PRINTING - SCREEN
Carry out advanced make ready and print for screen printing

level: **4**

credit: **30**

planned review date: March 2009

sub-field: Printing

replacement information: This unit standard replaced unit standard 6152, unit standard 6153, and unit standard 6154.

purpose: People credited with this unit standard are able to: select and set squeegee, and scraper if available on the machinery being operated; describe methods of rectifying printing problems encountered during the print run; and solve printing problems encountered during the print run.

entry information: Prerequisite: Unit 340*, Demonstrate knowledge of safe working practices in the printing and graphic pre-press industries,* or demonstrate equivalent knowledge and skills.

Recommended: Unit 5144*, Undertake pre-make ready for screen printing,* or demonstrate equivalent knowledge and skills.

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 Competenz.

special notes:

1 All workplace practices must meet any applicable and recognised codes of practice, and documented workplace health, safety, and environmental procedures for personal, product, workplace health, safety, and environmental matters, and the obligations required under current law including the Health and Safety in Employment Act 1992, Hazardous Substances and New Organisms Act 1996, Resource Management Act 1991, Privacy Act 1993 and their subsequent amendments.

2 *Workplace practices* refer to the documented procedures for the machine and/or workplace.

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Elements and Performance Criteria

element 1

Select and set squeegee, and scraper if available on the machinery being operated.

performance criteria

1.1 Squeegee and scraper are selected to meet both the job and press specifications.

1.2 Squeegee and scraper are set to meet the requirements of the job and press specifications.

element 2

Describe methods of rectifying printing problems encountered during the print run.

performance criteria

2.1 Pinhole problems are recognised, and methods of rectifying these are described.

Range: stencil, substrate, ink incompatibility with substrate, ink formulations, squeegee, machine setting.

2.2 Stencil breakdown problems are recognised, and methods of rectifying these are described.

Range: mesh tension, incorrect exposure, machine setting, ink incompatibility, drying, degreasing, coating technique.

2.3 Moiré pattern problems are recognised, and methods of rectifying these are described.

Range: mesh count, mesh tension, screen angle, clash with substrate.

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2.4 Ghosting problems caused by a poorly reclaimed screen are recognised, and methods of rectifying these are described.

2.5 Sawtooth problems are recognised, and methods of rectifying these are described.

Range: emulsion build up, underexposure of stencil, ink viscosity, mesh count, machine setting, excessive wash ups (too frequent, too hard).

2.6 Static problems are recognised, and methods of rectifying these are described.

Range: ink viscosity, climatic conditions, substrate, excessive squeegee speed, mesh tension.

2.7 Ink reticulation problems are recognised, and methods of rectifying these are described.

Range: ink formulation, ink properties, squeegee pressure.

2.8 Orange peel problems are recognised, and methods of rectifying these are described.

Range: squeegee selection, mesh tension, substrate, ink properties, machine setting.

2.9 Ink drying problems are recognised, and methods of rectifying these are described.

Range: room temperature, ink additives, mesh tension, ultra-violet (UV) light intensity, over/under curing.

2.10 Substrate problems are recognised, and methods of rectifying these are described.

Range: substrate movement, static, pre-conditioning treatment, ink adhesion, ink compatibility, moisture in substrate, changes in relative humidity.

2.11 Blocking problems are recognised, and methods of rectifying these are described.

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Range: solvent retention, overstacking, gloss to gloss, substrate moisture content, mesh tension.

2.12 Problems identified through the use of quality control equipment and guides are recognised, and methods of rectifying these are described.

Range: any of the following – quality control strips, densitometers, bar code verifiers, spectrophotometers.

element 3

Solve printing problems encountered during the print run.

performance criteria

3.1 Stencil problems are solved to ensure that the requirements of the job specifications are met.

Range: pinholes, stencil breakdown; plus a minimum of any two of – moiré patterns, ghosting, sawtooth, static.

3.2 Substrate problems are solved to ensure that the requirements of the job specifications are met.

Range: a minimum of four of – pinholes, sawtooth, static, orange peel, substrate movement, blocking, pre-conditioning treatment.

3.3 Machine problems are solved to ensure that the requirements of the job specifications are met.

Range: pinholes, stencil breakdown, blocking; plus a minimum of any two of – sawtooth, static, ink reticulation, orange peel.

3.4 Ink problems are solved to ensure that the requirements of the job specifications are met.

Range: stencil breakdown, ink drying (curing), blocking; plus a minimum of any three of – sawtooth, static, ink reticulation, ink adhesion, ink and substrate compatibility, ultra-violet (UV) light intensity, orange peel, problems identified through the use of quality control guides and equipment.

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Comments on this unit standard

Please contact Competenz info@competenz.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.

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 0005 which can be accessed at http://www.nzqa.govt.nz/site/framework/search.html.