Protective Coatings Applicator Abrasive Blast Cleaning Operator Spray Painting Operator Learn Discover Succeed









Knowledge Requirements Introduction

The knowledge requirements details the training profile for the Protective Coatings Applicator.

The knowledge requirements detail the training units for the following disciplines of personnel:

- Protective Coating Applicator
- Abrasive Blast Cleaning Operator
- Spray Painter

The training meets the requirements of SSPC-ACS 1/NACE no. 13

The knowledge requirements detail the training units for each discipline and the specific unit objectives. The knowledge will detail, if the unit has:

- · Theoretical training units only
- · Practical training units only
- Both theoretical and practical training units

Third party practical training and assessments

The following units do not have practical assessments and the theoretical training is an overview only as third party training has to be conducted by specific accredited organization.

- First Aid
- Confined Space
- Erecting and Dismantling platforms
- Access platforms

Theoretical - Class room training

Practical - The practical training and assessment must be conducted in a blast paint workshop environment. The times allocated (minutes) are the minimum times and can be longer

Pre-Requisite Requirements

There are a number of pre-requisites that are required prior to the student conducting the course and becoming certified on SSPCTrainthepainter.

If the candidate has no prior experience within the Coatings Industry an orange certificate will be used until the candidate can demonstrate a minimum of 1600 hours of supervised activities in the protective coatings industry. Once this work is verified a bronze certificate will be issued.

CERTIFICATE	PRE-REQUISITE REQUIREMENTS
Orange card	No coating application experience required
Bronze card	The candidate must have worked in the protective coatings industry for more
Protective Coatings Applicator	than 1600 hours. Duties could include protective coatings application, spray painting or abrasive blast cleaning
Silver card	The candidate must have successfully completed the Bronze card
Abrasive Blast Cleaning Operator	
Silver card	The candidate must have successfully completed the Bronze card
Spray Painter	
Gold card	The candidate must have successfully completed both Silver cards
Abrasive Blast Cleaning Operator and Spray Painter	

Timetable

PROTECTIVE COATINGS APPLICATOR	ABRASIVE BLAST CLEANING OPERATOR	SPRAY PAINTING OPERATOR			
DAY 1 - 8hrs	DAY 1 - 8hrs	DAY 1 - 8hrs			
 Health and Safety Access, Plant and Equipment 	 Introduction to Abrasive Blast Cleaning Health and Safety Blast Media 	 Introduction Health and Safety Paint Materials Airless, Conventional and Plural Component Spray Theoretical Examination Practical Assessment Review 			
DAY 2 - 8hrs	DAY 2 - 8hrs	DAY 2 - 8hrs¹			
Surface Preparation	 Standards and Quality Control Operational Procedures Process Control Theoretical Examination Practical Assessment Review 	Practical Assessment			
DAY 3 - 8hrs	DAY 3 - 8hrs¹	DAY 3			
Coating TypesCoating Application	• Practical Assessment				
DAY 4 - 8hrs	DAY 4	DAY 4			
 Quality Control Theoretical Examination Practical Assessment Review 					
DAY 5 - 8hrs ¹	DAY 5	DAY 5			
Practical Assessment					
CERTIFICATE	CERTIFICATE	CERTIFICATE			
	SILVER CARD	SILVER CARD			
BRONZE CARD	GOLD CARD				
	·	st Cleaner and Spray Painter			
Estimated Hours	Estimated Hours	Estimated Hours			
40	24	16			
Notes					
^{1.} The Practical Assessment times wil	¹ The Practical Assessment times will vary depending upon the number of students, panels etc.				

