Australian Government

Assessment Requirements for ICPPRN421 Set up for complex 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:

- set up a gravure printing machine for a complex job on TWO occasions (if possible using different substrates and, if possible, including at least two in-line processes) according to manufacturer's specifications and enterprise procedures
- conduct proof run and adjust settings to ensure production speeds are attained
- demonstrate use of control, monitoring and data entry systems.

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

- explain the principle of ESA roller operation on the gravure printing machine
- name the type of substrate used on the ESA roller
- list WHS precautions for setting up the delivery
- explain how the web is controlled in the rewind unit
- describe the result of incorrect rewind tension
- outline remedial steps if there is a possibility of the ink marking in the rewind
- describe problems that could be attributed to a blunt knife when sheeting
- explain the function air blast plays in the delivery of sheets
- list WHS precautions for preparing inks and additives
- identify details to check an ink's suitability for the printing process
- outline special end-use requirements that may be necessary
- explain why additives are used in gravure inks
- outline the range, in seconds, for zahn cup measurements
- describe the effect foaming has in a zahn cup when measuring ink viscosity
- demonstrate knowledge of why pigmented ink should be brought to operating temperature before correcting viscosity
- identify essential checks to be made
- list advantages of using automatic viscosity controllers
- outline precautions to minimise waste when preparing ink
- describe how to determine shelf life of most inks
- outline conditions relevant to storage of inks and additives
- list conventions to adhere to when labelling mixed inks
- identify advantages of using automatic viscosity controllers
- describe precautions to minimise waste when preparing ink
- describe how to determine shelf life of most inks
- outline conditions relevant to storage of inks and additives
- list conventions to adhere to when labelling mixed inks
- list WHS factors for setting up the machine
- describe the function of chill rollers on a machine
- outline main advantages of gauging up and dry register prior to printing a job
- identify the consequence of excess printing pressure
- explain how pressure applied to the doctor blade is determined
- describe print faults that can be caused by excessive overspill of air from the inter-colour drier
- identify the recommended air ratio for efficient inter-colour drying
- outline advantages of using high-velocity air in the drying system
- list WHS precautions for slitting on the machine
- identify the pre-heat web temperature required for lamination
- outline reasons for a printed product to be punched
- describe what should be considered when setting hole punching in relation to repeat length
- explain the purpose of the dwell when cutting and creasing in-line
- demonstrate knowledge of how to control the ratio of print to in-line speed

- describe the consequence of excessive pressure on the slitters
- outline what causes doctor blade wear on a gravure printing unit
- explain how to reduce doctor blade wear
- demonstrate how to determine optimum make ready speed for the job
- explain how the steps involved in the make ready are communicated to other team members
- describe why it is necessary to grade drying speeds of each progressive colour, so first-down colours dry faster the subsequent colours
- list causes of a decrease in web tension
- outline consequences of increasing rewind tension after the roll has been partially rewound
- identify the major cause of a telescopic roll
- explain how to test metallised film to find out which is the correct side to print on
- describe how metallised surface is measured for coating thickness
- outline the effect of annealing on aluminium foil
- explain purpose of using thermal imaging face stocks
- describe how substrates are metallised
- identify client requirements for bar codes
- describe print characteristics related to excessive printing pressure
- explain what causes picking when printing multicoloured work
- outline print faults that can result from using an over-reduced ink
- describe causes of moire patterns when printing by the gravure process
- name the instrument 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 resulting from a worn doctor blade
- demonstrate knowledge of correct checks for ink viscosity while using ink pumps
- identify problems that result from excessive use of slow solvents
- explain why laminating inks, once printed, appear dull and easy to scratch
- outline the result of excessive print area tension
- list some of the problems the printer may associate with cold seals
- identify who has responsibility for the final say regarding job approval
- locate machine manuals, safety and other documentation relevant to this task, and outline the information included in these documents.

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 special purpose tools, equipment and materials, including a gravure printing machine.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=a74b7a0f-a253-47e3-8be0-5d426e24131d