFILE
		CSP1 CSP2 CSP3 CSP4 CSP5 CSP6
Sealers/Primers	0 - 70 µm	
Thin Film	100 - 250 µm	
High Build	250 -1000 µm	
Self Leveling	1250 -3000 µm	
Mortar - Screed	3000 - 6000 µm	

PREPARATION METHOD	CSP1 CSP2 CSP3 CSP4 CSP5 CSP6
Detergent Scrubbing	
Low Pressure Water Jet (5.000 psi)	
Grinding	
Abrasive Sand Blasting	
Steel Shot Blasting	
High Pressure Water Jetting (10.000 psi)	

Application Guide Solventless Floor Systems

SLV PRIMER

Application Guide

Application

The following restrictions must be observed:

Only apply the coating when the substrate temperature is at least 3°C above the dew point
Do not apply the coating if the substrate is wet or likely to become wet
Do not apply the coating if the weather is clearly deteriorating or unfavourable for application or curing
Do not apply the coating in high wind conditions

Product mixing

In reference to product Technical Data Sheet

Induction time and Pot life

In reference to product Technical Data Sheet.
The temperature of base and curing agent is recommended to be 18 °C or higher when the paint is mixed.

Application data

Brush application
Can be used
Roller application
Can be done but difficult to achieve a uniform coat. Will most probably give a lot of bubbles. Apply more than one coat but even then difficult to seal off all the pores.
Application with trowel
Can be done but difficult to achieve a uniform coat. Will most probably give a lot of bubbles. Apply more than one coat but even then difficult to seal off all the pores.
Application with other tools
Use a rubber squeegee after simply pouring out the SLV PRIMER direct from the drum where mixed with comp.B. Gives a more uniform layer and a much faster application

Recommended film thickness per coat

Film thickness and spreading rate	Dry film thickness	Wet film thickness
Minimum (µm)	50	50
Maximum (µm)	200	200
Typical (µm)	100	100

Conditions that can affect drying / curing / over coating

Repair of coating system

Damages to the coating layers:
Prepare the area through sandpapering or grinding, followed by thorough washing. When the surface is dry the coating may be over coated by itself or by another product, ref. original specification.
Always observe the maximum over coating intervals. If the maximum over coating interval is exceeded the surface should be carefully roughened in order to ensure good intercoat adhesion.
Damages exposing bare substrate:

Remove all rust, loose paint, grease or other contaminants by spot abrasive blasting, mechanical grinding, water and/or solvent washing. Feather edges and roughen the overlap zone of surrounding intact coating.
Apply the coating system specified for repair.

Quality assurance

The following information is the minimum recommended. The specification may have additional requirements.

Confirm all welding and other metal work, whether internal or external to the tank, has been completed before commencing pre-treatment and surface preparation of the substrate
Confirm installed ventilation is balanced and has the capacity to deliver and maintain the Required air quantity
Confirm the required surface preparation standard has been achieved and is held prior to coating application
Confirm that the climatic conditions are within recommendation in the Guide and held during the application
Confirm the required number of stripe coats have been applied
Confirm each coat meets the DFT requirements of the specification
Confirm the coating has not been adversely affected by rain or any other agency during curing
Observe adequate coverage has been achieved on corners, crevices, edges and surfaces where the spray gun cannot be positioned so that its spray impinges on the surface at 90°
Observe the coating is free from defects, discontinuities, insects, spent abrasive media and other contamination
Observe the coating is free from misses, sags, runs, wrinkles, fat edges, mud cracking, blistering, obvious pinholes, excessive dry spray, heavy brush marks and excessive film build
Observe the uniformity and colour are satisfactory

All noted defects should be fully repaired to conform to the coating specification.

