Automotive Body Painting Technician

QP Code: ASC/Q3304

Version: 2.0

NSQF Level: 4

Automotive Skills Development Council || 153, Gr Floor, Okhla Industrial Area, Phase – III, Leela Building
New Delhi – 110020

Contents

ASC/Q3304: Automotive Body Painting Technician

Brief Job Description

The individual in this role performs pre-treatment and body preparation processes, sealing and painting activities such as mixing of paint, applying sealer, paint etc. and post-painting activities such as quality check, maintenance, storing and tagging etc.

Personal Attributes

The person should be patient, organised, team-oriented and have the ability to work for long hours in adverse conditions. They should be keen observers and have an eye for detail and quality.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. ASC/N9803: Organize work and resources (Manufacturing)
2. ASC/N9802: Interact effectively with colleagues, customers and others
3. ASC/N3309: Perform pre-treatment and surface preparation process
4. ASC/N3310: Perform sealing, painting and post-painting operations

Qualification Pack (QP) Parameters

Sector	Automotive
Sub-Sector	Manufacturing
Occupation	Painting & Surface Treatment Operation
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7132.0203
Minimum Educational Qualification & Experience	8th Class + 2 years ITI with 2 years of relevant experience OR 10th Class pass with 2 years of relevant experience OR

	10th Class + 2 years ITI OR 12th Class with 1 Year of experience OR Certificate-NSQF (Automotive Painting Operator Level 3) with 2 years of relevant experience
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	29/07/2021
Next Review Date	29/07/2026
NSQC Approval Date	29/07/2021
Version	2.0

ASC/N9803: Organize work and resources (Manufacturing)

Description

This NOS unit is about implementing safety, planning work, adopting sustainable practices for optimising use of resources

Scope

The scope covers the following :

- Maintain safe and secure working environment
- Health and hygiene
- Perform work as per quality standards
- Effective waste management practices
- Material/energy conservation practices

Elements and Performance Criteria

Maintain safe and secure working environment

To be competent, the user/individual on the job must be able to:

PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace

PC2. follow safe working practices while dealing with hazards to ensure safety of self and others

PC3. carry out routine check of the machine for identifying potential hazards

PC4. use appropriate protective clothing/equipment for specific tasks and work

PC5. follow safety hazards and preventive techniques during fire drill

PC6. report any identified breaches in health, safety and security policies and procedures to the designated person

Health and hygiene

To be competent, the user/individual on the job must be able to:

PC7. ensure workstation and equipment are regularly clean and sanitized

PC8. clean hands with soap, alcohol-based sanitizer regularly

PC9. avoid contact with ill people and self-isolate in a similar situation

PC10. wear and dispose PPEs regularly and appropriately

PC11. report advanced hygiene and sanitation issues to appropriate authority

PC12. follow stress and anxiety management techniques

Perform work as per quality standards

To be competent, the user/individual on the job must be able to:

PC13. ensure that work is accomplished as per the requirements within the specified timeline

PC14. ensure team goals are given preference over individual goals

Effective waste management practices

To be competent, the user/individual on the job must be able to:

PC15. follow the fundamentals of 5S for waste management

PC16. segregate waste into different categories

PC17. follow processes specified for disposal of hazardous waste

PC18. identify recyclable, non-recyclable and hazardous waste

PC19. dispose non-recyclable, recyclable and reusable waste appropriately at identified location

Material/energy conservation practices

To be competent, the user/individual on the job must be able to:

PC20. identify ways to optimize usage of material in various tasks/activities/processes

PC21. check for spills/leakages in various tasks/activities/processes

PC22. plug spills/leakages and escalate to appropriate authority if unable to rectify

PC23. check if the equipment/machine is functioning normally before commencing work and rectify wherever required

PC24. report malfunctioning (fumes/ sparks/emission/vibration/noise) and lapse in maintenance of equipment

PC25. ensure electrical equipment and appliances are properly connected and turned off when not in use

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organisation procedures for health, safety and security, individual role and responsibilities in this context

KU2. the organisation's emergency procedures for different emergency situations and the importance of following the same

KU3. evacuation procedures for workers and visitors

KU4. how and when to report hazards as well as the limits of responsibility for dealing with hazards

KU5. potential hazards, risks and threats based on the nature of work

KU6. preventative and remedial actions to be taken in case of exposure to toxic material

KU7. various types of fire extinguisher

KU8. various types of safety signs and their meaning

KU9. appropriate first aid treatment relevant to different condition e.g. bleeding, minor burns, eye injuries etc.

