
VEHICLE SPRAYPAINTING
**Demonstrate knowledge of vehicle paint
technology**

level:	5
credit:	4
final date for comment:	December 2008
expiry date:	December 2009
sub-field:	Motor Industry
purpose:	People credited with this unit standard are able to demonstrate knowledge of: motor vehicle paint coatings; paint ingredients and their application; and paint manufacturers' testing requirements.
entry information:	Open.
accreditation option:	Evaluation of documentation and visit by NZQA and industry.
moderation option:	A centrally established and directed national moderation system has been set up by the NZ Motor Industry Training Organisation.
special notes:	<ol style="list-style-type: none">1 The following legislation must be consulted and followed where applicable: Hazardous Substances and New Organisms Act 1996; Health and Safety in Employment Act 1992; Spray Coating Regulations 1962.2 <i>Company policy</i> includes workplace standards, practices, and procedures, which must comply with current legislation requirements. It is assumed the policy also meets product manufacturers' specifications, recommendations, and standards.

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- 3 Reference should be made to the following paint testing standards:
Paint Research Association testing standards, website address <http://www.pra.org.uk/pr/>;
ASTM Book of standards, website address <http://www.astm.org>;
Caltrans Equipment Quality Standards, website address <http://www.dot.ca.gov/hq/eqsc/qualstand.htm>.

Elements and Performance Criteria

element 1

Demonstrate knowledge of motor vehicle paint coatings.

performance criteria

- 1.1 Purposes of paint materials are explained according to the paint manufacturers' specifications.
- Range: includes but is not limited to – anti-corrosion, protection, reflection, visual, body sound deadening.
- 1.2 Kinds of undercoats and their functions used on motor vehicles are described according to the paint manufacturers' specifications.
- Range: includes but is not limited to – primer, primer surfacer, anti-corrosion, etch primers, plastic primers, primer filler, electrodepositing (E-coating), e-coat replacement products; sealers/isolators; anti-chip/ texture coatings; two pack, single pack; powder coating.

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1.3 Kinds of top coats used on motor vehicles are described according to the paint manufacturers' specifications.

Range: includes but is not limited to – solid colours, clear over solid colours, metallic colours, pearl colours; two pack, single pack; concept car development products.

element 2

Demonstrate knowledge of paint ingredients and their application.

performance criteria

2.1 The basic ingredients of paints are identified and their functions described according to the paint manufacturer's specifications.

Range: binder/resin, pigment, solvent.

2.2 The types of binder/resins and their functions are described according to the paint manufacturers' specifications.

Range: includes but is not limited to – single pack, two pack; acrylic, alkyd, epoxy, polyurethane, phenolic, polyester.

2.3 The types of pigments and their functions are described according to the paint manufacturers' specifications.

Range: includes but is not limited to: coloured, metallic, pearl, anti-corrosion, extender, special effects.

2.4 The types of solvents and their functions are described according to the paint manufacturers' specifications.

Range: includes but is not limited to those used in – two pack paints and single pack paints; thinners, reducers.

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2.5 The kinds of additives and their functions are described according to the paint manufacturers' specifications.

Range: includes but is not limited to – drying agents, flow agents, plasticiser, abrasion resistant agents, thickening agents; hardeners.

element 3

Demonstrate knowledge of paint manufacturers' testing requirements.

performance criteria

3.1 Purpose of testing paint materials is explained according to the paint manufacturers' specifications.

Range: includes but is not limited to – adhesion, durability, corrosion, resistance to chemicals, abrasion, acid rain, ultraviolet.

3.2 Paint manufacturers' testing methods are described according to the paint manufacturer's specifications.

Range: includes but is not limited to – ultraviolet testing, abrasion testing, anti-corrosion testing, adhesion testing; testing for – humidity, weathering, hardness, flexibility, chemical resistance, impact resistance, colour quality and gloss, opacity, permeability to water, stain resistance; volatile organic compound (VOC) content.

Comments on this unit standard

Please contact the NZ Motor Industry Training Organisation jlane@mito.org.nz if you wish to suggest changes to the content of this unit standard.

Please Note

Providers must be accredited by the Qualifications Authority or a delegated inter-institutional body before they can register credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against unit standards.

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Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for providers wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

This unit standard is covered by AMAP 0014 which can be accessed at <http://www.nzqa.govt.nz/site/framework/search.html>.