

No. 1198

14 November 2008

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Vehicle Maintenance

registered by Organising Field 06 – Manufacturing, Engineering and Technology, publishes the following Qualifications and Unit Standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the Qualifications and Unit Standards. The full Qualifications and Unit Standards can be accessed via the SAQA web-site at www.saqqa.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualifications and Unit Standards should reach SAQA at the address below and **no later than 15 December 2008**. All correspondence should be marked **Standards Setting – SGB for Vehicle Maintenance** and addressed to

The Director: Standards Setting and Development
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D. MPHUTHING

ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Certificate: Automotive Spray Painting

SAQA QUAL ID	QUALIFICATION TITLE		
64410	National Certificate: Automotive Spray Painting		
ORIGINATOR	PROVIDER		
SGB Vehicle Maintenance			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	120	Level 2	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this qualification is to provide learners with the standards and the range of learning required to work effectively in the automotive spray painting industry. This qualification will enable learners to meet the challenges of an industry that has shown a rapid increase through the introduction of new technology in spray painting methods.

This qualification also serves to develop new skills for new technology. It creates an infrastructure of sound technological support and opportunities in a labour market with a growing demand to recognise people for their skills and to meet the challenges of the automotive spray painting environment.

The primary skill that is recognised in this qualification is the ability to understand and apply the relevant theory of the different types of paint and primer compositions and materials that are used in a paint shop where high quality finishes need to be produced to ensure customer satisfaction and compliance to industry requirements. Hand skills also play an important role in this qualification and successful learners will need to apply hand skills in completing their tasks.

After achieving this qualification learners will be able to:

- > Communicate with peers and supervisors in an automotive work context.
- > Use and maintain automotive workshop tools and equipment.
- > Prepare a vehicle for automotive spray painting work.
- > Apply paint to substrate level.

Rationale:

The automotive spray painting industry is subjected to the ever increasing new technologies of paint application methods and materials. This necessitates that learning programmes are developed so that learners entering this field of learning are introduced to this new technology at an early stage of their career.

Introducing learners at this level of learning also forms the support structure in an automotive spray painting shop from where learning gradually progresses to more advanced application techniques at higher levels of learning, thereby exposing learners to more advanced and sophisticated application methods and equipment, as well as surface preparation.

This is the first qualification in a series and forms the basis for learners who want to follow a career in the field of automotive spray painting. This qualification focuses on developing skills and knowledge necessary to begin such a career. It also provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

This qualification recognises the skills, knowledge and values relevant in the workplace and will cater for learners who:

- > Have attended courses and need to apply the knowledge gained to activities in the workplace.
- > Are already workers and have acquired skills and knowledge without having attended formal training.
- > Are part of a learnership programme which integrates structured learning and operational experience.

RECOGNIZE PREVIOUS LEARNING?

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LEARNING ASSUMED IN PLACE

Learners registering for this qualification should already have achieved a General Education and Training Certificate at NQF Level 1 or equivalent.

If the learner does not already have such a qualification, learning in preparation for this qualification should include:

- > Literacy at NQF Level 1.
- > Numeracy at NQF Level 1.
- > Basic concepts of engineering science at NQF Level 1.

Recognition of Prior Learning:

The structure of this qualification makes the Recognition of Prior Learning possible, if the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this Qualification. Recognition of Prior Learning will be done by means of an Integrated Assessment.

This Recognition of Prior Learning may allow:

- > For accelerated access to further learning.
- > Gaining of credits towards any of the Exit Level Outcomes in this qualification.

All recognition of Prior Learning is subject to quality assurance by the relevant accredited Education and Training Quality Assurance Body (ETQA) and must be conducted by a registered workplace assessor. Identified outcomes may have been acquired in a range of economic sectors and these will be considered as appropriate where the candidate provides evidence of the applicability of that learning to this qualification.

Access to the Qualification:

This qualification is open for anyone who wishes to pursue a career in automotive spray painting, but prior achievement of the "Learning Assumed to be in Place" would facilitate an easier progression into learning programmes to address the outcomes of this qualification.

QUALIFICATION RULES

Rules of combination for this qualification are as follows:

- > All Fundamental unit standards are compulsory (36 Credits).
- > All Core unit standards are compulsory (53 Credits).
- > Additional Elective unit standards accounting for 31 credits must be selected to achieve a total of 120 credits for this qualification.

EXIT LEVEL OUTCOMES

1. Communicate with peers and supervisors in an automotive work context.
2. Use and maintain automotive workshop tools and equipment.
3. Prepare a substrate to be spray painted.
4. Apply paint to substrate level.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes, as detailed in the unit standards:

Identify and solve problems and make decisions using critical and creative thinking.

> Note: The ability of the candidate to identify the vehicle safety features that need to be taken into consideration when conducting any work on particular vehicles.

Work effectively with others as a member of a team, group, organisation or community.

> Note: The ability of the candidate to communicate with peers and supervisors.

Organise and manage themselves and their activities responsibly and effectively.

> Note: The ability of the candidate to adhere to workplace timeframes and procedures.

Collect, analyse, organise and critically evaluate information.

> Note: The ability of the candidate to identify appropriate paint for a particular application.

Communicate effectively, using visual, mathematical and/or language skills in the modes of oral and/or written presentations.

> Note: The ability of the candidate to report on work conducted.

Use science and technology effectively and critically, showing responsibility towards the environment and health of others.

> Note: The ability of the candidate to use the correct tools and equipment to apply different paint technology to specific situations.

Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

> Note: The ability of the candidate to dispose of paint and materials in an environmentally friendly manner.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

1.1 Oral communication is maintained and adapted as required to promote effective interaction in a work context.

- 1.2 Terminology used is appropriate to the situation and in accordance with normal workplace usage.
- 1.3 Information related to work tasks is accessed and interpreted from a range of written and oral sources to ensure that work requirements are understood.
- 1.4 Communication is clear and unambiguous and at an appropriate level for designated target audiences.
- 1.5 Information communicated is accurate and conveyed in accordance with acceptable timeframes.
- 1.6 Communication is effective, regular and ongoing.

Associated Assessment Criteria for Exit Level Outcome 2:

- 2.1 Tools and equipment are selected and used in accordance with their design and are appropriate for the task at hand.
- 2.2 Tools and equipment required for the scope of work are sourced from available supplies.
- 2.3 Tools and equipment are checked for condition prior to use.
- 2.4 Faulty tools are identified and corrective action is taken in accordance with workplace procedures.
> Range: Corrective action includes replacing, repairing or reporting.
- 2.5 Tools and equipment are used according to manufacturer operating guidelines.