KU10. relevant standards, procedures and policies related to 5S followed in the company

KU11. the various materials used and their storage norms

KU12. efficient utilisation of material and water

KU13. basics of electricity and prevalent energy efficient devices

KU14. common practices of conserving electricity

KU15. common sources and ways to minimize pollution

KU16. categorisation of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics

KU17. usage of different colors of dustbins

KU18. waste management techniques

KU19. significance of greening

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read safety instructions/guidelines
GS2. modify work practices to improve them
GS3. ask for clarifications from superior about the job requirement
GS4. work with supervisors/team members to carry out work related tasks
GS5. complete tasks efficiently and accurately within stipulated time
GS6. inform/report to concerned person in case of any problem
GS7. make timely decisions for efficient utilization of resources
GS8. write reports such as accident report, in at least English/regional language
GS9. be punctual and utilize time efficiently

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintain safe and secure working environment	11	5	-	7
PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace	2	1	-	2
PC2. follow safe working practices while dealing with hazards to ensure safety of self and others	2	-	-	1
PC3. carry out routine check of the machine for identifying potential hazards	2	1	-	1
PC4. use appropriate protective clothing/equipment for specific tasks and work	2	1	-	1
PC5. follow safety hazards and preventive techniques during fire drill	2	1	-	1
PC6. report any identified breaches in health, safety and security policies and procedures to the designated person	1	1	-	1
Health and hygiene	7	5	-	2
PC7. ensure workstation and equipment are regularly clean and sanitized	2	2	-	1
PC8. clean hands with soap, alcohol-based sanitizer regularly	1	1	-	1
PC9. avoid contact with ill people and self-isolate in a similar situation	1	-	-	-
PC10. wear and dispose PPEs regularly and appropriately	1	-	-	-
PC11. report advanced hygiene and sanitation issues to appropriate authority	1	1	-	-
PC12. follow stress and anxiety management techniques	1	1	-	-
Perform work as per quality standards	5	3	-	2
PC13. ensure that work is accomplished as per the requirements within the specified timeline	2	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. ensure team goals are given preference over individual goals	3	1	-	1
Effective waste management practices	15	10	-	4
PC15. follow the fundamentals of 5S for waste management	3	2	-	1
PC16. segregate waste into different categories	2	1	-	-
PC17. follow processes specified for disposal of hazardous waste	2	2	-	1
PC18. identify recyclable, non-recyclable and hazardous waste	4	2	-	1
PC19. dispose non-recyclable, recyclable and reusable waste appropriately at identified location	4	3	-	1
Material/energy conservation practices	12	7	-	5
PC20. identify ways to optimize usage of material in various tasks/activities/processes	2	1	-	1
PC21. check for spills/leakages in various tasks/activities/processes	2	1	-	1
PC22. plug spills/leakages and escalate to appropriate authority if unable to rectify	2	1	-	-
PC23. check if the equipment/machine is functioning normally before commencing work and rectify wherever required	2	2	-	1
PC24. report malfunctioning (fumes/ sparks/emission/vibration/noise) and lapse in maintenance of equipment	2	1	-	1
PC25. ensure electrical equipment and appliances are properly connected and turned off when not in use	2	1	-	1
NOS Total	**50**	**30**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N9803
NOS Name	Organize work and resources (Manufacturing)
Sector	Automotive
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2026
NSQC Clearance Date	29/07/2021

ASC/N9802: Interact effectively with colleagues, customers and others

Description

This NOS unit is about communicating with customers and colleagues/superiors, either in own work group or in other work groups within organisation.

Scope

The scope covers the following :

- Communicate effectively with colleagues, customers and others
- Interact with supervisor or superior

Elements and Performance Criteria

Communicate effectively with colleagues, customers and others

To be competent, the user/individual on the job must be able to:

PC1. maintain clear communication with colleagues, customers and others, wherever needed, through all means i.e. face-to-face, telephonic or written

PC2. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity

PC3. work in a way that shows respect for colleagues and others

PC4. follow the organisation's policies and procedures while working in a team

PC5. respect personal space of colleagues and customers

Interact with supervisor or superior

To be competent, the user/individual on the job must be able to:

PC6. identify work requirements by receiving instructions from reporting supervisor

PC7. escalate problems to supervisors that cannot be handled including repairs and maintenance of machine

PC8. report the completed work

PC9. rectify errors as per feedback

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the importance of effective communication and establishing good working relationships with colleagues and supervisor