Protective Coatings Applicator Training Profile

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
1.0 H	EALTH & SAFETY		
1.1	Company Induction (Specific to Individual Companies)		
	Objective: To understand the aims and objectives of the individual company, Health and Safety regulations and legislation.	√	
1.2	Accident Prevention		
	Objective: To understand that accidents can be prevented if pre-work precautions are taken.	√	
1.3	House Keeping		
	Objective: To understand the importance of house keeping in the coating industry and general health, safety and environmental implications relating to poor house keeping.	√	
1.4	First Aid		THIRD PARTY
	Objective: To understand that there will be an arrangement for first aid on all sites and factory facilities.	√	TRAINING REQUIRED
1.5	Electricity/Air Supply	✓	
	Objective: To understand the health and safety issues with the use of electricity and air supply.		
1.6	Permit to Work		
	Objective: To understand that within certain tasks undertaken by the Protective Coatings Applicator, a permit to work system maybe a requirement.	√	
1.7	COSHH & Risk Assessment (Job Safety Analysis)		
	Objective: To understand the requirements of conducting both COSHH and Risk Assessments and the obligations of the employer and employees.	√	
1.8	Health and Safety Data Sheets (Material Safety Data Sheets)		
	Objective: To understand the requirements for health and safety data sheets, usually referred to as material safety data, from the coating manufacturers.	√	
1.9	LEL, TLV, OEL, MEL and Ventilation		
	Objective: To understand the importance of the above values given in Material Safety Data Sheets (MSDS) and the need to ensure that the works are established and maintained so there is no possibility of these values being exceeded.	✓	

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
1.10	PPE (Personal Protective Equipment) inc RPE (Respiratory Protective Equipment) Objective: To understand the requirements for PPE. Also understand that PPE requirements may change depending upon the type of task performed.	1	45 mins
1.11	Basic Access Requirements (inc Fall Protection) Objective: To understand the health and safety implications for basic access requirements to the Industrial Coatings Applicator.	✓	
1.12	Safety in Surface Preparation Objective: To understand the safety requirements when conducting methods of surface preparation.	√	
1.13	Safety in Paint Application Objective: To understand the safety requirements when conducting paint application.	√	
1.14	Method Statements (Work Instructions) Objective: To understand why method statements are developed and who should develop them.	✓	
1.15	Confined Space Objective: To gain an understanding of the health and safety implications while working in confined spaces	✓	THIRD PARTY TRAINING REQUIRED
1.16	Health and Wellbeing Objective: To understand the requirements for the health and wellbeing of the applicator	√	
2.0 A	CCESS, PLANT AND EQUIPMENT		
2.1	Erecting & Dismantling Working Platforms		
2.1.1	Erecting / Dismantling Platforms Objective: To understand and demonstrate the use of lightweight platforms up to two metres in height.	✓	THIRD PARTY TRAINING REQUIRED
2.1.2	Safe use of Ladders Objective: To understand the safe use of ladders and to understand where and when ladders can be used, inspected, tested etc.	✓	
2.2	Types of Mobile Access		
2.2.1	Access Platforms Objective: To understand the use of access platforms (Mobile Elevating Work Platforms MEWP).		THIRD PARTY TRAINING REQUIRED
3.0 SI	JRFACE PREPARATION		
3.1	Surface Preparation Requirements		
3.1.1	Types and Methods of Surface Preparation Objective: To have a basic understanding of the different types and methods of surface preparation.	√	
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No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
3.1.2	Type of Substrates and Materials		
	Objective: To have a basic understanding of the numerous types of substrates and materials that the Protective Coatings Applicator may encounter.	√	
3.1.3	Previously Painted/Coated Substrates		
	Objective: To understand the required criteria when reviewing or conducting surface preparation to previously painted/coated substrates in readiness for new coatings.	√	
3.2	Surface Preparation Standards		
3.2.1	Mechanical/Hand Preparation Standards		
	Objective: To understand that mechanical and hand preparation standards that exist in the Protective painting industry and that these standards will be specified on contracts.	√	15 mins
3.2.2	Pre-surface Conditions		
	Objective: To understand the importance of pre-surface condition requirements for steel surfaces and implications on coating performance.	√	30 mins
3.2.3	Pre-surface Preparation/Cleaning		
	Objective: : To understand why and how to pre-prepare steel surfaces, both bare and previously painted prior to re-coating.	✓	15 mins
3.3	Hand and Power Tool Equipment		•
3.3.1	Chipping Hammer		
	Objective: To understand how and where to use a chipping hammer as a method of pre-surface treatment.	√	15 mins
3.3.2	Hand Wire Brush		
	Objective: To understand how and where to use a wire brush as a method of surface preparation.	√	15 mins
3.3.3	Scraper		
	Objective: To understand how a scraper is used as a method of preparation.	√	15 mins
3.3.4	Needle Gun		
	Objective: To understand why and where a needle gun is used as a method of surface preparation on steel structures.	√	30 mins
3.3.5	Power Wire Brush and Grinding		
	Objective: To understand how and where to use a wire brush and a grinder as a method of surface preparation.	√	30 mins
3.4	Pre-cleaning Methods		
3.4.1	Steam Cleaning		
	Objective: To understand where and how steam cleaning can be used as a method of surface preparation or a pre-cleaning process.	√	
3.4.2	Water Washing		
	Objective: To understand the requirement for water washing as a method of pre-cleaning.	√	30 mins
3.4.3	Solvent Cleaning		
	Objective: To understand how and when to use solvent as a method of surface cleaning.	√	15 mins
3.5	Auxiliary Equipment	ı	1

