Study Guide

Module 209 – Level 2

Paint and Ink Application

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This foundation level module provides a general overview of the methods used to apply paints and inks. Many of the machines and instruments described will only be available at the end user's site, but some, often in single units or laboratory size are available in the Paint and Ink Manufacturers Quality Control, R&D, or Customer Service laboratories. Training on the correct use of application equipment is usually carried out in – company or by the equipment supplier, but some guidance on best practice, including health and safety consideration, is given in this module.

1. Module Prerequisites

Module 209 is one of a series of 9 modules at foundation level. Following successful completion of this module, you may proceed to study further modules, selected on the basis of your needs, for example, 324, 325, or 326 at the Intermediate level.

The main prerequisite for persons taking this Foundation Level is an interest in surface coatings. Preferably, they will be considering employment, be employed or had recent employment in the coatings or a related industry. The student needs to have an interest in science, preferably completing GCSE or GNVQ studies in a suitable subject.

1. Introduction to Module 209

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3. Structure of the module.

The module consists of a theory block of 4 sections, 1 Computer Marked Assessment (CMA) and 1 Assignment (ASG.) There is a Tutor Marked Assessment (TMA), which you should arrange by requesting this by logging on to your own area on the BCF website.

The theory block is split into four sections which are not of equal length but should take, on average, a little over 2 hours each to go through.

A number of Self-Assessed Questions (SAQs) are included for you to answer as you work through the text. The answers to these are given at the end of the module in Appendix 1.

The module is designed to take about 10 hours of study made up of:

- theory block 9 hours
- Assignment work 1 hour

This time excludes the time taken to write up your report for the Assignment, which is explained in Appendix 2.

4. Assessment

The CMA consisting of 10 multiple-choice questions and is taken online by logging into your area of the BCF Website.

The ASG is a piece of work intended to demonstrate your understanding of a set topic. It can be found in Appendix 2. On completion, it should be sent to your tutor for marking.

The TMA* is a written test of 30 minutes duration, taken under examination conditions. This test is mandatory for those wishing to receive a certificate.

* NOTE: The TMA is often referred to as the End Test or Exam

You may, if you wish, await the completion of three modules before sitting the TMA papers. By 'Stacking' tests in this way, you will only need to arrange tests once, instead of three times.

Allocation of Marks

For full certification, all three elements of the course (i.e. CMA, ASG and TMA) must be completed satisfactorily, with an overall mark of 50% or more, based on the following distribution:

Computer Marked Assessment (CMA)	**20%**
Tutor Marked Assessment (TMA) *	**45%**
Assignment (ASG)	**35%**

In addition, students must achieve at least 40% of the marks available in each of the following element:

5. Objectives

Section 1 Methods of Application of Paints and Inks.

After studying Section 1, you should be able to:

1.1 List and briefly describe the basic principles undergoing three methods of paint application dependant on atomising paint and three methods of application not dependant on atomising paint and ink.

1.2 Using examples in 1.1, describe potential health and safety hazards

1.3 Briefly describe the need for correct choices of substrates.

Section 2 Application of Paints by Atomisation.

When you have finished Section 2, you should be able to do the following:

1.1 State the advantages and disadvantages of spraying.

1.2 Describe the principles of electrostatic spraying of liquids

2.3 Explain how the hazards cause by solvent vapours and overspray can be alleviated, i.e. by Spray booths.

Section 3 Application of Paints, not involving Atomisation.

In Section 3, you should be able to:

3.1 Discuss the dipping method

3.1.1 Explain why dipping is used mainly for the application of primers or single coats

3.1.2 Describe hand, conveyorised and slow dipping methods

3.2 Describe methods, other than dipping

Section 4. Application to Flat Stock (of Paints and Inks).

After studying Section 4, you should be able to:

4.1 Explain methods used to coat sheets of metal, paper, wood, etc.

4.2 Explain methods used to apply paints to continuous coils of metal, paper, plastic, etc.

4.3 State the variety of printing processes

4.4 Having been given a list of articles to be coated, choose an appropriate method of paint application from those described in objective 1.1.

4.5 Describe the correct manner of applying a coating, and of cleaning the equipment after use. (ASG.)