

Level 2 NVQ Certificates in Printing (5400)

September 2017 Version 2.1



Qualification at a glance

Subject area	Printing
City & Guilds number	5400
Age group approved	All
Assessment	Portfolio of evidence
Automatic Approval	Available
Support materials	Qualification handbook
Registration and certification	Consult the Walled Garden/Online Catalogue for last dates

Title and level	GLH	TQT	City & Guilds number	Accreditation number
Level 2 NVQ Certificate in Pre-Press for print - Digital printing	118	190	5400-20	600/2126/3
Level 2 NVQ Certificate in Machine printing	209	320	5400-21	600/2125/1
Level 2 NVQ Certificate in Pre-Press for print - Pre-Press	118	190	5400-24	600/2126/3
Level 2 NVQ Certificate in print Finishing - General print	114	180	5400-25	600/2127/5
Level 2 NVQ Certificate in print Finishing - Newspapers and Periodicals	114	180	5400-26	600/2127/5
Level 2 NVQ Certificate in Pre-Press for print - Digital Artwork	118	190	5400-27	600/2126/3

Version and date	Change detail	Section
2.1 September 2017	Added TQT details	Qualification at a glance and Structure
	Deleted QCF	Throughout
2.0 Dec 2011	Machine Printing pathways all moved under one City & Guilds complex 5400-21.	Structure



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Unit 235	Set and run mail processing machinery	122
Unit 236	Set and run adhesive binding machinery	125
Unit 237	Set and run casing-in machinery	128
Unit 238	Set and run case making machinery	131
Unit 239	Set and run folding machinery	134
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1 Introduction

This document tells you what you need to do to deliver the qualifications:

Area	Description
Who are the qualifications for?	For candidates who work or want to work in the printing sector
What do the qualifications cover?	They allow candidates to learn, develop and practise the skills required for employment and/or career progression in the printing sector.
Are the qualifications part of a framework or initiative?	They serve as technical certificates, in the Printing Apprenticeship framework.
What opportunities for progression are there?	They allow candidates to progress into employment or to the following City & Guilds qualifications: <ul style="list-style-type: none"> Level 3 NVQ in Printing (5400)

Structure

To achieve the **Level 2 Certificate in Pre-press for Print – Digital Printing**, learners must achieve **20** credits from the mandatory units and a minimum of **1** credit from the optional units available.

Unit accreditation number	City & Guilds unit	Unit title	Credit value
Mandatory		Must achieve all 20 credits	
Y/601/9389	201	Maintain health and safety within a print related working environment	4
H/601/9394	202	Communicating and working with others in the print working environment	3
R/601/9407	203	Knowledge of the organisations printing processes and related information	4
F/601/9399	204	Keep equipment clean and in working order for use in the printing Industry	4
R/502/8503	210	Operate digital printing machines	4
Optional		Minimum of 1 credit	
Y/502/8504	208	Send and receive digital files	1
Y/601/9392	228	Materials handling, transportation and storage within the print working environment	4

Unit accreditation number	City & Guilds unit	Unit title	Credit value
H/601/9430	233	Set and run booklet making machinery	5
A/601/9417	234	Set and run guillotines	5
Y/601/9439	240	Set and run multi-knife trimming machinery	4

To achieve the **Level 2 NVQ Certificate in Machine printing – Sheet Fed Lithography/Web Fed Lithography/Flexographic Printing/Gravure Printing/Screen Printing/Over-Printing Machines/Die Stamping**, learners must achieve **25** credits from the mandatory units and a minimum of **7** credits from the optional units available.

Unit accreditation number	City & Guilds unit	Unit title	Credit value
Mandatory		Must achieve all 25 credits	
Y/601/9389	201	Maintain health and safety within a print related working environment	4
H/601/9394	202	Communicating and working with others in the print working environment	3
R/601/9407	203	Knowledge of the organisations printing processes and related information	4
F/601/9399	204	Keep equipment clean and in working order for use in the printing industry	4
Y/601/9408	205	Set up and run machinery within the print industry	10
Optional		Minimum of 7 credits	
D/502/8505	206	Make photopolymer plates for flexographic printing	4
L/502/8502	211	Output digital image carriers for print	8
M/502/8508	212	Prepare stencils for printing	4
K/601/9400	213	Make lithographic printing plates	4
M/601/9401	214	Prepare inks and coatings for printing	4
T/601/9402	215	Set and run numbering, bar-coding or inline data printing equipment	4
A/601/9403	216	Set and run ancillary printing machine equipment	5
F/601/9404	217	Set and run over-printing machinery	7
J/601/9405	218	Set and use ink drying equipment	3
D/601/9412	219	Prepare and maintain image carriers for printing	4