Associated Assessment Criteria for Exit Level Outcome 3:

- 3.1 The vehicle is made safe to work with in accordance with manufacturer specifications.
- 3.2 Vehicle safety features are identified in terms of precautions when working near activation points.
- 3.3 The area to be painted is masked off in accordance with workplace requirements.
- 3.4 Panels to be painted are prepared for painting in accordance with workplace procedures.
- 3.5 Work is conducted with due consideration for other team members and overall productivity.

Associated Assessment Criteria for Exit Level Outcome 4:

- 4.1 Vehicles are moved and lifted in accordance with accepted workplace procedures.
- 4.2 Paint selected for the job is appropriate in terms of the technology of application and the material.
- 4.3 Consequences of using incorrect paint are described in terms of the impact on the finish of the final product.
- 4.4 Paint is applied in accordance with manufacturer specifications and workplace procedures.
- 4.5 Painted panels are replaced and sealed in accordance with manufacturer specifications.
- 4.6 Work is conducted with due consideration for other team members and overall productivity.
- 4.7 Paint and materials are disposed of in accordance with relevant health, safety and environmental practices.

Integrated Assessment:

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, an integrated assessment approach is incorporated into the Qualification. Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the exit level outcomes should be integrated.

A variety of methods must be used in assessment tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments the assessor should make use of formative and summative assessment methods and assess combinations of practical, applied, foundational and reflective competencies. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Assessment should ensure that all outcomes, embedded knowledge and critical cross-field outcomes are assessed. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

INTERNATIONAL COMPARABILITY

This qualification is part of a series of qualifications in the field of Automotive spray painting and was compared to other, similar outcomes-based qualifications in various countries as follows:

New Zealand:

The National Certificate in Motor Industry (Panelbeating) is a New Zealand qualification at NQF Level 4 and includes the work of a spray painter. This is a three year qualification without qualifications or exit level outcomes at the intermediate levels. The qualification is pitched at NQF Level 4 on their NQF with only unit standards and credits at NQF Levels 1 to 4. This notwithstanding, the technical content of this qualification does correspond with the equivalent level of qualification in Automotive spray painting in New Zealand.

United Kingdom:

The Level 2 Certificate in Automotive Engineering covers aspects related to this qualification but also includes more broadly defined work aspects such as Motor Vehicle Refinisher, Motor Vehicle Builder, Motor Vehicle Mechanic and Motor Vehicle Technician. The scope is way beyond that of a spray painter and includes aspects of vehicle engine performance and improved suspension for racing.

The basic methods of assessment include Coursework, Oral Examination, Portfolio of Evidence, Practical Demonstration/Assignment, Practical Examination and Written Examination. No units are specified as compulsory, and the learner may select any units they like, totalling 120 credits. Notes are given regarding accepted grouping of units and progression to further levels of education.

The Level of the Level 2 Certificate in Automotive Engineering is much higher than the South African NQF Level 2 and covers various aspects included in the South African qualifications at Levels 3 and 4.

Elements of the Institute of Motor Industry (IMI) in the UK have been used in benchmarking best practice procedures in some of the unit standards used in this qualification. The NVQ qualifications offered in the UK cover all the same objectives of this series of qualifications at various levels of complexity. The qualifications are offered as an internship wherein the learner enrolls with a college or training centre for the theoretical component, and achieves the practical component in-house. The qualifications are all based on specific levels of performance, and lead to progressive levels of complexity, but are identified as separate qualifications. The learning towards these qualifications is offered through long-term learner-employer relationships, with short-term stints at a training centre. Qualification titles in the UK include:

- > Vehicle Refinishing, Level 3: (Q1017590).
- > Vehicle Body Repair, Level 3: (Q1015917).
- > Vehicle Body Fitting, Level 2: (Q1015913).

Australia:

The Certificate in Automotive Vehicle Body Repair is a 3 year course for artisans to learn how to repair and paint vehicles. The qualification has 2 specialisation areas: one for spray painting and one for panel beating. Both specialisation areas comprise less than 1200 notional learning hours, but are spread out over 3 levels, with core units being specified at the entry level (Level 2).

There are a range of elective units that may be selected from different categories, but the rules of combination indicate that all units must be selected, thereby not allowing the learner any choice in learning. The qualification aims at targeting competence at artisan level only with no recognition for achievement of less than the whole qualification.

Denmark:

The Danish panel beater qualification is spread over 4 years with 55 weeks of formal education and training and 153 weeks of on-the-job training. Danish vocational education and training programmes are alternating programmes, which means that the education and training activities alternate between education and training at a school and on-the-job training in an enterprise. The training programme is a full vocational education and training programme, equivalent to Level 3 in the ISCED system.

No breakdown of the qualification is given in terms of units of learning, but the end point equates to the South African Level 4 Spray painter. There is no recognition for achievement of less than the whole qualification.

Germany:

The qualifications offered in Germany are also predominantly vocational qualifications with theoretical components being achieved through a specified period at a training centre. The qualifications are aimed at achieving complete competence in all aspects of vehicle maintenance through the progressive series of qualifications and includes mechanical, electrical and coach works (panel beating and spray painting). The training programmes are progressive qualifications of one-year duration each and include ongoing training through workbooks in which the trainee is required to complete evidence of understanding for each month of the registered year of learning. Germany has a requirement that competent people be licensed to operate under the meister (master craftsman) programme, and this licence is valid for a period of two years. The qualification titles offered in Germany include:

- > Auto Fachman, Level 1.
- > Auto Fachman, Level 2.
- > Auto Fachman, Level 3.
- > Auto Fachman, Meister.

United States of America:

America uses a system of specialisation areas, with a master technician being identified as a person who is competent in all areas and will be able to perform on almost any part of a vehicle. The learning is conducted through apprenticeships and has specialisation areas for:

- > Engine technicians.
- > Transmission technicians.
- > Steering and suspension technicians.
- > Brake technicians.
- > Electrical system technicians.
- > Heating and air-conditioning technicians.

- > Driveability and performance technicians.
- > Lubrication technicians.
- > Coachwork technicians.

SADC:

None of the SADC countries have their own qualifications relating to spray painting, but use the British City and Guilds Standards for training learners in the automotive field. Namibia has indicated interest in the South African qualifications and may implement this qualification once it has been registered.