KU2. different methods of communication as per the circumstances

KU3. gender based concepts, issues and legislation

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read instructions/guidelines/procedures

GS2. listen effectively and orally communicate information
GS3. ask for clarification and advice from the concerned person
GS4. maintain positive and effective relationships with colleagues and customers
GS5. evaluate the possible solution(s) to the problem
GS6. deliver consistent and reliable service to customers
GS7. complete written work with attention to detail
GS8. check that the work meets customer requirements

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Communicate effectively with colleagues, customers and others	36	11	-	14
PC1. maintain clear communication with colleagues, customers and others, wherever needed, through all means i.e. face-to-face, telephonic or written	8	-	-	4
PC2. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity	8	-	-	-
PC3. work in a way that shows respect for colleagues and others	7	4	-	3
PC4. follow the organisation's policies and procedures while working in a team	7	4	-	3
PC5. respect personal space of colleagues and customers	6	3	-	4
Interact with supervisor or superior	14	19	-	6
PC6. identify work requirements by receiving instructions from reporting supervisor	7	4	-	-
PC7. escalate problems to supervisors that cannot be handled including repairs and maintenance of machine	-	5	-	3
PC8. report the completed work	7	5	-	-
PC9. rectify errors as per feedback	-	5	-	3
NOS Total	**50**	**30**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N9802
NOS Name	Interact effectively with colleagues, customers and others
Sector	Automotive
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2026
NSQC Clearance Date	29/07/2021

ASC/N3309: Perform pre-treatment and surface preparation process

Description

This unit is about performing pre-treatment and surface preparation processes as per the standards specified by the organization.

Scope

The scope covers the following :

- Preparing for pre-treatment and surface preparation process
- Inspect bath system for pre-treatment and surface preparation process
- Conduct pre-treatment and surface preparation process
- Conduct post-surface treatment activities

Elements and Performance Criteria

Preparing for pre-treatment and surface preparation process

To be competent, the user/individual on the job must be able to:

PC1. identify the work to be done by interpreting the drawing/work instructions/SOPs

PC2. identify and select the material, tools, equipment, jigs and accessories as per the job requirements

PC3. check the tools, equipment, jigs and material for any defects, expiry date etc. before use

PC4. check the jig to identify the loading points and locking points in it are as per job requirements

PC5. lift the vehicle body parts manually or by hoist and place the same securely on the designated slot/space as per the work instructions

PC6. check that vehicle body or parts are cleaned and they are free from oil/dirt/different foreign material

Inspect bath system for pre-treatment and surface preparation process

To be competent, the user/individual on the job must be able to:

PC7. carry out general check of feed valve, drain valve, filter condition, pressure difference and other quality control item of bath system as mentioned in SOP

PC8. check that magnetic separator, oil separator, phosphate sludge (for phosphate dip process), heating system (heat exchanger) of Phosphate solution and spray nozzles (blocking of hole) are in working condition

PC9. check the water quality to ensure that it is free from chlorine and other impurities, PH and conductivity is maintained as per norms

PC10. check the bath temperature and record it as per SOP/work instruction

PC11. use gauges to identify the required pressure difference across filter (cartridge/stainer) and then clean/ replace the filter (cartridge/stainer) if required

Conduct pre-treatment and surface preparation process

To be competent, the user/individual on the job must be able to:

PC12. perform all pre-treatment and surface preparation processes on vehicle body/parts as per the requirements/specification

PC13. maintain bath pointage as per SOP/work instruction

PC14. check required temperature of baking oven before starting ED process and ensure that baking is done within the stipulated time

PC15. check part for phosphate coating condition after phosphate process and ED coating condition after ED process to confirm that coating quality is as per SOP

PC16. apply pressurized air on the vehicle body/ parts for removal of any unwanted extra ED drops is as per SOP

PC17. check ED coating parameters (Dry Film Thickness (DFT), Gloss, Methyl Isobutyl Ketone (MIBK) rub test, etc) and record data as per SOP

PC18. check the part condition after final rinse to ensure that it is free from water break, dust and other defects as per SOP

Conduct post-surface treatment activities

To be competent, the user/individual on the job must be able to:

PC19. support the operator in unloading the vehicle body/parts and jigs after completion of all processess on skids for the painting activities

PC20. dispose waste material into the disposal area in accordance with the company's policies and environmental regulations

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. relevant pre-treatment and surface preparation standards and procedures followed in the company