SLV TOP COAT

Application Guide

Application

The following restrictions must be observed:

Only apply the coating when the substrate temperature is at least 3°C above the dew point
Do not apply the coating if the substrate is wet or likely to become wet
Do not apply the coating if the weather is clearly deteriorating or unfavourable for application or curing
Do not apply the coating in high wind conditions

Product mixing

In reference to product Technical Data Sheet

Induction time and Pot life

In reference to product Technical Data Sheet

The temperature of base and curing agent is recommended to be 18 °C or higher when the paint is mixed.

Application data

Brush application

After the SLV PRIMER application, when cured, apply a scraper coat in order to fill all imperfections and to some degree level out the smaller valley and to further improve on the sealer effect to avoid bubbles.

Roller application

After the SLV PRIMER application, when cured, apply a scraper coat in order to fill all imperfections, and to some degree level out the smaller valley and to further improve on the sealer effect to avoid bubbles. Brush application for small areas only.

Application with trowel

After the SLV PRIMER application, when cured, apply a scraper coat in order to fill all imperfections, and to some degree level out the smaller valley and to further improve on the sealer effect to avoid bubbles. Apply the SLV Top Coating in a systematic way by concentrating on square by square. Make two or three parallel stripes, then spread that paint all over the selected square by cross rolling.

Application with other tools

After the SLV PRIMER application, when cured, apply a scraper coat in order to fill all imperfections, and to some degree level out the smaller valley and to further improve on the sealer effect to avoid bubbles. Use a steel trowel where there are adjustable pins or wheels at both ends of the trowel, adjust the specified WFT=DFT. One team is pouring out the ready mixed SLV Top Coating, next team doing the spreading, moving the SLV Top Coating in one direction but length by length.

Recommended film thickness per coat

Film thickness and spreading rate	Dry film thickness	Wet film thickness
Minimum (µm)	250	250
Maximum (µm)	800	800
Typical (µm)	500	500

Conditions that can affect drying / curing / over coating

Adding anti-skid to the coating system

Anti skid aggregates should only be added in the final coat and not used in a single coat system direct to the surface. Spread the Non-slip Aggregate on the surface before half of time to Surface dry. The recommended usage is 2.5 - 3.3 kg per 10 litres of paint.

Repair of coating system

Damages to the coating layers:

Prepare the area through sandpapering or grinding, followed by thorough washing. When the surface is dry the coating may be over coated by itself or by another product, ref. original specification.

Always observe the maximum over coating intervals. If the maximum over coating interval is exceeded the surface should be carefully roughened in order to ensure good intercoat adhesion.

Damages exposing bare substrate:

Remove all rust, loose paint, grease or other contaminants by spot abrasive blasting, mechanical grinding, water and/or solvent washing. Feather edges and roughen the overlap zone of surrounding intact coating.

Apply the coating system specified for repair.

Quality assurance

The following information is the minimum recommended. The specification may have additional requirements.

Confirm all welding and other metal work, whether internal or external to the tank, has been completed before commencing pre-treatment and surface preparation of the substrate
Confirm installed ventilation is balanced and has the capacity to deliver and maintain the Required air quality
Confirm the required surface preparation standard has been achieved and is held prior to coating application
Confirm that the climatic conditions are within recommendation in the Guide and held during the application
Confirm the required number of stripe coats have been applied
Confirm each coat meets the DFT requirements of the specification
Confirm the coating has not been adversely affected by rain or any other agency during curing
Observe adequate coverage has been achieved on corners, crevices, edges and surfaces where the spray gun cannot be positioned so that its spray impinges on the surface at 90°
Observe the coating is free from defects, discontinuities, insects, spent abrasive media and other contamination
Observe the coating is free from misses, sags, runs, wrinkles, fat edges, mud blistering, blistering, obvious pinholes, excessive dry spray, heavy brush marks and excessive film build
Observe the uniformity and colour are satisfactory

All noted defects should be fully repaired to conform to the coating specification.