Conclusion:

Most other countries have a streamlined qualification process that ends in a required result, but does not recognise competence in parts of the qualification. This has been identified as a problem in the South African context, and that was why the move to the NQF and unit standards was made. Through achieving this qualification, learners will be given recognition for their abilities after just one year of learning. Alternately, learners may achieve employable skills by electing to exit with one or more Exit Level Outcomes instead of the entire qualification. There has also been a further breakdown of skills by recognising relevant skills and separating qualifications for spray painters and panel beaters in South Africa.

ARTICULATION OPTIONS

This Qualification lends itself to both vertical and horizontal articulation possibilities.

Horizontal articulation is possible with the following Qualifications:

- > ID 49689: National Certificate: Automotive repair and maintenance, NQF Level 2.
- > ID 21004: National Certificate: Automotive component manufacturing and assembly, NQF Level 2.
- > ID 22858: National Certificate: Autotronic, NQF Level 2.
- > ID 23273: National Certificate: Mechanical engineering: fitting, NQF Level 2.
- > ID 22770: National Certificate: Mechatronics, NQF Level 2.
- > ID 48969: National Certificate: Service station operations, NQF Level 2.

Vertical articulation is possible with the following qualifications:

- > ID 64409: National Certificate: Automotive spray painting, NQF Level 3.

MODERATION OPTIONS

> Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant Education and Training Quality Assurance Body (ETQA).

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation, in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies).

> Moderation must include both internal and external moderation of assessments at exit points of the Qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in the ELOs of the Qualification and will include integration of skills relevant to the economic sector.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors must be registered in terms of the requirements of SAQA and the relevant ETQA. In addition, assessors should have:

- > A minimum of 3 (three) years' practical, relevant occupational experience.
- > A relevant Qualification at NQF Level 3 or higher.
- > The ability to meet the outcomes of this qualification.

NOTES

N/A

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119463	Access and use information from texts	Level 2	5
Fundamental	9009	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	Level 2	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	Level 2	3
Fundamental	9008	Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts	Level 2	3
Fundamental	119454	Maintain and adapt oral/signed communication	Level 2	5
Fundamental	119460	Use language and communication in occupational learning programmes	Level 2	5
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 2	2
Fundamental	9007	Work with a range of patterns and functions and solve problems	Level 2	5
Fundamental	119456	Write/present for a defined context	Level 2	5
Core	119740	Identify the various types of paint, primers, material and their uses	Level 2	4
Core	13220	Keep the work area safe and productive	Level 2	8
Core	260160	Maintain spray painting equipment	Level 2	4
Core	119737	Perform basic Spray Painting	Level 2	10
Core	119742	Perform masking and de-masking on a vehicle	Level 2	8
Core	119734	Perform surface preparation on a body panel	Level 2	8
Core	15123	Select and use vehicle lifting equipment	Level 2	3
Core	119744	Select, use and care for engineering hand tools	Level 2	8
Elective	116932	Operate a personal computer system	Level 1	3
Elective	260158	Apply sealers and cavity fillers on vehicles	Level 2	4
Elective	119745	Conduct an inspection	Level 2	4
Elective	12465	Develop a learning plan and a portfolio for assessment	Level 2	6
Elective	12466	Explain the individual's role within business	Level 2	4
Elective	9268	Manage basic personal finance	Level 2	6
Elective	260159	Polish automotive painted panels	Level 2	6
Elective	12219	Select, use and care for engineering power tools	Level 2	6
Elective	119736	Understand the body construction and safety features of a vehicle	Level 2	4
Elective	243672	Maintain the stockroom	Level 3	10

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Certificate: Automotive Spray Painting

SAQA QUAL ID	QUALIFICATION TITLE		
64409	National Certificate: Automotive Spray Painting		
ORIGINATOR		PROVIDER	
SGB Vehicle Maintenance			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	120	Level 3	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this qualification is to provide learners with the standards and the range of learning required to work effectively in the automotive spray painting industry. This qualification will enable learners to meet the challenges of an industry that has shown a rapid increase through the introduction of new technology in spray painting methods.

This qualification also serves to develop new skills for new technology. It creates an infrastructure of sound technological support and opportunities in a labour market with a growing demand to recognise people for their skills and to meet the challenges of the automotive spray painting environment.

The primary skill that is recognised in this qualification is the ability to understand and apply the relevant theory of the different types of paint and primer compositions to produce high quality finishes to painted panels. Hand skills also play an important role in this qualification and successful learners will need to apply hand skills in completing their tasks.

After achieving this qualification learners will be able to:

- > Communicate with peers and supervisors in an automotive work context.
- > Solve recurring problems in an automotive workshop.
- > Use and maintain automotive workshop tools and equipment.
- > Match paint to job requirements.
- > Apply high quality paint finishes to an automotive panel.

Rationale:

The automotive spray painting industry is subjected to the ever increasing new technologies of paint application methods and materials. At the level of this qualification, learners will be required to apply high quality paint finishes for which the use of sophisticated tools, equipment and processes are necessary.

This is the second qualification in a series and forms the main competence for learners who want to follow a career in the field of automotive spray painting. This qualification focuses on developing skills and knowledge necessary to be successful in such a career and can be built on to develop skills at NQF Level 4 in interacting with customers and supervising paint shop activities. It also provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

This qualification recognises the skills, knowledge and values relevant in the workplace and will cater for learners who:

- > Have attended courses and need to apply the knowledge gained to activities in the workplace.
- > Are already workers and have acquired skills and knowledge without having attended formal training.
- > Are part of a learnership programme which integrates structured learning and operational experience.

RECOGNIZE PREVIOUS LEARNING?

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LEARNING ASSUMED IN PLACE

Learners registering for this qualification should already have achieved the National Certificate in Automotive spray painting at NQF Level 2, as this qualification builds on the learning acquired at that level.

If the learner does not already have such a qualification, learning in preparation for this qualification should include:

- > Literacy and numeracy at NQF Level 2.
- > Basic concepts of engineering science at NQF Level 2.
- > Use of automotive workshop tools and equipment at NQF Level 2.
- > Preparing panels for final coat paint at NQF Level 2.

Recognition of Prior Learning:

The structure of this qualification makes the Recognition of Prior Learning possible, if the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this Qualification. Recognition of Prior Learning will be done by means of an Integrated Assessment as mentioned in the previous paragraph.

