



Australian Government

Department of Education, Employment and Workplace Relations

ICPCF320C Produce complex converted or finished product

Revision Number: 1

ICPCF320C Produce complex converted or finished product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to cover complex die cutting, embossing, folding, collating or fastening.
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Application of the Unit

Application of the unit	This unit requires the individual to complete operations involving complex die cutting, embossing, folding, collating or fastening.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system (OR Element 2)	1.1. Reel stand and rewind section is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added and removed to and from the process according to job specifications 1.4. Delivery is monitored and adjusted to ensure quality and efficient product delivery 1.5. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain sheet transportation system (OR Element 1)	2.1. Feeder is monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added and removed to and from the process according to job specifications
3. Maintain cutting system	3.1. Knife or die condition is monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Registration of cutting devices and knives or dies are monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.4. Packing of cutting devices or dies is monitored and adjusted to ensure quality of product meets the standard of the approved sample
4. Maintain complex process	4.1. Registration and squareness of folds are monitored and adjusted to ensure the quality of product meets the standard of the approved sample, if relevant

ELEMENT	PERFORMANCE CRITERIA
	4.2. Collating /inserting process is monitored and adjusted to ensure quality of product meets the standard of the approved sample, if relevant
5. Maintain operation of complex fastening (adhesive/mechanical/sewing) system (IF RELEVANT)	5.1. Registration of fastening is monitored and adjusted to ensure quality of product meets the standard of the approved sample 5.2. Wire straightness, length, cut-off and clinching pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample 5.3. Adhesion is monitored and adjusted to ensure quality of product meets the standard of the approved sample 5.4. Thread tension and stitch quality are monitored and adjusted to ensure quality of product meets standard of the approved sample
6. Maintain production process	6.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 6.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 6.3. Manual and/or automatic control is used according to job specifications 6.4. Performance is monitored and verified using the process control system according to enterprise procedures 6.5. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 6.6. Process adjustments to eliminate problems are reported according to enterprise procedures 6.7. Faulty performance of equipment is identified and reported according to enterprise procedures 6.8. Waste is sorted according to enterprise procedures
7. Identify and rectify problems or faults	7.1. Product and substrate are monitored and tested to ensure conformance to client requirements 7.2. Problems in converting/finishing machine

ELEMENT	PERFORMANCE CRITERIA
	operation are identified and reported according to enterprise procedures 7.3. Adjustments or corrections are carried out according to specified procedures and manufacturer's specifications 7.4. Converting/finishing machine operation is checked to ensure correct operation
8. Conduct shutdown of production process	8.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures 8.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements 8.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures 8.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures 8.5. Repair/adjustment is verified prior to resumption of operations
9. Clean converting/finishing machine at end of run	9.1. Cutting devices and knives or dies are cleaned or replaced ready for next run (IF RELEVANT) 9.2. Cutting devices are sharpened according to OHS procedures (IF RELEVANT) 9.3. Machine bed is cleaned ready for next run 9.4. All units are disengaged and cleaned ready for next run 9.5. Glue system is washed up ready for next run and liquid waste is disposed of according to regulatory requirements and enterprise procedures (IF RELEVANT) 9.6. Laminating machine is disengaged and cleaned ready for next run (IF RELEVANT) 9.7. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run OR 9.8. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run 9.9. Production records or other documentation are

ELEMENT	PERFORMANCE CRITERIA
	accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills by accurately completing production records and other documentation
- planning and organising by shutting down and cleaning machines at the end of a run
- teamwork following the production process in association with fellow workers
- using technology by correctly following shutdown procedures
- problem solving by monitoring and adjusting the feeder to ensure efficient and continuous feeding to the machine

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- area of the web control system that should be adjusted to maintain correct positioning of the web
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- parts of the sheet or section pick-up system that are to be adjusted to ensure accurate and continuous sheet handling
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- areas of the delivery system that should be observed to maintain tension
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks made when substrate is removed from the machine
- OHS factors that must be considered when maintaining the cutting process
- indicators that demand the replacement of a knife/cutting edge
- checks made when cutting pressure is adjusted
- important points to monitor when maintaining the cutting process?
- check made of the following: cutting pressures, cutting registration, packing of cutting area, condition of cutting edges, the smooth running of the operation
- ways in which a clean and precise result can be guaranteed
- production difficulties that can be expected during production runs