Unit accreditation number	City & Guilds unit	Unit title	Credit value
H/601/9413	220	Set and run die stamping printing machinery	6
K/601/9414	221	Set and use reel handling equipment	3
F/601/9418	222	Set and run in-line converting or enhancing equipment	7
J/601/9419	223	Set and run in-line folding equipment	7
J/601/9422	224	Set and run auto-packing, storage or palletising equipment	3
R/601/9424	225	Prepare and load sheet-fed substrates	3
F/602/8626	227	Set and run in line automated stitch and trim equipment for newspaper and periodical production	4
Y/601/9392	228	Materials handling, transportation and storage within the print working environment	4
H/601/9430	233	Set and run booklet making machinery	5
A/601/9417	234	Set and run guillotines	5
R/601/9410	245	Set and run slitting and re-reeling equipment - adhesive label production	3

To achieve the **Level 2 Certificate in Pre-Press for Print – Pre-Press** learners must achieve **15** credits from the mandatory units and a minimum of **4** credits from the optional units available.

Unit accreditation number	City & Guilds unit	Unit title	Credit value
Mandatory		Must achieve all 15 credits	
Y/601/9389	201	Maintain health and safety within a print related working environment	4
H/601/9394	202	Communicating and working with others in the print working environment	3
R/601/9407	203	Knowledge of the organisations printing processes and related information	4
F/601/9399	204	Keep equipment clean and in working order for use in the printing industry	4
Optional		Minimum of 4 credits	
D/502/8505	206	Make photopolymer plates for flexographic printing	4
K/502/8507	207	Make gravure cylinders	4
Y/502/8504	208	Send and receive digital files	1

Unit accreditation number	City & Guilds unit	Unit title	Credit value
L/502/8502	211	Output digital image carriers for print	8
M/502/8508	212	Prepare stencils for printing	4
K/601/9400	213	Make lithographic printing plates	4

To achieve the **Level 2 Certificate in Print Finishing – General Print** learners must achieve **15** credits from the mandatory units and a minimum of **3** credits from the optional units available.

Unit accreditation number	City & Guilds unit	Unit title	Credit value
Mandatory		Must achieve all 15 credits	
Y/601/9389	201	Maintain health and safety within a print related working environment	4
H/601/9394	202	Communicating and working with others in the print working environment	3
R/601/9407	203	Knowledge of the organisations printing processes and related information	4
F/601/9399	204	Keep equipment clean and in working order for use in the printing Industry	4
Optional		Minimum of 3 credits	
J/601/9422	224	Set and run auto-packing, storage or palletising equipment	3
L/601/9423	229	Set and run auto punching and cutting machinery	5
K/601/9428	230	Set and run foil blocking machinery	6
M/601/9429	231	Set and run insetting-stitching-trimming machines	7
L/502/8497	232	Set and run wire binding machinery	3
H/601/9430	233	Set and run booklet making machinery	5
A/601/9417	234	Set and run guillotines	5
K/601/9431	235	Set and run mail processing machinery	5
T/601/9433	236	Set and run adhesive binding machinery	5
F/601/9435	237	Set and run casing in machinery	6
J/601/9436	238	Set and run case making machinery	6
R/601/9438	239	Set and run folding machinery	5
Y/601/9439	240	Set and run multi-knife trimming machinery	4

Unit accreditation number	City & Guilds unit	Unit title	Credit value
L/601/9440	241	Set and run multiple hopper feeders	4
H/601/9444	242	Set and run auto-fed sewing machinery	4
K/601/9445	243	Set and run cutting and creasing machinery	5
Y/601/9411	244	Set and run laminating equipment	4
R/601/9410	245	Set and run slitting and re-reeling equipment - adhesive label production	3
R/502/8498	248	Set and run carton enhancing machinery	5

To achieve the **Level 2 Certificate in Print Finishing – Newspapers and Periodicals** learners must achieve **15** credits from the mandatory units and a minimum of **3** credits from the optional units available.

Unit accreditation number	City & Guilds unit	Unit title	Credit value
Mandatory		Must achieve all 15 credits	
Y/601/9389	201	Maintain health and safety within a print related working environment	4
H/601/9394	202	Communicating and working with others in the print working environment	3
R/601/9407	203	Knowledge of the organisations printing processes and related information	4
F/601/9399	204	Keep equipment clean and in working order for use in the printing Industry	4
Optional		Minimum of 3 credits	
J/601/9422	224	Set and run auto-packing, storage or palletising equipment	3
H/601/9427	226	Set and run automated inserting equipment for newspapers and periodicals	4
Y/601/9392	228	Materials handling, transportation and storage within the print working environment	4

To achieve the **Level 2 Certificate in Pre-Press for Print – Digital Artwork** learners must achieve **16** credits from the mandatory units and a minimum of **4** credits from the optional units available.