This Recognition of Prior Learning may allow:

- > For accelerated access to further learning.
- > Gaining of credits towards any of the Exit Level Outcomes in this qualification.

All recognition of Prior Learning is subject to quality assurance by the relevant accredited Education and Training Quality Assurance Body (ETQA) and must be conducted by a registered workplace assessor. Identified outcomes may have been acquired in a range of economic sectors and these will be considered as appropriate where the candidate provides evidence of the applicability of that learning to this qualification.

Access to the Qualification:

This qualification is open for anyone who wishes to pursue a career in automotive spray painting, but prior achievement of the "Learning Assumed to be in Place" would facilitate an easier progression into learning programmes to address the outcomes of this qualification.

QUALIFICATION RULES

Rules of combination for this qualification are as follows:

- > All Fundamental unit standards are compulsory (36 Credits).
- > All Core unit standards are compulsory (63 Credits).
- > Additional Elective unit standards accounting for 21 credits must be selected to achieve a total of 120 credits for this qualification.

EXIT LEVEL OUTCOMES

1. Communicate with peers and supervisors in an automotive work context.
2. Solve recurring problems in spray paint application environment.
3. Use and maintain spray painting workshop tools and equipment.
4. Match paint to job requirements.
5. Apply high quality paint finishes to an automotive panel.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes, as detailed in the unit standards:

Identify and solve problems and make decisions using critical and creative thinking.

- > Note: The ability of the candidate to apply solutions to identified problems that lead to cost effective results.

Work effectively with others as a member of a team, group, organisation or community.

- > Note: The ability of the candidate to communicate with peers and supervisors.

Organise and manage themselves and their activities responsibly and effectively.

- > Note: The ability of the candidate to adhere to workplace timeframes and procedures.

Collect, analyse, organise and critically evaluate information.

- > Note: The ability of the candidate to identify required paint and match to given specifications.

Communicate effectively, using visual, mathematical and/or language skills in the modes of oral and/or written presentations.

- > Note: The ability of the candidate to report on work conducted.

Use science and technology effectively and critically, showing responsibility towards the environment and health of others.

- > Note: The ability of the candidate to use the correct tools and equipment to obtain the required paint finish.

Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

- > Note: The ability of the candidate to apply paint without any blemishes.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

1.1 Oral communication is maintained and adapted as required to promote effective interaction in a work context.

1.2 Terminology used is appropriate to the situation and in accordance with normal workplace usage.

1.3 Information related to work tasks is accessed and interpreted from a range of written and oral sources to ensure that work requirements are understood.

1.4 Communication is clear and unambiguous and at an appropriate level for designated target audiences.

1.5 Information communicated is accurate and conveyed in accordance with acceptable timeframes.

1.6 Communication is effective, regular and ongoing.

1.7 Interaction with others to process the completed work is effective and in accordance with the workplace procedures.

1.8 Reports are completed according to workplace scheduling requirements in a timely manner and in the required format.

Associated Assessment Criteria for Exit Level Outcome 2:

2.1 Problems are identified within an acceptable timeframe.

2.2 The problem is described in terms of the scope of the problem, possible solutions, costs and the effect on customer satisfaction.

2.3 Solutions applied are suited to the problem and lead to cost effective results.

2.4 Problems that do not have immediate solutions are reported to relevant personnel in accordance with workplace procedures.

2.5 Problems are recorded and monitored for re-occurrence in accordance with workplace procedures.

Associated Assessment Criteria for Exit Level Outcome 3:

3.1 Tools and equipment are selected and used in accordance with their design and are appropriate for the task at hand.

3.2 Tools and equipment required for the scope of work are sourced from available supplies.

3.3 Tools and equipment are checked for condition prior to use.

3.4 Faulty tools are identified and corrective action is taken in accordance with workplace procedures.

> Range: Corrective action includes replacing, repairing or reporting.

Associated Assessment Criteria for Exit Level Outcome 4:

4.1 The type of paint required is determined from given information.

4.2 The paint colour is matched to original paintwork.

4.3 Solvents are disposed of in accordance with relevant safety, health and environmental requirements.

4.4 Work is conducted with due consideration for other team members and overall safety and productivity.

Associated Assessment Criteria for Exit Level Outcome 5:

5.1 The application method selected is appropriate to the type of paint and required finish.

5.2 Consequences of using different application methods are described in terms of the impact on the finish and durability.

5.3 Blemishes are identified and rectified in accordance with workplace procedures.

5.4 The final coat is in accordance with manufacturer specifications.

5.5 Work is conducted with due consideration for other team members and overall safety and productivity.

Integrated Assessment:

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, an integrated assessment approach is incorporated into the Qualification. Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the exit level outcomes should be integrated.

A variety of methods must be used in assessment tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments the assessor should make use of formative and summative assessment methods and assess combinations of practical, applied, foundational and reflective competencies. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Assessment should ensure that all outcomes, embedded knowledge and critical cross-field outcomes are assessed. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

INTERNATIONAL COMPARABILITY

This qualification is part of a series of qualifications in the field of Automotive spray painting and was compared to other, similar outcomes-based qualifications in various countries as follows:

New Zealand:

The National Certificate in Motor Industry (Panelbeating) is a New Zealand qualification at NQF Level 4 and includes the work of a spray painter. This is a three year qualification without qualifications or exit level outcomes at the intermediate levels. The qualification is pitched at NQF Level 4 on their NQF with only unit standards and credits at NQF Levels 1 to 4. This notwithstanding, the technical content of this qualification does correspond with the equivalent level of qualification in Automotive spray painting in New Zealand.

United Kingdom:

The level 2 Certificate in Automotive Engineering covers aspects related to this qualification but also includes more broadly defined work aspects such as Motor Vehicle Refinisher, Motor Vehicle Builder, Motor Vehicle Mechanic and Motor Vehicle Technician. The scope is way beyond that of a spray painter and includes aspects of vehicle engine performance and improved suspension for racing.

The basic methods of assessment include Coursework, Oral Examination, Portfolio of Evidence, Practical Demonstration/Assignment, Practical Examination and Written Examination. No units are specified as compulsory, and the learner may select any units they like, totalling 120 credits. Notes are given regarding accepted grouping of units and progression to further levels of education.

The level of the level 2 Certificate in Automotive Engineering is much higher than the South African NQF Level 2 and covers various aspects included in the South African qualifications at levels 3 and 4.