REQUIRED SKILLS AND KNOWLEDGE

- OHS factors that must be considered when problem solving on the machine maintaining the cutting process
- checks made when packing cutting devices
- checks made when correcting dull cutting edges on equipment
- checks made when correcting the depth of embossing
- checks made when correcting out-of-square results
- procedure for correcting THREE common machine faults
- OHS factors that must be considered when using the folding machine
- areas to continuously observe to ensure the smooth trouble-free operation of the machine
- areas of the gluing unit that should be continuously monitored
- terms buckle folding, knife folding, side lay, pharmaceutical folding, deflector, glue line
- OHS factors that must be considered when adjusting/correcting the machine
- SIX causes of out-of-square folding and explain how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- action that should be taken if the gate fold unit is out of timing
- action that should be taken if the viscosity of adhesive in the gluing unit is too low/high
- action that should be taken if the gluing unit is out of timing
- action that should be taken if right angle fold is out-of-square
- areas of the machine that should be adjusted if the sheet is creasing
- areas of the machine that should be adjusted if the sheet is caught in the fold plate
- areas of the machine that should be adjusted if the sheet is not entering the machine
- areas of the machine that should be adjusted if sheets are not entering delivery neatly
- remedies for the following problems: job is out-of-square, ink too wet for production, job does not coincide with the sample, the sheet is creasing, the sheet is caught in the fold plate, the sheet is not entering the machine, the sheet falls out of the machine after folding
- consideration that should be given to what areas of OHS when the machine is operating
- factors that govern the speed at which the machine will operate
- indicators that the machine was in need of lubrication
- circumstances that the machine would need to be adjusted
- OHS factors that should be considered before readjusting the machine
- areas of the machine that would cause sheets to crease during production
- reasons for sheets to misfeed during production
- creasing of sheets correction
- method of correction that is needed to prevent double sheet feeds
- adjustment that must be made to prevent "bruising" of NCR sheets

REQUIRED SKILLS AND KNOWLEDGE

- areas that are to be checked when sections are failing to open on the chain
- OHS factors that must be considered when maintaining or adjusting the operation of the machines
- OHS factors that must be considered when using hot melt adhesive
- consequence of too much or too little adhesive
- safety clothing that is available for use when operating adhesive binders
- matters that determine the speed of production
- sectors to observe to guarantee that the production process is trouble-free and continuous
- matters that determine that the machine need to be adjusted
- matters that determine that the machine need to be slowed down
- matters that determine when machine speed can be increased
- adjustment of position and quantity of adhesive on an adhesive binder/gluer
- adjustment of adhesive thickness and pressure on an adhesive binder/gluer
- achieving more spine milling on an adhesive binder how can
- adjustment of the wire length on a wire stitcher
- straightening of the wire in the wire feed on a wire stitcher how can
- increasing/decreasing the dwell time on a high frequency welder
- OHS factors that must be considered when cleaning the machine
- checks made when shutting down a given machine
- important reasons for FOUR shutdown operations
- what areas of the machines need regular cleaning
- materials that need to be cleaned from the machine
- recommended cleaning agents
- keeping the machine clear of surface rust (condensation)
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- quality aspects that need to be monitored during production
- quality aspects that need to be checked on finished product
- steps that should be taken to ensure that important features of the production control system are followed
- altering production need to meet client requirements
- items that must be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- correctly produce complex converted or finished product involving complex die cutting, embossing, folding, collating or fastening according to job specifications and within the production timeframe
- demonstrate an ability to find and use information relevant to the task from a variety of information sources
- competency must be demonstrated on any converting or finishing equipment (whether involving one process or a sequence of processes)
- demonstrate all safety devices on the machine
- On the chosen equipment TWO different complex jobs must be demonstrated preferably involving different types, sizes and weights of substrate according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria
- demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.

Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these
- off the job assessment must be undertaken in a closely simulated workplace environment.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
<i>Substrate handling</i> may include:	• wide or narrow reel or large or small sheet or large or small book or section handling systems.
<i>Collating units</i> may include:	• a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Fastening units</i> may include:	• a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Equipment</i> may include:	• either single process machines or multiple process machines.
<i>Substrate types</i> may include:	• range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, corrugated board or metal.
<i>Converting/finishing processes</i> may include:	• flat-bed or rotary die or forme cutting, embossing • sequenced, multiple folding or gusseting • collating/inserting of sheets or book sections, or reels (may include tabs, crimping) of varied form, weight or shape • adhesive fastening (such as cold and hot melt gluing, taping) of substrates of varied form, weight or shape, eg hard case making, casing in, spine lining, multiple head and complex pattern gluing • mechanical fastening (such as wire stitching, loop stitching) of substrates of varied form, weight or shape • section sewing.
<i>Complexity</i> may include:	• at least one major process must be complex as defined in this unit or the appropriate set up unit.
<i>Shapes for die cutting/embossing</i>	• complex, multiple shapes.

RANGE STATEMENT	
may include:	
<i>Cutting units</i> may include:	a range of machines with dies, cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>Folding units</i> may include:	a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	minor processes that are integral to this competency can include basic in-line operations such as numbering, date stamping and basic converting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg printing or coating) it should be assessed as such.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		