KU2. SOP recommended by the manufacturer for using material, tools, equipment and accessories during the pre-treatment and surface preparation process

KU3. process flow of pre-treatment and surface preparation processes i.e. prewash, hot water spray, pre-degreasing, degrease dip, Water rinse I spray & Water rinse II dip, Surface Conditioning, Phosphate dip, Water rinse III spray & Water rinse IV dip, ED Bath, Ultra Filtrate 1, 2 and 3, RCDM dip and Fresh DI spray process

KU4. procedures for the handling and safe use of pre-treatment and surface preparation materials and solvents

KU5. various jigs and components to be loaded and their locations

KU6. cleaning and maintenance of the tool and equipment

KU7. do's and don'ts of the pre-treatment and surface preparation process as defined in SOPs/Work Instructions

KU8. phosphate chemical transfer process from phosphate main tank to dump tank

KU9. safety requirements during the pre-treatment and surface preparation process

KU10. material Safety Data Sheet (MSDS) of bath chemicals as well as lab chemicals

KU11. different types of defects which may arise due to improper parameters maintained at each tank

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and interpret work instructions, equipment manuals and process documents
GS2. communicate the painting process requirements and issues to the supervisor and co-workers
GS3. attentively listen and comprehend the information given by the technician/team members
GS4. write any work related information in English/regional language
GS5. recognise a workplace problem and take suitable action
GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
GS7. plan and organise tools, equipment and consumables for carrying out painting job
GS8. complete the assigned tasks within specified timeline and schedule

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Preparing for pre-treatment and surface preparation process	9	15	-	7
PC1. identify the work to be done by interpreting the drawing/work instructions/SOPs	1	2	-	1
PC2. identify and select the material, tools, equipment, jigs and accessories as per the job requirements	4	3	-	2
PC3. check the tools, equipment, jigs and material for any defects, expiry date etc. before use	1	3	-	1
PC4. check the jig to identify the loading points and locking points in it are as per job requirements	1	2	-	2
PC5. lift the vehicle body parts manually or by hoist and place the same securely on the designated slot/space as per the work instructions	1	2	-	-
PC6. check that vehicle body or parts are cleaned and they are free from oil/dirt/different foreign material	1	3	-	1
Inspect bath system for pre-treatment and surface preparation process	7	14	-	6
PC7. carry out general check of feed valve, drain valve, filter condition, pressure difference and other quality control item of bath system as mentioned in SOP	1	3	-	1
PC8. check that magnetic separator, oil separator, phosphate sludge (for phosphate dip process), heating system (heat exchanger) of Phosphate solution and spray nozzles (blocking of hole) are in working condition	2	4	-	2
PC9. check the water quality to ensure that it is free from chlorine and other impurities, PH and conductivity is maintained as per norms	2	3	-	1
PC10. check the bath temperature and record it as per SOP/work instruction	1	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. use gauges to identify the required pressure difference across filter (cartridge/stainer) and then clean/ replace the filter (cartridge/stainer) if required	1	2	-	1
Conduct pre-treatment and surface preparation process	12	19	-	7
PC12. perform all pre-treatment and surface preparation processes on vehicle body/parts as per the requirements/specification	3	7	-	2
PC13. maintain bath pointage as per SOP/work instruction	1	1	-	1
PC14. check required temperature of baking oven before starting ED process and ensure that baking is done within the stipulated time	1	1	-	1
PC15. check part for phosphate coating condition after phosphate process and ED coating condition after ED process to confirm that coating quality is as per SOP	2	3	-	-
PC16. apply pressurized air on the vehicle body/ parts for removal of any unwanted extra ED drops is as per SOP	2	3	-	1
PC17. check ED coating parameters (Dry Film Thickness (DFT), Gloss, Methyl Isobutyl Ketone (MIBK) rub test, etc) and record data as per SOP	2	2	-	1
PC18. check the part condition after final rinse to ensure that it is free from water break, dust and other defects as per SOP	1	2	-	1
Conduct post-surface treatment activities	2	2	-	-
PC19. support the operator in unloading the vehicle body/parts and jigs after completion of all processess on skids for the painting activities	1	1	-	-
PC20. dispose waste material into the disposal area in accordance with the company's policies and environmental regulations	1	1	-	-
NOS Total	**30**	**50**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N3309
NOS Name	Perform pre-treatment and surface preparation process
Sector	Automotive
Sub-Sector	Manufacturing
Occupation	Painting & Surface Treatment Operation
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2026
NSQC Clearance Date	29/07/2021

ASC/N3310: Perform sealing, painting and post-painting operations

Description

This unit is about performing sealing, painting and post-painting operations as per the given work order and the standards specified by the organization.