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
3.5.1	Compressors		
	Objective: To understand the requirement for compressed air for methods of surface preparation and coating activities. Also understand the set-up, operational use and basic safety requirements.	>	
3.5.2	Heaters		
	Objective: To understand the types and methods to be used in the protective coatings application industry.		
3.5.3	Lighting		
	Objective: To understand why and where lighting is used by the Protective Coatings Applicator for surface preparation and coating activities.	√	
3.5.4	Grit Removal and Hoppers		
	Objective: To understand how site abrasive blast cleaning creates dust, spent abrasive and debris during the surface preparation process and to gain an understanding of collection, removal and disposal of such items.	√	
3.5.5	De-humidification		
	Objective: To understand the use of de-humidification as a method of controlling environmental conditions during surface preparation and coating activities.	>	
3.6	Water Jetting		
3.6.1	Introduction to High Pressure Water Jetting		
	Objective: The objective of this unit is to gain and insight into the principals of high pressure water jetting and its use as a method of surface preparation	√	
3.6.2	BSEN ISO 8501-4		
	Objective: The objective of this training unit is to give an overview of BSEN ISO 8501-4 which is titles 'Preparation of Steel Substrates before application of paints and related products – visual assessment of surface cleanliness'	√	
	Part 4: Initial surface conditions, preparation grades in connection with high pressure water jetting		
3.6.3	SSPC VIS 4 - NACE VIS 7		
	Objective: The objective of this unit is to give a full and comprehensive review of SSPC - VIS 4 / NACE 7 titled 'Guide and reference photographs for steel surfaces by water jetting'	>	
4.0 PA	INT TYPES		
4.1	Coating Types and Systems		
	Objective: To understand the basic constituents and properties of coatings used for corrosion control, and gain an insight into coating systems.	√	
4.2	Product Data Sheets - Review		
	Objective: To understand how to read and understand the manufacturer's product data sheets and the importance of using the products within the guidelines.	√	
4.3	Single and Two Part Materials		
	Objective: To understand the difference between single and two part coating materials by the Protective Coatings Applicator.	✓	