SLV Self-Leveling

Application Guide
This is a three component solvent free amine cured epoxy coating

Application

The following restrictions must be observed:

Only apply the coating when the substrate temperature is at least 3°C above the dew point
Do not apply the coating if the substrate is wet or likely to become wet
Do not apply the coating if the weather is clearly deteriorating or unfavourable for application or curing
Do not apply the coating in high wind conditions

Product mixing

In reference to product Technical Data Sheet

Induction time and Pot life

In reference to product Technical Data Sheet
The temperature of base and curing agent is recommended to be 18 °C or higher when the paint is mixed.

Application data

Application with trowel

After the SLV PRIMER application, when cured, apply a scraper coat in order to fill all imperfections, and to some degree level out the smaller valley and to further improve on the sealer effect to avoid bubbles. Use a steel trowel where there are adjustable pins or wheels at both ends of the trowel, adjust the specified WFT=DFT. One team is pouring out the ready mixed SLV Self-Leveling, next team doing the spreading, moving the SLV Self-Leveling in one direction but length by length.

Recommended film thickness per coat

Film thickness and spreading rate	Dry film thickness	Wet film thickness
Minimum (µm)	1000	1000
Maximum (µm)	3000	3000
Typical (µm)	2000	2000

Conditions that can affect drying / curing / over coating

Adding anti-skid to the coating system

Anti skid should only be added in the final coat and not used in a single coat system direct to the surface.

Spread the Non-slip Aggregate on the surface before half of time to Surface dry. The recommended usage is 2.5 - 3.3 kg per 10 litres of paint.

Repair of coating system

Damages to the coating layers:

Prepare the area through sandpapering or grinding, followed by thorough washing. When the surface is dry the coating may be over coated by itself or by another product, ref. original specification.

Always observe the maximum over coating intervals. If the maximum over coating interval is exceeded the surface should be carefully roughened in order to ensure good intercoat adhesion.

Damages exposing bare substrate:

Remove all rust, loose paint, grease or other contaminants by spot abrasive blasting, mechanical grinding, water and/or solvent washing. Feather edges and roughen the overlap zone of surrounding intact coating.

Apply the coating system specified for repair.

Quality assurance

The following information is the minimum recommended. The specification may have additional requirements.

Confirm all welding and other metal work, whether internal or external to the tank, has been completed before commencing pre-treatment and surface preparation of the substrate

Confirm installed ventilation is balanced and has the capacity to deliver and maintain the Required air quality

Confirm the required surface preparation standard has been achieved and is held prior to coating application

Confirm that the climatic conditions are within recommendation in the Guide and held during the application

Confirm the required number of stripe coats have been applied

Confirm each coat meets the DFT requirements of the specification

Confirm the coating has not been adversely affected by rain or any other agency during curing

Observe adequate coverage has been achieved on corners, crevices, edges and surfaces where the spray gun cannot be positioned so that its spray impinges on the surface at 90°
Observe the coating is free from defects, discontinuities, insects, spent abrasive media and other contamination
Observe the coating is free from misses, sags, runs, wrinkles, fat edges, mud blistering, blistering, obvious pinholes, excessive dry spray, heavy brush marks and excessive film build
Observe the uniformity and colour are satisfactory

All noted defects should be fully repaired to conform to the coating specification.

SLV Mortar - Screed

Application Guide
This is a three component solvent free amine cured epoxy coating

Application

Acceptable environmental conditions - before and during application

Before application, test the atmospheric conditions in the vicinity of the substrate for the dew formation according to ISO 8502-4.

Standard grade
Air temperature: 15 - 40°C
Substrate temperature: 15 – 40 °C
Relative Humidity: (RH) 10 – 85 %

The following restrictions must be observed:

Only apply the coating when the substrate temperature is at least 3°C above the dew point
Do not apply the coating if the substrate is wet or likely to become wet
Do not apply the coating if the weather is clearly deteriorating or unfavourable for application or curing
Do not apply the coating in high wind conditions

Product mixing

In reference to product Technical Data Sheet

Induction time and Pot life

In reference to product Technical Data Sheet
The temperature of base and curing agent is recommended to be 18 °C or higher when the paint is mixed.