Unit accreditation number	City & Guilds unit	Unit title	Credit value
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Unit accreditation number	City & Guilds unit	Unit title	Credit value
Mandatory		Must achieve all 16 credits	
Y/601/9389	201	Maintain health and safety within a print related working environment	4
H/601/9394	202	Communicating and working with others in the print working environment	3
R/601/9407	203	Knowledge of the organisations printing processes and related information	4
M/601/9396	246	Create digital artwork for print	5
Optional		Minimum of 4 credits	
D/502/8505	206	Make photopolymer plates for flexographic printing	4
K/502/8507	207	Make gravure cylinders	4
Y/502/8504	208	Send and receive digital files	1
A/502/8513	209	Use of scanning techniques to create digital images	6
L/502/8502	211	Output digital image carriers for print	8
M/502/8508	212	Prepare stencils for printing	4
K/601/9400	213	Make lithographic printing plates	4
M/502/8511	327	Plan and produce edited images	4

Total Qualification Time

Total Qualification Time (TQT) is the total amount of time, in hours, expected to be spent by a Learner to achieve a qualification. It includes both guided learning hours (which are listed separately) and hours spent in preparation, study and assessment.

Title and level	GLH	TQT
Level 2 NVQ Certificate in Pre-Press for print - Digital printing	118	190
Level 2 NVQ Certificate in Machine printing	209	320
Level 2 NVQ Certificate in Pre-Press for print - Pre-Press	118	190
Level 2 NVQ Certificate in print Finishing - General print	114	180
Level 2 NVQ Certificate in print Finishing - Newspapers and Periodicals	114	180
Level 2 NVQ Certificate in Pre-Press for print - Digital Artwork	118	190



2 Centre requirements

Approval

If your Centre is approved to offer the qualification Level 2 NVQ in Printing (5158-20/21/22/23) you will receive automatic approval for the new Level 2 NVQ Certificate in Printing (5400-20/21/24/25/26/27).

To offer these qualifications, new centres will need to gain both centre and qualification approval. Please refer to the *Centre Manual - Supporting Customer Excellence* for further information.

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualifications before designing a course programme.

Resource requirements

Centre staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be occupationally competent or technically knowledgeable in the areas for which they are delivering training and/or have experience of providing training. This knowledge must be to the same level as the training being delivered
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

Centre staff may undertake more than one role, eg tutor and assessor or internal verifier, but cannot internally verify their own assessments.

Assessors and internal verifiers

Assessors

Assessors must:

- Be competent to make qualitative judgements about the units they are assessing. Illustrations of competence could include the assessor:
 - Having achieved the award themselves
 - Having substantial demonstrable experience in the job roles they are assessing
 - Being in a day-to-day line management or quality assurance role with responsibility for the job roles they are assessing
- Be in possession of or working towards the A1/A2 award or hold the D32/33 award,

- Carry out their duties in accordance with the current NOS for Assessment, and in line with current guidance on assessment practice issued by the regulatory authorities and City & Guilds
- Maintain appropriate evidence of development activities to ensure their assessment skills and occupational understanding are current (CPD)
- Have a working knowledge of awards and a full understanding of that part of the award for which they have responsibility.

Internal Verifiers

Internal Verifiers must:

- Be in possession of or working towards the V1 award or hold the D34 award, as recommended by SQA/QCA and supported by an appropriate CPD record
- Carry out their duties in accordance with the current NOS for Verification, and in line with current guidance on verification practice issued by the regulatory authorities and City & Guilds
- Maintain appropriate evidence of development activities to ensure their verification skills and occupational understanding are current (CPD)
- Have expertise and knowledge of awards and a full understanding of that part of the award for which they have responsibility.

Continuing professional development (CPD)

Centres must support their staff to ensure that they have current knowledge of the occupational area, that delivery, mentoring, training, assessment and verification is in line with best practice, and that it takes account of any national or legislative developments.

Candidate entry requirements

City & Guilds does not set entry requirements for these qualifications. However, centres must ensure that candidates have the potential and opportunity to gain the qualifications successfully.

Age restrictions

City & Guilds cannot accept any registrations for candidates under 16 as these qualifications are not approved for under 16s.

Legal restrictions apply to candidates under the age of 18 working unsupervised with children. Centres and candidates should be fully aware of minimum age requirements in their home nation and any implications for completing assessments.



3 Delivering the qualification

Initial assessment and induction

An initial assessment of each candidate should be made before the start of their programme to identify:

- if the candidate has any specific training needs,
- support and guidance they may need when working towards their qualification.
- any units they have already completed, or credit they have accumulated which is relevant to the qualification.
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the candidate fully understands the requirements of the qualification, their responsibilities as a candidate, and the responsibilities of the centre. This information can be recorded on a learning contract.

Recording documents

Candidates and centres may decide to use a paper-based or electronic method of recording evidence.

City & Guilds endorses several ePortfolio systems, including our own, **Learning Assistant**, an easy-to-use and secure online tool to support and evidence learners' progress towards achieving qualifications. Further details are available at: www.cityandguilds.com/eportfolios.

