



Australian Government

Assessment Requirements for ICPPRN521

Set up for specialised gravure printing

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICP Printing and Graphic Arts Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- safely set up a gravure printing machine for a specialised job on TWO occasions using different substrates according to manufacturer's specifications, enterprise procedures and the performance criteria
- complete a proof run and adjust settings to ensure production speeds are attained
- find and use information relevant to the task from a variety of information sources.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain why it is important that job specifications are read and properly understood
- discuss production problems that could eventuate if job specifications are not read and properly understood
- identify who to discuss any production problems with
- list work health and safety (WHS) precautions for installing printing cylinders on the machine
- explain how to determine the optimum print sequence
- identify the visual aid on the cylinder that shows the colour of ink to be used
- list precautions to ensure cylinders are not damaged during installation
- discuss WHS precautions for webbing up the machine
- describe how to determine the position of the reel
- explain what happens if brake tension is not set correctly
- outline the function of the 'dancer' roller on a web machine
- explain what happens if the web is not spliced correctly
- describe how the particular web viewing device works

- explain the principle of electrostatic assist (ESA) roller operation on the gravure printing machine
- identify the type of substrate to use on the ESA roller
- list WHS precautions for setting up delivery
- explain how the web is controlled in the rewind unit
- describe the outcome of incorrect rewind tension
- describe remedial steps to take if there is a possibility of ink marking in the rewind
- list problems attributable to a blunt knife when sheeting
- explain the function of air blast play in the delivery of sheets
- list WHS precautions for preparing inks and additives
- outline details to check for an ink's suitability for the printing process
- explain why additives are used in gravure inks
- discuss the range, in seconds, for Zahn cup measurements
- describe the effect foaming has in a Zahn cup when measuring ink viscosity
- explain why pigmented ink is brought to operating temperature before correcting viscosity
- list advantages of using automatic viscosity controllers
- explain precautions to minimise waste when preparing ink
- discuss shelf life of most inks
- describe conditions relevant to storage of inks and additives
- explain conventions for labelling mixed inks
- list WHS factors for setting up the machine
- describe the function of chill rollers on a machine
- explain the main advantage of gauging up and dry register prior to printing a job
- discuss the result of excess printing pressure
- explain how to determine pressure to be applied to the doctor blade
- outline possible print faults that caused by excessive overspill of air from the inter-colour drier
- discuss the recommended air ratio for efficient inter-colour drying
- list advantages of using high-velocity air in the drying system
- explain the cause of doctor blade wear on a gravure printing unit
- outline possible options for reducing doctor blade wear
- describe how to determine optimum make ready speed for the job
- explain how to communicate steps involved in make ready to other team members
- discuss the need to grade drying speeds of each progressive colour, so that first-down colours dry faster than subsequent colours
- explain the cause of a decrease in web tension
- outline results of increasing rewind tension after the roll has been partially rewound
- discuss the major cause of a telescopic roll
- explain how to test metallised film to find out the correct side to print on
- describe how to measure the metallised surface for coating thickness
- explain the effect of annealing on aluminium foil
- discuss the purpose of using thermal imaging face stocks
- explain how substrates are metallised

- list client requirements for bar codes
- describe print characteristics related to excessive printing pressure
- explain what causes picking when printing multi-coloured work
- describe possible print faults that result from using an over-reduced ink
- list causes of moire patterns when printing by the gravure process
- describe the instrument to be used to identify retained solvent trapped in the print
- explain the purpose of taking dyne readings
- explain the purpose of the crinkle test when testing an ink
- describe print faults that result from a worn doctor blade
- discuss the effect of using ink returning from the ink fountain when checking viscosity for ink while using ink pumps
- outline problems that result from excessive use of slow solvents
- discuss why laminating inks, once printed, appear dull and easy to scratch
- describe the result of excessive print area tension
- identify problems the printer may associate with cold seals
- identify who has responsibility for the final say in the OK of the job
- identify machine manuals, safety and other documentation relevant to this task, and where they are kept and discuss the information in them.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the printing field of work and include access to a gravure printing machine.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a74b7a0f-a253-47e3-8be0-5d426e24131d>