Scope

The scope covers the following :

- Preparing for sealer and paint work
- Perform sealing process
- Prepare paint for painting process
- Apply coatings of paint on the vehicle body
- Perform post-painting activities

Elements and Performance Criteria

Preparing for sealer and paint work

To be competent, the user/individual on the job must be able to:

PC1. identify and select the sealing and painting material, tools, equipment, jigs and accessories as per the SOP and job requirements

PC2. check the tools, equipment, jigs and material for any defects, expiry date etc. before use

PC3. check that vehicle body or parts are cleaned and they are free from oil/dirt/different foreign material

PC4. read the body drawing to identify the sealing and painting area including water leakage point

Perform sealing process

To be competent, the user/individual on the job must be able to:

PC5. check sealer gun pressure before starting sealer application

PC6. use masking tape to mask the area where sealing and painting application is not required

PC7. apply under body sealer (PVC) on floor area with drain caps and with required thickness as per SOP/work instruction

PC8. check that no pin holes are formed in sealer to avoid shower leakage

PC9. check and ensure no extra under body sealer (PVC) on part as mentioned in SOP/work instruction

PC10. apply stone guard coating (SGC) as per SOP/work instruction

PC11. check and ensure no extra stone guard coating (SGC) as per SOP/work instruction

PC12. check and record wet film thickness (WFT) of under body sealing (PVC)

PC13. check and repair defects like sealer pin hole, sealer crack, no sealer, ED drop, dry film thickness of SGC.

Prepare paint for painting process

To be competent, the user/individual on the job must be able to:

PC14. identify base color and select appropriate colorants suitable for color match as per the requirements/instructions

PC15. mix specified amount of paint material with additives as per specified ratio by following standard procedure

PC16. check the paint viscosity and add reducer/thinner/water to adjust viscosity of paint mix as per requirement

Apply coatings of paint on the vehicle body

To be competent, the user/individual on the job must be able to:

PC17. ensure that spray paint gun air pressure and flow is adjusted and maintained as per the job requirement

PC18. apply primer on vehicle body parts as per the requirements/specification

PC19. apply appropriate coats of paint on vehicle body parts as per the requirements/specification

PC20. maintain booth parameters (temperature, relative humidity (RH), etc) during the painting process as per SOP

PC21. check that paint coverage is uniform and there are no patches on the painted parts

Perform post-painting activities

To be competent, the user/individual on the job must be able to:

PC22. check the painted parts for defects, required quality and characteristics such as thickness, flakiness, peeling, shade match as per shade card

PC23. write the defect on inspection check sheet as per SOP

PC24. repair the defects on painted parts as per SOP

PC25. check the parts again for defects and put the final confirmation through stamp if defect is repaired as per SOP

PC26. ensure that painting operator is tagging and storing the right quality parts properly and maintaining a record of the same by following organisational policies and procedures

PC27. ensure that the work area is unmasked and cleaned properly after completion of work

PC28. dispose waste material into the disposal area in accordance with the company's policies and environmental regulations

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. relevant painting standards and procedures followed in the company

KU2. how to operate paint booth in automatic and manual mode

KU3. various paints and thinners to be mixed in a specified proportion and frequency in paint tanks

KU4. how to select and use different sealing and painting tools (such as brushes, rollers, painting bucket, stirrers, scrapers, spray gun, sandpapers, putty blades, etc.) and appropriate paint materials and mixing ingredients (such as scrape, base color, colorants, thinners etc.)

KU5. process flow of sealing and painting process

KU6. how to mix the correct amount of paint material as per specified ratio

KU7. how to adjust viscosity of paint mix as per requirement

KU8. adhesives used for binding coats of paint such as oil, turpentine, mildew remover

KU9. time gap or drying time between application of two coats of paints

KU10. how to check quality parameters such as thickness, flakiness, peeling, shade match as per shade card, corrosion resistance, friction properties, abrasion resistance
KU11. procedures for the handling and safe use of coating materials and solvents
KU12. setting up and correct technique for efficient use of spray paint equipment
KU13. cleaning and maintenance of the spray equipment
KU14. various types of defects and their effect on paint quality
KU15. recognition of coating defects and their prevention and/or correction
KU16. safety requirements during the painting process