Recommended film thickness per coat

Film thickness and spreading rate	Dry film thickness	Wet film thickness
Minimum (µm)	4000	4000
Typical (µm)	5000	5000

Conditions that can affect drying / curing / over coating

Repair of coating system

Damages to the coating layers:
Prepare the area through sandpapering or grinding, followed by thorough washing. When the surface is dry the coating may be over coated by itself or by another product, ref. original specification.
Always observe the maximum over coating intervals. If the maximum over coating interval is exceeded the surface should be carefully roughened in order to ensure good intercoat adhesion.
Damages exposing bare substrate:
Remove all rust, loose paint, grease or other contaminants by spot abrasive blasting, mechanical grinding, water and/or solvent washing. Feather edges and roughen the overlap zone of surrounding intact coating.
Apply the coating system specified for repair.

Quality assurance

The following information is the minimum recommended. The specification may have additional requirements.

Confirm all welding and other metal work, whether internal or external to the tank, has been completed before commencing pre-treatment and surface preparation of the substrate
Confirm installed ventilation is balanced and has the capacity to deliver and maintain the Required air quality
Confirm the required surface preparation standard has been achieved and is held prior to coating application
Confirm that the climatic conditions are within recommendation in the Guide and held during the application
Confirm the required number of stripe coats have been applied
Confirm each coat meets the DFT requirements of the specification
Confirm the coating has not been adversely affected by rain or any other agency during curing
Observe adequate coverage has been achieved on corners, crevices, edges and surfaces where the spray gun cannot be positioned so that its spray impinges on the surface at 90°
Observe the coating is free from defects, discontinuities, insects, spent abrasive media and other contamination
Observe the coating is free from misses, sags, runs, wrinkles, fat edges, mud blistering, blistering, obvious pinholes, excessive dry spray, heavy brush marks and excessive film build
Observe the uniformity and colour are satisfactory

All noted defects should be fully repaired to conform to the coating specification.

GENERAL

Caution

This product is for professional use only. The applicators and operators shall be trained, experienced and have the capability and equipment to mix/stir and apply the coatings correctly and according to Abolin's technical documentation. Applicators and operators shall use appropriate personal protection equipment when using this product. This guideline is given based on the current knowledge of the product. Any suggested deviation to suit the site conditions shall be forwarded to the responsible Abolin representative for approval before commencing the work. For further advice please contact your local Abolin office.

Health and safety

Please observe the precautionary notices displayed on the container. Use under well ventilated conditions. Do not inhale spray mist. Avoid skin contact. Spillage on the skin should immediately be removed with suitable cleanser, soap and water. Eyes should be well flushed with water and medical attention sought immediately.

Accuracy of information

Always refer to and use the current (last issued) version of the TDS, SDS and if available. Always refer to and use the current (last issued) version of all International and Local Authority Standards referred to in the TDS & SDS for this product.

Colour variation

Some coatings used as the final coat may fade and chalk in time when exposed to sunlight and weathering effects. Coatings designed for high temperature service can undergo colour changes without affecting performance. Some slight colour variation can occur from batch to batch. When long term colour and gloss retention is required, please seek advice from your local Abolin office for assistance in selection of the most suitable top coat for the exposure conditions and durability requirements.

Reference to related documents

The Application Guide (AG) must be read in conjunction with the relevant specification, Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for all the products used as part of the coating system.

Disclaimer

The information in this document is given to the best of Abolin's knowledge, based on laboratory testing and practical experience. Abolin's products are considered as semi-finished goods and as such, products are often used under conditions beyond Abolin's control. Abolin cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Abolin reserves the right to change the given data without further notice.

Users should always consult Abolin for specific guidance on the general suitability of this product for their needs and specific application practices. If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

ABOLIN CO GREECE:
Email: abolin@abolinco.com,
Web: www.abolinco.com