City & Guilds has developed a set of *recording forms* including examples of completed forms, for new and existing centres to use as appropriate. *Recording forms* are available on the City & Guilds website.

Although new centres are expected to use these forms, centres may devise or customise alternative forms, which must be approved for use by the external verifier, before they are used by candidates and assessors at the centre. Amendable (MS Word) versions of the forms are available on the City & Guilds website.



4 Assessment

Assessment of the qualification

Candidates must:

- have a completed portfolio of evidence for each unit chosen.

Evidence

The majority of the candidate's evidence should come from direct observations of competence in the real workplace, unless specified in the award specific annex. Other types of acceptable evidence include, but are not limited to:

- Witness Testimony
- Logs/Diaries kept by Candidates
- Recorded answers to questions posed by the Assessor
- Recorded/Transcribed Interviews with the Candidate
- Recorded use of up-to-date commercial/industrial equipment
- e-portfolios and other forms of digital media
- Works documentation attributable to the candidate
- Both interim and final internal verification.

Location of Assessment

Although the majority of the candidate's evidence should come from direct observations of competence in the real work place, in exceptional circumstances simulation of the real workplace may be allowed. Occasions in which this may be approved are listed under 'Simulation'.

Simulation

Simulation is generally not acceptable. The exceptions to this are:

- Dealing with emergencies
- Dealing with accidents
- Certain pre-approved real time simulators
- Limited other procedures that can not be practically performed in the workplace, and for which sufficient evidence can not be collected through other means.

Any simulation must be approved in advance by the External Verifier, and clear reasons must be given for its intended use. Simulation should not be the primary source of a candidate's claim to competence.

Third Party Witnesses

Third party 'witnesses' must also be competent to make judgements about the activity(ies) for which they are providing the testimony. As the assessment decision lies with the Assessor, it is their responsibility to verify this and, where challenged, to justify their acceptance of third party 'witness testimony' to the Internal Verifier.

Recognition of prior learning (RPL)

Recognition of prior learning means using a person's previous experience or qualifications which have already been achieved to contribute to a new qualification.

RPL is allowed and is not sector specific.



5 Units

Availability of units

The following units can also be obtained from The Register of Regulated Qualifications: <http://register.ofqual.gov.uk/Unit>

Structure of units

These units each have the following:

- City & Guilds reference number
- unit accreditation number (UAN)
- title
- level
- credit value
- unit aim
- relationship to NOS, other qualifications and frameworks
- endorsement by a sector or other appropriate body
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria
- notes for guidance.

Summary of units

Unit	Unit title	Credits	Unit number (UAN)
201	Maintain health and safety within a print related working environment	4	Y/601/9389
202	Communicating and working with others in the print working environment	3	H/601/9394
203	Knowledge of the organisations printing processes and related information	4	R/601/9407
204	Keep equipment clean and in working order for use in the printing industry	4	F/601/9399
205	Set up and run machinery within the print industry	10	Y/601/9408
206	Make photopolymer plates for flexographic printing	4	D/502/8505
207	Make gravure cylinders	4	K/502/8507
208	Send and receive digital files	1	Y/502/8504

Unit	Unit title	Credits	Unit number (UAN)
209	Use of scanning techniques to create digital images	6	A/502/8513
210	Operate digital printing machines	4	R/502/8503
211	Output digital image carriers for print	8	L/502/8502
212	Prepare stencils for printing	4	M/502/8508
213	Make lithographic printing plates	4	K/601/9400
214	Prepare inks and coatings for printing	4	M/601/9401
215	Set and run numbering, bar-coding or inline data printing equipment	4	T/601/9402
216	Set and run ancillary printing machine equipment	5	A/601/9403
217	Set and run over-printing machinery	7	F/601/9404
218	Set and use ink drying equipment	3	J/601/9405
219	Prepare and maintain image carriers for printing	4	D/601/9412
220	Set and run die stamping printing machinery	6	H/601/9413
221	Set and use reel handling equipment	3	K/601/9414
222	Set and run in-line converting or enhancing equipment	7	F/601/9418
223	Set and run in-line folding equipment	7	J/601/9419
224	Set and run auto-packing, storage or palletising equipment	3	J/601/9422
225	Prepare and load sheet-fed substrates	3	R/601/9424
226	Set and run automated inserting equipment for newspapers and periodicals	4	H/601/9427
227	Set and run in line automated stitch and trim equipment for newspaper and periodical production	4	F/602/8626
228	Materials handling, transportation and storage within the print working environment	4	Y/601/9392
229	Set and run auto punching and cutting machinery	5	L/601/9426
230	Set and run foil blocking machinery	6	K/601/9428
231	Set and run inseting-stitching-trimming machines	7	M/601/9429
232	Set and run wire binding machinery	3	L/502/8497
233	Set and run booklet making machinery	5	H/601/9430
234	Set and run guillotines	5	A/601/9417
235	Set and run mail processing machinery	5	K/601/9431