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
4.4	Paint Mixing		
	Objective: To understand the importance of paint mixing of both one and two part paints and material handling.	√	✓
4.5	Pot-life / Induction		
	Objective: To understand the importance of pot-life and induction periods when using two part paints and coatings.	✓	√
4.6	Storage		
	Objective: To understand that coatings must be stored in the correct manner prior to use.		
4.7	Batch Numbers		
	Objective: To understand the importance of batch numbers and the need to record these accurately, the configuration generally used and the meaning of the units.	✓	
4.8	Volume Solids		
	Objective: To understand that paints and coatings are liquid materials made up of volatile and non-volatile components.	√	
4.9	Coverage (Theoretical/Practical)		
	Objective: To understand how paint coverage is calculated and to gain basic knowledge of theoretical and practical spreading rate of paints and coatings.	√	
4.10	Compatibility		
	Objective: To understand the difference between compatibility and incompatibility in relation to industrial coatings. To appreciate that not all generic coatings can be applied in conjunction with each other, and provide long term performance.	✓	
5.0 PA	AINT APPLICATION		
5.1	Environmental Conditions		
5.1.1	Relative Humidity and Dew Point		
	Objective: To understand and how to measure relative humidity and dew point, and their effect on coating application and cure.	✓	15 mins
5.1.2	Steel Temperature		
	Objective: To understand how to measure and assess steel temperatures and the effects on paint application.	√	15 mins
5.2	Types of Paint Application Equipment		
5.2.1	Brush Application		
	Objective: To understand how, where and when a brush can be used for the application of paint coatings in the Protective coatings industry. To understand the advantages and disadvantages of brush application.	√	30 mins
5.2.2	Roller Application		
	Objective: To understand how, where and when a roller can be used for the application of paint coatings in the Protective coatings industry. To understand the advantages and disadvantages of roller application.	✓	30 mins
5.2.3	Airless Spray (Introduction)		
	Objective: To give the Protective Coatings Applicator an appreciation of airless spray painting and its use for the application of industrial coatings.	✓	

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
5.2.4	Air Assisted Spray and HVLP (Introduction)		
	Objective: The objective of this training segment is to give the Protective Coatings Applicator an appreciation of air assisted (conventional and HVLP) spray painting and its use within the industrial coatings.	√	
5.3	Paint Film Thickness		
5.3.1	Wet Film Thickness		
	Objective: To measure the wet film thickness of an applied coating. With a knowledge of the target dry film thickness and the volume solids of the paint, the applicator can calculate the required wet film thickness at which the paint must be applied.	✓	30 mins
5.3.2	Dry Film Thickness		
	Objective: To measure the dry film thickness (DFT) of applied coating(s) by non-destructive test methods.	√	30 mins
5.3.3	Drying / Recoating (inc. Cure)		
	Objective: To understand the drying and recoating process of industrial coatings.	√	
5.3.4	Stripe Coating		
	Objective: To understand why and when stripe coats should be applied in a protective coating system.	√	15 mins
5.4	Paint Application Procedures		
5.4.1	Surface Cleaning		
	Objective: To understand the cleaning requirements prior to paint application.	√	15 mins
5.4.2	Coating Damage / Repair		
	Objective: To understand remedial paint application procedures for damaged coated surfaces.	√	
5.4.3	Materials and Equipment Handling		
	Objective: To understand the basic handling procedure during paint operations.	√	
5.5	Paint Locations/Types		
5.5.1	Shop Painting		
	Objective: To give the Protective Coatings Applicator an understanding of the shop painting process and the duties that may be expected by the Protective Coatings Applicator.	√	
5.5.2	Site Painting		
	Objective: To understand the implications of carrying out site painting activities.	√	
5.5.3	General Maintenance (Plant and Equipment)		
	Objective: To understand the requirement for general maintenance of plant and equipment in the coatings industry.	√	
5.5.4	Equipment Cleaning		
	Objective: To understand the requirement for cleaning and plant following coating application.	√	
5.5.5	Maintenance Painting Operations		
	Objective: The objective of this training unit will review the elements of maintenance painting	√	

