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### Overview

This NOS is about preparing a wide variety of different panel and component substrates to accept foundation materials and paint top coats. The ability to identify body panel substrates is required.

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**Performance  
criteria**

- You must be able to:
- P1 use the appropriate personal protective equipment when carrying out all **substrate** preparation activities
  - P2 protect the vehicle and its contents effectively when carrying out all **substrate** preparation activities
  - P3 select and use the correct **tools and equipment** for the type of **substrate** preparation activities you are carrying out
  - P4 ensure that the **tools and equipment** you require are in a safe working condition
  - P5 identify the body panel **substrate** accurately prior to undertaking any preparation work
  - P6 follow the work instructions given for the job correctly
  - P7 clean and protect all **substrates** adjacent to those being prepared using the specified method
  - P8 report any unrecorded damage to **substrates** and ancillary fittings to the relevant person(s) promptly and accurately
  - P9 remove and store safely any components likely to be affected by the preparation process
  - P10 keep your work area clean and tidy throughout all preparation activities
  - P11 prepare all the relevant **substrates** following health and safety requirements and using:
    - P11.1 suitable materials for the type of **substrate**
    - P11.2 the approved method and technique
    - P11.3 the approved **tools and equipment**
  - P12 leave all the areas prepared free from contamination and ready for the application of foundation and top coats
  - P13 dispose of waste materials to conform with legal, environmental and workplace requirements and procedures
  - P14 complete all vehicle preparation activities within the agreed timescale
  - P15 report any anticipated delays in completion to the relevant person(s) promptly

## Knowledge and understanding

### You need to know and understand:

## Legislative and organisational requirements and procedures

- K1 the health, safety and legal requirements relating to the preparation of **substrates** for foundation and top coats
- K2 your workplace procedures for:
  - K2.1 the referral of problems
  - K2.2 reporting of delays to the completion of work
  - K2.3 completion of work records
  - K2.4 personal protection
- K3 how to work safely avoiding damage to vehicles, personal injury and injury to colleagues
- K4 the work that needs to be done and the standard required
- K5 the importance of reporting anticipated delays to the relevant person(s) promptly
- K6 the requirements for protecting the vehicle and contents from damage before, during and after foundation and top coat preparation activities
- K7 the importance of selecting, using and maintaining the appropriate personal protective equipment when preparing **substrates** for foundation and top coats
- K8 the relationship between time and cost
- K9 the environmental requirements for the disposal of waste materials and the consequences to the environment, others and the business of incorrect disposal

## Tools and equipment

### You need to know and understand:

- K10 how to prepare, test and adjust hand and power sanders and masking material dispensers
- K11 how to use hand and power sanders, extraction and masking equipment

## Foundation and top coats preparation

### You need to know and understand:

- K12 how to recognise damage to **substrates** and ancillary fittings
- K13 how to recognise **substrates**

- K14 how the **substrate** affects the preparation process
- K15 how to interpret manufacturer's preparation schedules
- K16 how to prepare new and repaired panels using recognised **methods and techniques**
- K17 how to carry out masking procedures to avoid material wastage and vehicle contamination for each stage of the preparation process
- K18 how to prepare panels and parts adjacent to the area being painted
- K19 the factors governing the choice of panel preparation methods for different **substrates**
- K20 the types and grades of available abrasives and the factors governing their use for different **substrates**
- K21 the implications of not following the correct abrasive process and its effect on the overall quality process
- K22 the implications of static when working with plastic components
- K23 methods of protecting panels and parts adjacent to the areas being painted and the circumstances in which they should be used
- K24 **methods and techniques** of masking (including paper and sheet masking) and the circumstances in which they should be used
- K25 the importance of following manufacturer's instructions and using their approved methods of working (including use of materials and equipment)
- K26 the consequences of failing to follow manufacturer's instructions
- K27 the importance of working to agreed timescales and keeping others informed of progress or anticipated delays promptly

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**Additional information**

**Scope/range**

- 1 **Substrates** are:
  - 1.1. electro-coated panels
  - 1.2. repaired panels
  - 1.3. original manufacturer's finish
  - 1.4. plastic components
  - 1.5. zinc coated panels
  - 1.6. steel panels
  - 1.7. aluminium panels
  - 1.8. composite panels
  - 1.9. previously primed panels
  
- 2 **Methods and techniques** are:
  - 2.1. feathering out
  - 2.2. de-greasing
  - 2.3. flatting using guide coats
  - 2.4. masking for foundation and top coats
  - 2.5. plastic preparation
  - 2.6. tack off
  
- 3 **Tools and equipment** are:
  - 3.1. hand and power sanders
  - 3.2. masking material dispensers
  - 3.3. extraction

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