Unit	Unit title	Credits	Unit number (UAN)
236	Set and run adhesive binding machinery	5	T/601/9433
237	Set and run casing in machinery	6	F/601/9435
238	Set and run case making machinery	6	J/601/9436
239	Set and run folding machinery	5	R/601/9438
240	Set and run multi-knife trimming machinery	4	Y/601/9439
241	Set and run multiple hopper feeders	4	L/601/9440
242	Set and run auto-fed sewing machinery	4	H/601/9444
243	Set and run cutting and creasing machinery	5	K/601/9445
244	Set and run laminating equipment	4	Y/601/9411
245	Set and run slitting and re-reeling equipment - adhesive label production	3	R/601/9410
246	Create digital artwork for print	5	M/601/9396
248	Set and run carton enhancing machinery	5	R/502/8498
327	Plan and produce edited images	4	M/502/8511

Unit 201

Maintain health and safety within a print related working environment

UAN:	Y/601/9389
Level:	Level 2
Credit value:	4
GLH:	26
Relationship to NOS:	This unit is linked to Proskills NOS unit AG1
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills.
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to work safely in the Print working environment and to be able to carry out the correct actions should an accident or emergency occur.

Learning outcome	The learner will:
1.	know which health and safety acts, regulations and guidelines apply to the print working environment
Assessment criteria	
The learner can:	
1.1	state which acts, regulations and guidelines apply to the print working environment
1.2	explain how these acts, regulations and guidelines apply in practice.

Learning outcome	The learner will:
2.	know how to carry out an assessment of hazards and risks in the print working environment and the types of hazards or risks that can occur
Assessment criteria	
The learner can:	
2.1	describe the steps in carrying out a risk assessment
2.2	describe examples of risks or hazards that can occur in the print working environment
2.3	explain the actions required when discovering unsafe working conditions.

Learning outcome	The learner will:
3.	be able to identify hazards and assess risks in the print working environment
Assessment criteria	
The learner can:	
3.1	carry out a risk assessment of the print related working environment.

Learning outcome	The learner will:
4.	know how to adopt safe working practices
Assessment criteria	
The learner can:	
4.1	state the employer's and manufacturer's instructions available for equipment in the work area and how to access them
4.2	describe tasks in the work area and the equipment and personal protective equipment (PPE) used
4.3	explain the choices of equipment and personal protective equipment
4.4	explain what to do if the required PPE or tools and equipment are not fit for purpose.

Learning outcome	The learner will:
5.	be able to adopt and adhere to safe working practices
Assessment criteria	
The learner can:	
5.1	follow employer's and manufacturer's instructions on the safe use of equipment and materials
5.2	select and use personal protective equipment in accordance with company guidelines and legislation
5.3	select and use tools and equipment in accordance with company guidelines and legislation.

Learning outcome	The learner will:
6.	know how to ensure there is no unauthorised or unsafe access to the working areas
Assessment criteria	
The learner can:	
6.1	explain how to establish who is authorised to enter the work area
6.2	explain how to establish if a person is authorised to enter the work area
6.3	explain how to ensure that authorised people entering the work area are kept safe.

Learning outcome	The learner will:
7.	know what to do in the event of accidents or emergencies
Assessment criteria	
The learner can:	
7.1	describe the company procedures to follow in the case of an accident
7.2	describe the company procedures to follow in the case of an emergency
7.3	describe the procedure for evacuating workers and visitors
7.4	describe the procedure for reporting and recording accidents and emergencies.

Unit 201

Maintain health and safety within a print related working environment

Supporting information

Guidance

AC2.2 – Candidates must explain at least **three** different risks or hazards that can occur in the print environment.

AC4.2 – Candidates must describe at least **three** tasks in the work area and the appropriate PPE required for these tasks.

AC4.3 – The explanation of equipment and PPE choices should relate to those chosen in AC4.2.

Unit 202

Communicating and working with others in the print working environment

UAN:	H/601/9394
Level:	Level 2
Credit value:	3
GLH:	16
Relationship to NOS:	This unit is linked to Proskills NOS Unit AG3
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills.
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to communicate and work effectively with others in the Print working environment

Learning outcome	The learner will:
1.	know what information to share with colleagues on own job role and why this is important.
Assessment criteria	
The learner can:	
1.1	state information linked to own job role that needs to be shared with colleagues
1.2	explain why sharing information with colleagues is important.

Learning outcome	The learner will:
2.	be able to share information with colleagues
Assessment criteria	
The learner can:	
2.1	share information with colleagues using different methods, for example: <ul style="list-style-type: none">• face to face conversations.• company systems• written notes.• drawings / sketches.• telephone (voice or text).• email.• internet.