Elements of the Institute of Motor Industry (IMI) in the UK have been used in benchmarking best practice procedures in some of the unit standards used in this qualification. The NVQ qualifications offered in the UK cover all the same objectives of this series of qualifications at

various levels of complexity. The qualifications are offered as an internship wherein the learner enrolls with a college or training centre for the theoretical component, and achieves the practical component in-house. The qualifications are all based on specific levels of performance, and lead to progressive levels of complexity, but are identified as separate qualifications. The learning towards these qualifications is offered through long-term learner-employer relationships, with short-term stints at a training centre. Qualification titles in the UK include:

- > Vehicle Refinishing: Level 3: (Q1017590).
- > Vehicle Body Repair: Level 3: (Q1015917).
- > Vehicle Body Fitting: Level 2: (Q1015913).

Australia:

The Certificate in Automotive Vehicle Body Repair is a 3 year course for artisans to learn how to repair and paint vehicles. The qualification has 2 specialisation areas: one for spray painting and one for panel beating. Both specialisation areas comprise less than 1200 notional learning hours, but are spread out over 3 levels, with core units being specified at the entry level (Level 2).

There are a range of elective units that may be selected from different categories, but the rules of combination indicate that all units must be selected, thereby not allowing the learner any choice in learning. The qualification aims at targeting competence at artisan level only with no recognition for achievement of less than the whole qualification.

Denmark:

The Danish panel beater qualification is spread over 4 years with 55 weeks of formal education and training and 153 weeks of on-the-job training. Danish vocational education and training programmes are alternating programmes, which means that the education and training activities alternate between education and training at a school and on-the-job training in an enterprise. The training programme is a full vocational education and training programme, equivalent to level 3 in the ISCED system.

No breakdown of the qualification is given in terms of units of learning, but the end point equates to the South African level 4 Spray painter. There is no recognition for achievement of less than the whole qualification.

Germany:

The qualifications offered in Germany are also predominantly vocational qualifications with theoretical components being achieved through a specified period at a training centre. The qualifications are aimed at achieving complete competence in all aspects of vehicle maintenance through the progressive series of qualifications and includes mechanical, electrical and coach works (panel beating and spray painting). The training programmes are progressive qualifications of one-year duration each and include ongoing training through workbooks in which the trainee is required to complete evidence of understanding for each month of the registered year of learning. Germany has a requirement that competent people be licensed to operate under the *meister* (master craftsman) programme, and this licence is valid for a period of two years. The qualification titles offered in Germany include:

- > Auto Fachman: Level 1.
- > Auto Fachman: Level 2.
- > Auto Fachman: Level 3.
- > Auto Fachman: Meister.

United States of America:

America uses a system of specialisation areas, with a master technician being identified as a person who is competent in all areas and will be able to perform on almost any part of a vehicle. The learning is conducted through apprenticeships and has specialisation areas for:

- > Engine technicians.
- > Transmission technicians.
- > Steering and suspension technicians.
- > Brake technicians.
- > Electrical system technicians.
- > Heating and air-conditioning technicians.
- > Driveability and performance technicians.
- > Lubrication technicians.
- > Coachwork technicians.

SADC:

None of the SADC countries have their own qualifications relating to spray painting, but use the British City and Guilds Standards for training learners in the automotive field. Namibia has indicated interest in the South African qualifications and may implement this qualification once it has been registered.

Conclusion:

Most other countries have a streamlined qualification process that ends in a required result, but does not recognise competence in parts of the qualification. This has been identified as a problem in the South African context, and that was why the move to the NQF and unit standards was made. Through achieving this qualification, learners will given recognition for their abilities after just one year of learning. Alternately, learners may achieve employable skills by electing to exit with one or more Exit Level Outcomes instead of the entire qualification. There has also been a further breakdown of skills by recognising relevant skills and separating qualifications for spray painters and panel beaters in South Africa.

ARTICULATION OPTIONS

This Qualification lends itself to both vertical and horizontal articulation possibilities.

Horizontal articulation is possible with the following Qualifications:

- > ID 58497: National Certificate: Automotive repair and maintenance, NQF Level 3.
- > ID 21005: National Certificate: Automotive component manufacturing and assembly, NQF Level 3.
- > ID 22859: National Certificate: Autotronics, NQF Level 3.
- > ID 23274: National Certificate: Mechanical engineering: fitting, NQF Level 3.
- > ID 22771: National Certificate: Mechatronics, NQF Level 3.

Vertical articulation is possible with the following qualifications:

- > ID: National Certificate: Automotive spray painting at NQF Level 4.

MODERATION OPTIONS

> Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant Education and Training Quality Assurance Body (ETQA).

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation, in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies).

> Moderation must include both internal and external moderation of assessments at exit points of the Qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in the ELOs of the Qualification and will include integration of skills relevant to the economic sector.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors must be registered in terms of the requirements of SAQA and the relevant ETQA. In addition, assessors should have:

- > A minimum of 3 (three) years' practical, relevant occupational experience.
- > A relevant Qualification at NQF Level 4 or higher.
- > The ability to meet the outcomes of this qualification.

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 3	4
Fundamental	119457	Interpret and use information from texts	Level 3	5
Fundamental	9012	Investigate life and work related problems using data and probabilities	Level 3	5
Fundamental	119467	Use language and communication in occupational learning programmes	Level 3	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Core	260158	Apply sealers and cavity fillers on vehicles	Level 2	4
Core	260159	Polish automotive painted panels	Level 2	6
Core	244403	Analyse and solve problems	Level 3	4
Core	244161	Apply 2 coat metallic paint finishes	Level 3	4
Core	13234	Apply quality procedures	Level 3	8
Core	13223	Apply safety, health and environmental protection procedures	Level 3	6
Core	9532	Demonstrate basic knowledge of computers	Level 3	6
Core	9530	Manage work time effectively	Level 3	3
Core	244173	Mix and match paint colours	Level 3	8
Core	244115	Replace vehicle trim	Level 3	6
Core	242865	Use data entry and retrieval skills to input and retrieve computer data	Level 3	4
Core	244162	Conduct spot repairs	Level 4	4
Elective	116937	Use a Graphical User Interface (GUI)-based spreadsheet application to create and edit spreadsheets	Level 2	4
Elective	117924	Use a Graphical User Interface (GUI)-based word processor to format documents	Level 2	5
Elective	244110	Conduct paintless dent removal	Level 3	9
Elective	12457	Develop learning strategies and techniques	Level 3	3
Elective	12456	Explain and use organisational procedures	Level 3	6
Elective	13916	Identify and keep the records that a team manager is responsible for keeping	Level 3	4
Elective	242820	Maintain records for a team	Level 3	4
Elective	243672	Maintain the stockroom	Level 3	10
Elective	244111	Remove and install a dashboard	Level 3	5
Elective	244112	Remove, fit and align the body panels of a vehicle	Level 3	8