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
6.0 QI	JALITY CONTROL		
6.1	Environmental Conditions Inspection Equipment		
	Objective: To appreciate the specialist equipment that is used in the coatings industry and which may be relevant to the Protective Coatings Applicator.	√	
6.2	Inspection Standards		
6.2.1	BS, EN, ISO Standards and Codes of Practice		
	Objective: To appreciate that within the coatings industry, a number of standards and codes of practice exist and are specified for work that is conducted by the Protective Coatings Applicator.	√	
6.2.2	Visual Standards (Introduction)		
	Objective: To understand that within the protective coatings industry, a number of visual standards, exist for preparation and coating activities. The Protective Coatings Applicator must be familiar with such standards.	√	
6.3	Standards, Specifications and Code of Practice		
	Objective: To understand the basic principles of a paint and coatings specification.	√	
6.4	Paint Manufacture		
	Objective: The objective of this unit is to gain an insight into paint formulation and manufacture	√	
6.5	Inspection and Test Equipment		
6.5.1	Inspections and Test Equipment		
	Objective: The objective of this training unit is to gain and insight into the inspection and testing equipment used in the protective coatings industry	√	
6.5.2	Documentation		
	Objective: The objective of this training until will review the documentation that may be required on surface preparation and coatings contracts	√	

Abrasive Blast Cleaning Training Profile

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
1.0 AI	BRASIVE BLAST CLEANING - INTRODUCTION		
1.1	General Overview		
	Objective: To gain an understanding in the many applications of abrasive blast cleaning and the various uses of preparation. Also appreciate the role of the abrasive blast cleaning operative for industrial applications.	✓	
1.2	Basic Corrosion		
	Objective: To gain a basic understanding of the corrosion process relating to steel structures. Also to gain an appreciation of how corrosion can be controlled by abrasive blast cleaning and coating application.	✓	
1.3	Millscale		
	Objective: To gain a basic understanding of how millscale is formed, what it is and the importance of its removal during abrasive blast cleaning.	√	
1.4	Substrate Materials		
	Objective: To gain an understanding of the various substrates that may require abrasive blast cleaning in some form or another.		
1.5	Pre-surface Conditions		
	Objective: To understand the importance of pre-surface condition requirements on steel surfaces and implications on coating performance.	/	
1.6	Mechanical Blast Machines		
	Objective: To gain an understanding of mechanical surface preparation using centrifugal blast cleaning equipment.	/	
1.7	Types of Air Blast Equipment		
	Objective: To gain a thorough understanding of the blast cleaning equipment available.	√	
1.8	Wet Abrasive Blast Cleaning		
	Objective: To understand how and when wet abrasive blast cleaning is conducted and the equipment types utilised.		
2.0 H	EALTH AND SAFETY		
2.1	Introduction		
	Objective: To gain an understanding of the health and safety issues relating to abrasive blast cleaning.	✓	
2.2	Method Statements / Risk Assessments		
	Objective: To understand why method statements are developed and who should develop them, also understand the requirements for conducting risk assessments.	✓	

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
2.3	PPE		
	Objective: To understand the requirement for personal safety equipment when using abrasive blast cleaning equipment.	✓	30 mins
2.4	Breathing Air / Helmets		
	Objective: To understand the requirements for breathing air during abrasive blast cleaning and the need for an abrasive blast cleaning helmet.		30 mins
3.0 B	LAST MEDIA		
3.1	Types of Abrasives		
	Objective: To gain a thorough understanding of the various type of abrasives used for surface preparation.	✓	15 mins
3.2	Surface Profile		
	Objective: To gain an understanding of surface profile and how its effect coating systems.	√	
4.0 A	BRASIVE BLAST CLEANING STANDARDS AND QUALITY CONTROL		
4.1	Visual (Photographical) Standards		
	Objective: To gain a thorough understanding of recognised standards used in the coatings industry.	√	15 mins
4.2	Surface Cleanliness		
	Objective: To understand the importance of surface cleanliness after abrasive cleaning, prior to coating.	✓	
4.3	Environmental Conditions		
	Objective: To understand the requirements to use, control and monitor environmental plant and equipment during and after abrasive blast cleaning.	✓	15 mins
5.0 A	BRASIVE BLAST CLEANER - OPERATIONAL PROCEDURES		
5.1	Compressed Air and Air Requirements		
	Objective: To understand the requirements of compressed air during portable abrasive blast cleaning.	√	30 mins
5.2	Blast Hoses and Associated Equipment		
	Objective: To understand the use and requirements for the abrasive blast hose and associated equipment.	√	30 mins
5.3	Types of Nozzles		
	Objective: To understand the importance of nozzles used during abrasive blast cleaning. Also understand the various types of nozzles available to the abrasive blast operative.	√	15 mins
5.4	Ventilation and Lighting		
	Objective: To understand the requirements for adequate ventilation and lighting during abrasive blast cleaning.	✓	
5.5	Communications		
	Objective: To understand the methods of communication between the abrasive blast operative and abrasive blast operative assistant.	✓	30 mins