Learning outcome	The learner will:
3.	know why it is important to respond promptly to requests
Assessment criteria	
The learner can:	
3.1	explain why it is important to respond promptly to requests from colleagues and customers.

Learning outcome	The learner will:
4.	be able to respond promptly to requests from colleagues
Assessment criteria	
The learner can:	
4.1	respond promptly to requests from colleagues and/or customers to include the provision of: <ul style="list-style-type: none"> • information • physical assistance • advice.

Learning outcome	The learner will:
5.	know why good working relationships with colleagues are important and how barriers to this can be overcome
Assessment criteria	
The learner can:	
5.1	explain why good working relationships are important
5.2	describe problems that can be experienced when developing and maintaining good working relationships with colleagues and suggest solutions.

Learning outcome	The learner will:
6.	be able to develop and maintain good working relationships with colleagues
Assessment criteria	
The learner can:	
6.1	develop and maintain good working relationships with colleagues.

Unit 202 Communicating and working with others in the print working environment

Supporting information

Guidance

AC1.1 – Candidates must state at least **three** examples of information linked to their job role that should be shared with colleagues.

AC3.1 – Candidates must give **three** examples of the importance of responding to colleague and customer requests promptly.

AC5.2 –Candidates must give **three** examples of problems in developing and maintaining good working relationships with colleagues and suggest solutions.

Unit 203

Knowledge of the organisations printing processes and related information

UAN:	R/601/9407
Level:	Level 2
Credit value:	4
GLH:	23
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge of the Organisation's processes, products and equipment and also knowledge of the specific Department(s) worked in by the learner

Learning outcome	The learner will:
1.	know the departments within the organisation and their area of responsibility
Assessment criteria	
The learner can:	
1.1	list the departments within the organisation
1.2	explain the responsibilities of each department
1.3	describe the job roles within each department.

Learning outcome	The learner will:
2.	know the products produced by the organisation
Assessment criteria	
The learner can:	
2.1	list the products produced by the organisation
2.2	list the products produced by the specific departments worked in
2.3	name the materials used to produce the printed product.

Learning outcome	The learner will:
3.	know the types of equipment used within the organisation for print related work
Assessment criteria	
The learner can:	
3.1	state the equipment/machinery used within the organisation for print related work

3.2	explain the purpose of each piece of equipment/machinery.
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Learning outcome	The learner will:
4.	know the printing processes/operations used within the department(s) worked in
Assessment criteria	
The learner can:	
4.1	name the printing processes/operations carried out within the department(s) worked in.

Unit 203

Knowledge of the organisations printing processes and related information

Supporting information

Guidance

AC3.1 – Candidates should list at least three pieces of equipment/machinery used in own organisation for print related work.

AC3.2 – Candidates should explain the purpose of each piece of equipment/machinery as identified in AC3.1

Unit 204

Keep equipment clean and in working order for use in the printing industry

UAN:	F/601/9399
Level:	Level 2
Credit value:	4
GLH:	32
Relationship to NOS:	This unit is linked to Proskills NOS Units 250
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to keep printing equipment clean and in working order within the Print Industry. It includes basic maintenance and problem solving.

Learning outcome	The learner will:
1.	be able to keep printing equipment clean
Assessment criteria	
The learner can:	
1.1	obtain and use cleaning equipment and materials in accordance with manufacturer's and company guidelines
1.2	remove any build up of materials and dust in or around the machine
1.3	use personal protective equipment in accordance with company guidelines and legislation
1.4	dispose of used cleaning agents and waste materials in accordance with environmental regulations
1.5	check that the machine is safe to operate and all guards are fitted in accordance with manufacturer's and company guidelines after cleaning.

Learning outcome	The learner will:
2.	be able to keep printing equipment in working order
Assessment criteria	
The learner can:	
2.1	identify the lubrication points on the machine and the manufacturer's recommended types of lubricant and lubrication intervals
2.2	carry out lubrication of the machine in accordance with company schedules

- | | |
|-----|--|
| 2.3 | examine machinery for worn or defective components |
| 2.4 | restore machines to a safe operating condition after replacing components or performing lubrication. |

Learning outcome	The learner will:
3.	know how to keep printing equipment clean and in working order
Assessment criteria	
The learner can:	
3.1	explain how to obtain maintenance plans and schedules
3.2	explain how to record removal and replacement of components and lubrication of machinery
3.3	explain how to carry out the cleaning and/or replacement of filters
3.4	describe the types of machine faults that need to be referred to the responsible person and why
3.5	list consumables that are likely to require periodic replacement
3.6	list components which they have replaced, explaining method and tools
3.7	explain when and how to isolate the machinery to carry out the cleaning process
3.8	explain the reasons for and benefits of regular cleaning and maintenance of machinery.