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Elective	244114	Replace vehicle glass	Level 3	3
Elective	260157	Diagnose paint defects	Level 4	4
Elective	244166	Repair non-ferrous metal body components	Level 4	8
Elective	244164	Repair non-metal body components	Level 4	8

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION**None**



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION: Further Education and Training Certificate: Automotive Spray Painting

SAQA QUAL ID	QUALIFICATION TITLE		
64411	Further Education and Training Certificate: Automotive Spray Painting		
ORIGINATOR	PROVIDER		
SGB Vehicle Maintenance			
QUALIFICATION TYPE	FIELD	SUBFIELD	
Further Ed and Training Cert	6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	140	Level 4	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this qualification is to provide learners with the standards and the range of learning required to work effectively in the automotive spray painting industry. This qualification will enable learners to meet the challenges of an industry that has shown a rapid increase through the introduction of new technology in spray painting methods.

This qualification also serves to develop new skills for new technology. It creates an infrastructure of sound technological support and opportunities in a labour market with a growing demand to recognise people for their skills and to meet the challenges of the automotive spray painting environment.

The primary skill that is recognised in this qualification is the ability to Interact with customers and supervise paint shop activities in order to ensure adherence to quality standards.

After achieving this qualification learners will be able to:

- > Communicate with peers and customers in an automotive work context.
- > Analyse problems and provide solutions in an automotive workshop.
- > Co-ordinate work activities in an automotive context.
- > Apply specialist painting techniques.

Rationale:

The automotive spray painting industry is subjected to the ever increasing new technologies of body repair methods. At the level of this qualification, learners will be required to apply specialised paint finishes for which the use of sophisticated tools, equipment and processes are necessary.

This is the third qualification in a series and forms the main competence for learners who want to be recognised as a paint shop foreman or supervisor. This qualification focuses on developing skills and knowledge necessary to be successful in such a career and can be built

on to develop skills at NQF Level 5 in managing people. It also provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

This qualification recognises the skills, knowledge and values relevant in the workplace and will cater for learners who:

- > Have attended courses and need to apply the knowledge gained to activities in the workplace.
- > Are already workers and have acquired skills and knowledge without having attended formal training.
- > Are part of a learnership programme which integrates structured learning and operational experience.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED IN PLACE

Learners registering for this qualification should already have achieved the National Certificate in Automotive spray painting at NQF Level 3, as this qualification builds on the learning acquired at that level.

If the learner does not already have such a qualification, learning in preparation for this qualification should include:

- > Literacy and numeracy at NQF Level 3.
- > Basic concepts of science and technology at NQF Level 3.
- > Use of automotive workshop tools and equipment at NQF Level 3.
- > Applying high quality paint finishes to vehicles at NQF Level 3.

Recognition of Prior Learning:

The structure of this qualification makes the Recognition of Prior Learning possible, if the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this Qualification. Recognition of Prior Learning will be done by means of an Integrated Assessment as mentioned in the previous paragraph.

This Recognition of Prior Learning may allow:

- > For accelerated access to further learning.
- > Gaining of credits towards any of the Exit Level Outcomes in this qualification.

All recognition of Prior Learning is subject to quality assurance by the relevant accredited Education and Training Quality Assurance Body (ETQA) and must be conducted by a registered workplace assessor. Identified outcomes may have been acquired in a range of economic sectors and these will be considered as appropriate where the candidate provides evidence of the applicability of that learning to this qualification.

Access to the Qualification:

This qualification is open for anyone who wishes to pursue a career in automotive spray painting, but prior achievement of the "Learning Assumed to be in Place" would facilitate an easier progression into learning programmes to address the outcomes of this qualification.

QUALIFICATION RULES

Rules of combination for this qualification are as follows:

- > All Fundamental unit standards are compulsory (56 Credits).
- > All Core unit standards are compulsory (63 Credits).
- > Additional Elective unit standards accounting for 21 credits must be selected to achieve a total of 140 credits for this qualification.

EXIT LEVEL OUTCOMES

1. Communicate with peers and customers in an automotive spray painting context.
2. Analyse problems and provide solutions in an automotive spray painting workshop.
3. Co-ordinate work activities in an automotive spray painting context.
4. Apply specialist painting techniques.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes, as detailed in the unit standards:

Identify and solve problems and make decisions using critical and creative thinking.

> Note: The ability of the candidate to apply solutions to problems that lead to cost effective results.

Work effectively with others as a member of a team, group, organisation or community.

> Note: The ability of the candidate to co-ordinate work activities in an automotive spray painting context.

Organise and manage themselves and their activities responsibly and effectively.

> Note: The ability of the candidate to adhere to workplace timeframes and procedures.

Collect, analyse, organise and critically evaluate information.

> Note: The ability of the candidate to select an appropriate paint application method for the required result.

Communicate effectively, using visual, mathematical and/or language skills in the modes of oral and/or written presentations.

> Note: The ability of the candidate to report on work conducted.

Use science and technology effectively and critically, showing responsibility towards the environment and health of others.

> Note: The ability of the candidate to use the correct tools and equipment to apply specialist painting techniques.

Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

> Note: The ability of the candidate to describe the consequences of using different paint application methods.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

1.1 Oral communication is maintained and adapted as required to promote effective interaction in a work context.

- 1.2 Terminology used is appropriate to the situation and in accordance with normal workplace usage.
- 1.3 Information related to work tasks is accessed and interpreted from a range of written and oral sources to ensure that work requirements are understood.
- 1.4 Communication is clear and unambiguous and at an appropriate level for designated target audiences.
- 1.5 Information communicated is accurate and conveyed in accordance with acceptable timeframes.
- 1.6 Communication is effective, regular and ongoing.
- 1.7 Interaction with others to process the completed work is effective and in accordance with the workplace procedures.
- 1.8 Reports are completed according to workplace scheduling requirements in a timely manner and in the required format.