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
6.0 PF	ROCESS CONTROL		
6.1	Abrasive Equipment Set-up and Testing Objective: To understand how to check, test abrasive blast cleaning equipment (including associated equipment) prior to use.	√	120 mins
6.2	Abrasive Blast Cleaning - Process Objective: To understand how the abrasive blast cleaning operative should safely and efficiently abrasive blast clean surfaces.	1	120 mins
6.3	Abrasive Blast Cleaning - Standards Objective: To understand that various abrasive blast cleaning standards exist in the coatings industry. Also to understand that abrasive blast cleaning standards differ depending upon the initial condition of the steel.	/	30 mins

Spray Painting Training Profile

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
1.0 P/	AINT SPRAYER - INTRODUCTION		
1.1	Paint Application (Introduction)	✓	
	Objective: To gain an understanding of how liquid paints are applied.		
1.2	Basic Corrosion		
	Objective: To gain a basic understanding of the corrosion process relating to steel structures. Also to gain an appreciation of how corrosion can be controlled by correct surface preparation and coating application.	✓	
1.3	Surface Preparation		
	Objective: To gain a thorough understanding of the importance of surface preparation prior to application of protective coatings. Also, gain an insight into the various types of surfaces, which may be pre-prepared, prepared and coated.	✓	
1.4	Coating Types and Systems		
	Objective: To understand the basic constituents and properties of coatings used for corrosion control and gain an insight into coating systems.	✓	
2.0 H	EALTH AND SAFETY		
2.1	Material Safety Data Sheets		
	Objective: To understand the requirements for health and safety data sheets, usually referred to as material safety data sheet, from the coating manufacturers.	✓	
2.2	C.O.S.H.H. and Risk Assessments	✓	
	Objective: To understand the requirements of conducting both COSHH and Risk Assessments and the obligations of the employer and employees.		
2.3	Method Statements		
	Objective: To understand why method statements are developed and who should develop them.	√	
3.0 P	AINT MATERIALS		
3.1	Product Data Sheets		
	Objective: To understand how to read and understand the manufacturer's product data sheet and the importance of using the product within their guidelines.	✓	

No.	KNOWLEDGE REQUIREMENT	THEORY	Practical
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3.2	Paint Storage and Paint Mixing		
	Objective: To understand that coatings must be stored in the correct manner prior to use. To also understand the importance of paint mixing of both one and two part paints and material handling.	√	
3.3	Quality Control		
	Objective: To understand the quality control process and procedures to be adopted for spray painting, specifically environmental conditions, wet and dry film thickness.	√	
4.0 AI	RLESS SPRAY EQUIPMENT		
4.1.1	Airless Spray Painting Equipment		70 min o
and	Objective: To gain a thorough understanding of the principals of airless	√	30 mins and
4.1.2	spray painting equipment including parts, maintenance, usage and health and safety.	•	90 mins
4.2	Airless Spray Equipment Set-up, Testing and General Use		
	Objective: To gain a thorough understanding of the airless spray unit requirements for pre-preparation, inspection, set-up, testing and shutdown procedures.	√	360 mins
5.0 C	DNVENTIONAL AIR SPRAY EQUIPMENT		
5.1	Conventional Air Spray Equipment		
	Objective: To gain an understanding of the principles of conventional air spray paint equipment.	✓	
6.0 PL	URAL SPRAY EQUIPMENT		
6.1	Plural Spray Equipment	√	
	Objective: To give an overview of plural componant spray equipment which is finding increased use in the Protective coatings industry.		

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