Unit 204 Keep equipment clean and in working order for use in the printing Industry

Supporting information

Guidance

AC3.6 – Candidates should list at least **three** components.

Unit 205

Set up and run machinery within the print industry

UAN:	Y/601/9408
Level:	Level 2
Credit value:	10
GLH:	70
Relationship to NOS:	This unit is adapted from Proskills NOS Unit 249
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run machinery. It includes the need to understand how to make adjustments and solve problems with this type of equipment.

Learning outcome	The learner will:
1.	be able to prepare a machine for production
Assessment criteria	
The learner can:	
1.1	check that all the details and materials for the job are available
1.2	identify any post-printing requirements
1.3	make ready the machine for effective operation
1.4	obtain authorisation to begin production in line with company policy.

Learning outcome	The learner will:
2.	be able to set and run a machine for production
Assessment criteria	
The learner can:	
2.1	run the machine at the optimum speed
2.2	keep up the supply of materials and consumables throughout the run
2.3	check that quality standards and job specifications are met throughout the run
2.4	check production details are recorded
2.5	follow the company procedure for the removal of waste
2.6	stack work in accordance with company guidelines.

Learning outcome	The learner will:
3.	know how to set up and run machinery
Assessment criteria	
The learner can:	
3.1	explain the checks to make to ensure effective operation of the machinery
3.2	explain how to start up and shut down the machinery in: <ul style="list-style-type: none"> • normal operation • emergency situations
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	explain how to identify faults which: <ul style="list-style-type: none"> • affect the quality of the product • produce a shortfall in output • create risks to health and safety
3.8	describe situations that can be overcome by adjustments ,how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 205

Set up and run machinery within the print industry

Supporting information

Guidance

AC3.1 – Candidates must explain at least **three** checks to be made to ensure effective operation of the machinery.

AC3.5 – Candidates must describe at least **three** examples of things to monitor in relation to the quality of output.

AC3.6 – Candidates must explain company waste disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 206

Make photopolymer plates for flexographic printing

UAN:	D/502/8505
Level:	Level 2
Credit value:	4
GLH:	30
Relationship to NOS:	This unit is linked to Proskills NOS Unit 105
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to carry out the production and output of photopolymer plates for flexographic printing. It includes identifying the work to be done, exposing plates, processing plates, checking the quality of output.

Learning outcome	The learner will:
1.	be able to prepare photopolymer plates for print
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	ensure the required type, quantity and quality of materials are available
1.3	check that: <ul style="list-style-type: none">• negatives match with artwork• elements match imposition• non-image density matches the manufacturer's recommendations and their company's quality standard
1.4	prepare the exposure unit in accordance with job requirements
1.5	handle and load plate material in accordance with company procedures
1.6	position plate material so that all image elements fall accurately on the finished plate
1.7	select exposure values which produce the required plate characteristics after processing
1.8	expose the assembly in accordance with job requirements
1.9	pass the plate for processing.

Learning outcome	The learner will:
2.	be able to process photopolymer plates
Assessment criteria	
The learner can:	
2.1	load the processor according to specified instructions, handling materials in accordance with company health and safety guidelines
2.2	set and operate processor in accordance with job requirements and safe operating procedures
2.3	trim the finished plate to the required size
2.4	check that the finished plate meets the company's standard for: <ul style="list-style-type: none"> • thickness • relief height • spots and blemishes
2.5	keep waste to a minimum and dispose of it in accordance with company procedures
2.6	report when the plate is ready for production.

Learning outcome	The learner will:
3.	know how to make photopolymer plates for flexographic printing
Assessment criteria	
The learner can:	
3.1	describe what details are needed to produce the job
3.2	describe the quality standards relating to plate production
3.3	explain the key parts of a negative film which should be checked prior to output
3.4	describe the risks which arise when handling plates and materials and operate exposure units and how to avoid them
3.5	explain the plate making methods and the function of the equipment in use in the company
3.6	explain the suitable safe lighting conditions to be used during production
3.7	describe the make ready procedures for the plate making equipment in use
3.8	state the company's waste disposal procedures
3.9	state the company procedures for reporting machine faults and breakdown
3.10	explain faults than can occur, what causes them and how to correct them
3.11	describe how to recognise when to correct faults themselves and when to ask for help.

Unit 206

Make photopolymer plates for flexographic printing

Supporting information

Guidance

AC3.10 – Candidates must explain at least two examples of faults that can occur.

UAN:	K/502/8507
Level:	Level 2
Credit value:	4
GLH:	30
Relationship to NOS:	This unit is linked to Proskills NOS Unit 106
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to carry out the preparation and production of gravure cylinders for print. The learner will also be required to know how to deal with faults and problems occurring during the process.