Associated Assessment Criteria for Exit Level Outcome 2:

- 2.1 Problems are identified within an acceptable timeframe.
- 2.2 The problem is described in terms of the scope of the problem, possible solutions, costs and the effect on customer satisfaction.
- 2.3 Solutions applied are suited to the problem and lead to cost effective results.
- 2.4 Problems that do not have immediate solutions are reported to relevant personnel in accordance with workplace procedures.

Associated Assessment Criteria for Exit Level Outcome 3:

- 3.1 Organisational procedures are explained in relation to the work environment.
- 3.2 Financial implications of actions taken are understood in relation to efficiency of business.
- 3.3 Subordinates' activities are co-ordinated to achieve work targets with available resources.
- 3.4 Quality is ensured in accordance with workshop standards.
- 3.5 Time is managed in accordance with workplace requirements.

Associated Assessment Criteria for Exit Level Outcome 4:

- 4.1 The application method selected is appropriate to the type of paint and required finish.
- 4.2 Consequences of using different application methods are described in terms of the impact on the finish and durability.
- 4.3 Blemishes are identified and rectified in accordance with workplace procedures.
- 4.4 The final coat is in accordance with manufacturer specifications.
- 4.5 Work is conducted with due consideration for other team members and overall productivity.

Integrated Assessment:

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, an integrated assessment approach is incorporated into the Qualification. Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the exit level outcomes should be integrated.

A variety of methods must be used in assessment tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments the assessor should make use of formative and summative assessment methods and assess combinations of practical, applied,

foundational and reflective competencies. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Assessment should ensure that all outcomes, embedded knowledge and critical cross-field outcomes are assessed. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

INTERNATIONAL COMPARABILITY

This qualification is part of a series of qualifications in the field of Automotive spray painting and was compared to other, similar outcomes-based qualifications in various countries as follows:

New Zealand:

The National Certificate in Motor Industry (Panel beating) is a New Zealand qualification at NQF Level 4 and includes the work of a spray painter. This is a three year qualification without qualifications or exit level outcomes at the intermediate levels. The qualification is pitched at NQF Level 4 on their NQF with only unit standards and credits at NQF Levels 1 to 4. This notwithstanding, the technical content of this qualification does correspond with the equivalent level of qualification in Automotive spray painting in New Zealand.

United Kingdom:

The level 2 Certificate in Automotive Engineering covers aspects related to this qualification but also includes more broadly defined work aspects such as Motor Vehicle Refinisher, Motor Vehicle Builder, Motor Vehicle Mechanic and Motor Vehicle Technician. The scope is way beyond that of a spray painter and includes aspects of vehicle engine performance and improved suspension for racing.

The basic methods of assessment include Coursework, Oral Examination, Portfolio of Evidence, Practical Demonstration/Assignment, Practical Examination and Written Examination. No units are specified as compulsory, and the learner may select any units they like, totalling 120 credits. Notes are given regarding accepted grouping of units and progression to further levels of education.

The level of the Level 2 Certificate in Automotive Engineering is much higher than the South African NQF Level 2 and covers various aspects included in the South African qualifications at Levels 3 and 4.

Elements of the Institute of Motor Industry (IMI) in the UK have been used in benchmarking best practice procedures in some of the unit standards used in this qualification. The NVQ qualifications offered in the UK cover all the same objectives of this series of qualifications at various levels of complexity. The qualifications are offered as an internship wherein the learner enrolls with a college or training centre for the theoretical component, and achieves the practical component in-house. The qualifications are all based on specific levels of performance, and lead to progressive levels of complexity, but are identified as separate qualifications. The learning towards these qualifications is offered through long-term learner-employer relationships, with short-term stints at a training centre. Qualification titles in the UK include:

- > Vehicle Refinishing - Level 3: (Q1017590).
- > Vehicle Body Repair - Level 3: (Q1015917).
- > Vehicle Body Fitting - Level 2: (Q1015913).

Australia:

The Certificate in Automotive Vehicle Body Repair is a 3 year course for artisans to learn how to repair and paint vehicles. The qualification has 2 specialisation areas: one for spray painting and one for panel beating. Both specialisation areas comprise less than 1200 notional learning hours, but are spread out over 3 levels, with core units being specified at the entry level (Level 2).

There are a range of elective units that may be selected from different categories, but the rules of combination indicate that all units must be selected, thereby not allowing the learner any choice in learning. The qualification aims at targeting competence at artisan level only with no recognition for achievement of less than the whole qualification.

Denmark:

The Danish panel beater qualification is spread over 4 years with 55 weeks of formal education and training and 153 weeks of on-the-job training. Danish vocational education and training programmes are alternating programmes, which means that the education and training activities alternate between education and training at a school and on-the-job training in an enterprise. The training programme is a full vocational education and training programme, equivalent to level 3 in the ISCED system.

No breakdown of the qualification is given in terms of units of learning, but the end point equates to the South African Level 4 Spray painter. There is no recognition for achievement of less than the whole qualification.

Germany:

The qualifications offered in Germany are also predominantly vocational qualifications with theoretical components being achieved through a specified period at a training centre. The qualifications are aimed at achieving complete competence in all aspects of vehicle maintenance through the progressive series of qualifications and includes mechanical, electrical and coach works (panel beating and spray painting). The training programmes are progressive qualifications of one-year duration each and include ongoing training through workbooks in which the trainee is required to complete evidence of understanding for each month of the registered year of learning. Germany has a requirement that competent people be licensed to operate under the meister (master craftsman) programme, and this licence is valid for a period of two years. The qualification titles offered in Germany include:

- > Auto Fachman - Level 1.
- > Auto Fachman - Level 2.
- > Auto Fachman - Level 3.
- > Auto Fachman - Meister.

United States of America:

America uses a system of specialisation areas, with a master technician being identified as a person who is competent in all areas and will be able to perform on almost any part of a vehicle. The learning is conducted through apprenticeships and has specialisation areas for:

- > Engine technicians.
- > Transmission technicians.
- > Steering and suspension technicians.
- > Brake technicians.
- > Electrical system technicians.
- > Heating and air-conditioning technicians.
- > Driveability and performance technicians.
- > Lubrication technicians.

> Coachwork technicians.

SADC:

None of the SADC countries have their own qualifications relating to spray painting, but use the British City and Guilds Standards for training learners in the automotive field. Namibia has indicated interest in the South African qualifications and may implement this qualification once it has been registered.