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and interpret work instructions, equipment manuals and process documents
GS2. communicate the painting process requirements and issues to the supervisor and co-workers
GS3. attentively listen and comprehend the information given by the technician/team members
GS4. write any work related information in English/regional language
GS5. recognise a workplace problem and take suitable action
GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
GS7. plan and organise tools, equipment and consumables for carrying out painting job
GS8. complete the assigned tasks within specified timeline and schedule

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Preparing for sealer and paint work	5	7	-	3
PC1. identify and select the sealing and painting material, tools, equipment, jigs and accessories as per the SOP and job requirements	3	3	-	1
PC2. check the tools, equipment, jigs and material for any defects, expiry date etc. before use	1	2	-	1
PC3. check that vehicle body or parts are cleaned and they are free from oil/dirt/different foreign material	-	1	-	-
PC4. read the body drawing to identify the sealing and painting area including water leakage point	1	1	-	1
Perform sealing process	7	16	-	6
PC5. check sealer gun pressure before starting sealer application	1	1	-	-
PC6. use masking tape to mask the area where sealing and painting application is not required	1	1	-	1
PC7. apply under body sealer (PVC) on floor area with drain caps and with required thickness as per SOP/work instruction	1	3	-	1
PC8. check that no pin holes are formed in sealer to avoid shower leakage	1	1	-	1
PC9. check and ensure no extra under body sealer (PVC) on part as mentioned in SOP/work instruction	-	1	-	-
PC10. apply stone guard coating (SGC) as per SOP/work instruction	1	3	-	1
PC11. check and ensure no extra stone guard coating (SGC) as per SOP/work instruction	-	1	-	-
PC12. check and record wet film thickness (WFT) of under body sealing (PVC)	1	2	-	1
PC13. check and repair defects like sealer pin hole, sealer crack, no sealer, ED drop, dry film thickness of SGC.	1	3	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prepare paint for painting process	4	6	-	3
PC14. identify base color and select appropriate colorants suitable for color match as per the requirements/instructions	2	1	-	1
PC15. mix specified amount of paint material with additives as per specified ratio by following standard procedure	1	3	-	1
PC16. check the paint viscosity and add reducer/thinner/water to adjust viscosity of paint mix as per requirement	1	2	-	1
Apply coatings of paint on the vehicle body	6	10	-	5
PC17. ensure that spray paint gun air pressure and flow is adjusted and maintained as per the job requirement	1	1	-	1
PC18. apply primer on vehicle body parts as per the requirements/specification	1	3	-	1
PC19. apply appropriate coats of paint on vehicle body parts as per the requirements/specification	2	4	-	2
PC20. maintain booth parameters (temperature, relative humidity (RH), etc) during the painting process as per SOP	1	1	-	1
PC21. check that paint coverage is uniform and there are no patches on the painted parts	1	1	-	-
Perform post-painting activities	8	11	-	3
PC22. check the painted parts for defects, required quality and characteristics such as thickness, flakiness, peeling, shade match as per shade card	2	3	-	1
PC23. write the defect on inspection check sheet as per SOP	1	1	-	-
PC24. repair the defects on painted parts as per SOP	2	3	-	1
PC25. check the parts again for defects and put the final confirmation through stamp if defect is repaired as per SOP	-	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. ensure that painting operator is tagging and storing the right quality parts properly and maintaining a record of the same by following organisational policies and procedures	1	1	-	1
PC27. ensure that the work area is unmasked and cleaned properly after completion of work	1	1	-	-
PC28. dispose waste material into the disposal area in accordance with the company's policies and environmental regulations	1	1	-	-
NOS Total	**30**	**50**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N3310
NOS Name	Perform sealing, painting and post-painting operations
Sector	Automotive
Sub-Sector	Manufacturing
Occupation	Painting & Surface Treatment Operation
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2026
NSQC Clearance Date	29/07/2021

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below).

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training centre based on these criteria.

5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take

subsequent assessment on the balance NOS's to pass the Qualification Pack.

6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Minimum Aggregate Passing % at QP Level : 70

(**Please note:** Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ASC/N9803.Organize work and resources (Manufacturing)	50	30	-	20	100	15
ASC/N9802.Interact effectively with colleagues, customers and others	50	30	-	20	100	10
ASC/N3309.Perform pre-treatment and surface preparation process	30	50	-	20	100	45
ASC/N3310.Perform sealing, painting and post-painting operations	30	50	-	20	100	30
Total	**160**	**160**	**-**	**80**	**400**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
PPE	Personal Protective Equipment
PwD	Person with Disability
SOP	Standard Operating Practices

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.