Assessment Requirements

Unit PO0408K – Knowledge of Preparing Metal and Pre-Painted Surfaces

Content:

Types of substrate likely to be found in modern vehicles

a. Substrates to determine selection of undercoat with reference to:
   i. condition of surface
   ii. type of substrate
   iii. process requirements
   iv. material requirements
b. The physical properties of a substrate to include:
   i. surface condition
   ii. adhesion
   iii. flexibility
   iv. porosity
c. The technical properties of a substrate to include:
   i. type of paint
   ii. steel
   iii. aluminium
   iv. plastic
   v. coated steels
   vi. repaired panels
   vii. OE finish
   viii. primed panels (including 'E'-coat)

Methods used in determining vehicle substrates

a. Workshop tests to determine substrates to include
   i. solvent wipe test (1k or 2k)
   ii. colour of flatting sludge (straight colour or C O B)
   iii. VIN plate

The main stages required in preparing a vehicle for refinishing, including areas adjacent to the painting area

a. Manufacturers protective coatings and explain their warranty implications such as:
   i. electrostatic dip
   ii. under-body compounds
   iii. cavity wax
   iv. body caulking
b. A vehicle must be thoroughly washed and cleaned prior to refinishing to include:
   i. outside body panels
   ii. under arches
   iii. under bonnet
   iv. all apertures
   v. degreased
c. The reasons for vehicle masking
d. The correct preparation of parts prior to painting to include products use for the removal of:
   i. wax
   ii. grease
   iii. skin oils

iv. dust
v. water
vi. abrasive contaminates
vii. environmental pollution

The procedures used in preparing listed substrates

a. The required preparation for the listed substrates to include:
   i. steel
   ii. aluminium alloys
   iii. GR plastics
   iv. thermo plastics
   v. cured 2K materials
b. The procedures for the preparation of plastics to include:
   i. identification
   ii. tempering
   iii. porefilling
   iv. release agent removal
   v. cleaning
   vi. adhesion promotion
   vii. elastic primers

The procedures for the preparation and application of chemical solutions and solvents to remove paint

a. Materials used for conditioning processes such as:
   i. wax and grease removers
   ii. spirit wipes
   iii. acid based
   iv. water based
b. The correct and safe use of the above materials
c. The properties of pre-preparation materials to include:
   i. neutralisation
   ii. ability to alter the surface
   iii. reaction with oxide
d. Types of paint stripper available to include:
   i. aggressive
   ii. non-aggressive
e. The procedures for the preparation and application of chemical solutions and solvents to include:
   i. Health and Safety
   ii. PPE
   iii. mixing schedules
   iv. application schedules
   v. waste disposal
f. The process of stripping paint from:
   i. steel
   ii. aluminium
   iii. plastics

The selection and uses of a range of abrasives in common use

a. Types and uses of abrasives materials to include:
   i. aluminium oxide
   ii. silicon carbide
   iii. wet and dry types
   iv. open coat
   v. closed coat
   vi. papers, pastes and woven plastics

b. Forms of abrasive to include:
    i. pad
    ii. disc
    iii. sheet
    iv. roll
    v. backing materials
    vi. methods of attachments
c. How grit sizes are classified according to the FEPA standards using 'P' grades with regard to:
    i. the process being carried out
    ii. the material being abraded
    iii. the technique being employed
d. The differences between Open and Closed coat abrasives
    i. open coat
    ii. closed coat
    iii. P Grades

Define the term 'feather edging' and explain why correct operation is required in achieving the required surface finish

a. The procedure for the preparation of a repaired area on a large panel in terms of:
    i. repair edge preparation
    ii. surrounding area
    iii. bare metal
b. Why correct preparation is required with reference to:
    i. surface finish
    ii. film thickness
    iii. sinkage
    iv. mapping
    v. contouring

The procedures for the preparation of minor damage prior to the application of body fillers

a. The procedure for the preparation of minor damage to include:
    i. paint removal
    ii. feather edge
    iii. surface condition
    iv. substrate identification
    v. cleanliness
    vi. achieving correct contour
b. The problems of over catalysed body filled areas.
c. The correct Health and Safety procedures associated with body fillers.
d. Aids and techniques which can be used to achieve the correct contour of a filled area.