Conclusion:

Most other countries have a streamlined qualification process that ends in a required result, but does not recognise competence in parts of the qualification. This has been identified as a problem in the South African context, and that was why the move to the NQF and unit standards was made. Through achieving this qualification, learners will be given recognition for their abilities after just one year of learning. Alternately, learners may achieve employable skills by electing to exit with one or more Exit Level Outcomes instead of the entire qualification. There has also been a further breakdown of skills by recognising relevant skills and separating qualifications for spray painters and panel beaters in South Africa.

ARTICULATION OPTIONS

This Qualification lends itself to both vertical and horizontal articulation possibilities.

Horizontal articulation is possible with the following Qualifications:

- > ID 58539: Further Education and Training Certificate: Automotive Repair and Maintenance, NQF Level 4.
- > ID 21006: National Certificate: Automotive Component Manufacturing and Assembly, NQF Level 4.
- > ID 22860: National Certificate: Autotronics, NQF Level 4.
- > ID 59709: Further Education and Training Certificate: Mechanical Engineering: Fitting, NQF Level 4.
- > ID 22772: National Certificate: Mechatronics, NQF Level 4.
- > ID 57712: Further Education and Training Certificate: Generic Management, NQF Level 4.

Vertical articulation is possible with the following qualifications:

- > National Certificate: Automotive repair and maintenance at NQF Level 5.
- > ID 59201: National Certificate: Generic management at NQF Level 5.
- > ID 58341: Diploma: Business management at NQF Level 5.

MODERATION OPTIONS

> Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant Education and Training Quality Assurance Body (ETQA).

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation, in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies).

> Moderation must include both internal and external moderation of assessments at exit points of the Qualification, unless ETQA policies specify otherwise. Moderation should also encompass

achievement of the competence described in the ELOs of the Qualification and will include integration of skills relevant to the economic sector.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors must be registered in terms of the requirements of SAQA and the relevant ETQA. In addition, assessors should have:

- > A minimum of 3 (three) years' practical, relevant occupational experience.
- > A relevant Qualification at NQF Level 4 or higher.
- > The ability to meet the outcomes of this qualification.

NOTES

N/A

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	119457	Interpret and use information from texts	Level 3	5
Fundamental	119467	Use language and communication in occupational learning programmes	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Fundamental	9015	Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	Level 4	6
Fundamental	119462	Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5
Fundamental	119469	Read/view, analyse and respond to a variety of texts	Level 4	5
Fundamental	9016	Represent analyse and calculate shape and motion in 2- and 3-dimensional space in different contexts	Level 4	4
Fundamental	119471	Use language and communication in occupational learning programmes	Level 4	5
Fundamental	7468	Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6
Fundamental	119459	Write/present/sign for a wide range of contexts	Level 4	5
Core	123258	Foster and maintain customer relations	Level 3	10
Core	116714	Lead a team, plan, allocate and assess their work	Level 3	4
Core	12455	Perform the role of a safety, health and environmental protection representative	Level 3	4
Core	244113	Apply decorative painting techniques	Level 4	4
Core	244129	Book in work for an automotive business	Level 4	4
Core	13254	Contribute to the implementation and maintenance of business processes	Level 4	10
Core	260157	Diagnose paint defects	Level 4	4
Core	244134	Estimate the cost and duration of an automotive repair	Level 4	6
Core	244172	Perform a pre-delivery quality assurance inspection	Level 4	4
Core	242817	Solve problems, make decisions and implement solutions	Level 4	8
Core	7818	Conduct on-the-job coaching	Level 5	5
Elective	12429	Develop a personal financial plan	Level 3	2
Elective	117499	Demonstrate entrepreneurial competence	Level 4	12
Elective	114878	Identify and measure the factors that influence productivity	Level 4	10
Elective	13235	Maintain the quality assurance system	Level 4	5
Elective	9505	Manage basic business and personal finance	Level 4	6
Elective	114589	Manage time productively	Level 4	4

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:**Diagnose paint defects**

SAQA US ID	UNIT STANDARD TITLE		
260157	Diagnose paint defects		
ORIGINATOR	PROVIDER		
SGB Vehicle Maintenance			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of paint defects.

SPECIFIC OUTCOME 2

Identify cause of paint defects.

SPECIFIC OUTCOME 3

Make recommendations to repair defects.

SPECIFIC OUTCOME 4

Apply safety procedures during the analysis process.

SPECIFIC OUTCOME 5

Restore work area, complete and process documentation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	64411	Further Education and Training Certificate: Automotive Spray Painting	Level 4
Elective	64409	National Certificate: Automotive Spray Painting	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Apply sealers and cavity fillers on vehicles***

SAQA US ID	UNIT STANDARD TITLE		
260158	Apply sealers and cavity fillers on vehicles		
ORIGINATOR		PROVIDER	
SGB Vehicle Maintenance			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of application of sealers and cavity fillers.

SPECIFIC OUTCOME 2

Prepare for application of sealers and cavity fillers.

SPECIFIC OUTCOME 3

Apply sealers and cavity fillers.

SPECIFIC OUTCOME 4

Apply safety procedures during the application process.

SPECIFIC OUTCOME 5

Restore work area, complete and process documentation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	64410	National Certificate: Automotive Spray Painting	Level 2
Core	64409	National Certificate: Automotive Spray Painting	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Polish automotive painted panels***

SAQA US ID		UNIT STANDARD TITLE	
260159		Polish automotive painted panels	
ORIGINATOR		PROVIDER	
SGB Vehicle Maintenance			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	6

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of polishing painted panels.

SPECIFIC OUTCOME 2

Prepare to polish painted panels.

SPECIFIC OUTCOME 3

Polish painted panels.

SPECIFIC OUTCOME 4

Apply safety procedures during the application process.

SPECIFIC OUTCOME 5

Restore work area, complete and process documentation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	64410	National Certificate: Automotive Spray Painting	Level 2
Core	64409	National Certificate: Automotive Spray Painting	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Maintain spray painting equipment***

SAQA US ID	UNIT STANDARD TITLE		
260160	Maintain spray painting equipment		
ORIGINATOR		PROVIDER	
SGB Vehicle Maintenance			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of maintaining spray painting equipment.

SPECIFIC OUTCOME 2

Prepare to maintain spray painting equipment.

SPECIFIC OUTCOME 3

Conduct maintenance of spray painting equipment.

SPECIFIC OUTCOME 4

Apply safety procedures during the maintenance process.

SPECIFIC OUTCOME 5

Restore work area, complete and process documentation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 64410	National Certificate: Automotive Spray Painting	Level 2