Learning outcome	The learner will:
1.	be able to produce gravure cylinders for print
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	ensure sufficient materials are available for the required job
1.3	check that the cylinder is clean and suitable for the job requirements
1.4	ensure all checks and adjustments necessary are made so that the work can be carried out efficiently and safely
1.5	select and prepare the required masks
1.6	keep waste materials to a minimum.

Learning outcome	The learner will:
2.	know how to prepare the gravure cylinder
Assessment criteria	
The learner can:	
2.1	explain what details are required to carry out the work required
2.2	describe the types of cylinders in use in the company, and the types of job for which they are used
2.3	explain why it is important to check that the cylinder is clean and suitable for the job
2.4	explain the range, use and limitations of processing materials and equipment
2.5	describe the range, use and limitations of processing materials and equipment waste

2.6	explain the types of mask in use in the company.
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Learning outcome	The learner will:
3.	be able to transfer the image to the cylinder
Assessment criteria	
The learner can:	
3.1	check that the equipment is ready for image transfer
3.2	set and operate the equipment so that: <ul style="list-style-type: none">the complete image is transferred to the cylinderthe image is sharp and clean, at the required resolutionthe finished cylinder is free from faults and suitable for production
3.3	keep waste to a minimum and dispose of it in accordance with company procedures
3.4	report when the plate is ready for production.

Learning outcome	The learner will:
4.	know how to transfer the image to the cylinder
Assessment criteria	
The learner can:	
4.1	describe the cylinder making methods and equipment in use in the company
4.2	explain the most suitable environmental conditions for production
4.3	describe the risks associated with operating the equipment
4.4	explain how to set up and operate the equipment
4.5	describe the company's waste disposal procedures
4.6	explain faults which can occur when making gravure cylinders, what causes them and how to correct them
4.7	explain to whom they must report when there are faults, and when the plate is ready for production.

Unit 207 Make gravure cylinders

Supporting information

Guidance

AC4.6 – Candidates must explain at least **three** faults.

UAN:	Y/502/8504
Level:	Level 2
Credit value:	1
GLH:	9
Relationship to NOS:	This unit is linked to Proskills NOS Unit 124
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be competent in the sending and receiving of digital files over a telecommunications network, including as email attachments, by ISDN or through a virtual private network or similar permanent connection.

Learning outcome	The learner will:
1.	be able to send digital files by electronic means
Assessment criteria	
The learner can:	
1.1	confirm that the file(s) to be sent are in the format required by the customer and are of a suitable size for transmission
1.2	make sure the transmission method is suitable for the files to be transmitted taking into account for example: <ul style="list-style-type: none"> • customer's preferences • speed of transmission • security • cost
1.3	make sure that the information accompanying the digital file(s) is: <ul style="list-style-type: none"> • detailed enough for the customer • clear and accurate
1.4	send the files to the specified people
1.5	complete all records on the transmission as required by company procedures.

Learning outcome	The learner will:
2.	be able to receive digital files by electronic means
Assessment criteria	
The learner can:	
2.1	confirm that the digital communications systems are operating and are ready to receive incoming files

2.2	check for incoming files in accordance with company guidelines
2.3	confirm that the required files have been received
2.4	save received files in accordance with company guidelines
2.5	complete all records on the files received in accordance with company guidelines.

Learning outcome	The learner will:
3.	know how to send and receive digital files
Assessment criteria	
The learner can:	
3.1	explain how to check that virus software is up-to-date and functioning correctly on the host computer, why this is important and what to do if there is a problem
3.2	explain how to seek confirmation that digital files sent have been received as required, and when this has to be done to comply with company procedures
3.3	explain the company procedure when a digital file has been: <ul style="list-style-type: none"> • sent to the wrong address • sent to the correct address but in the wrong format
3.4	describe problems that could occur when sending digital files and how to overcome the problems
3.5	explain the company procedure when a file has been received in the following situations: <ul style="list-style-type: none"> • from a known source but unable to open • from an unknown source
3.6	state how to deal with digital files in relation to the following: <ul style="list-style-type: none"> • file conversion techniques • file compression and decompression techniques • file management.

Unit 209

Use of scanning techniques to create digital images

UAN:	A/502/8513
Level:	Level 2
Credit value:	6
GLH:	39
Relationship to NOS:	This unit is linked to Proskills NOS Unit 125
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to convert analogue material into digital form. It covers all aspects of scanning, including detailed intervention where automatic settings do not give the required result.

Learning outcome	The learner will:
1.	be able to decide on the appropriate scanning approach
Assessment criteria	
The learner can:	
1.1	make an accurate assessment of the suitability of the material for scanning
1.2	make an accurate assessment of the scanner operations necessary to produce the required output
1.3	check that the scanners available will produce the quality of output to meet customer requirements
1.4	select the most suitable scanning equipment for the material to be scanned and the output required.

Learning outcome	The learner will:
2.	be able to prepare equipment and material for scanning
Assessment criteria	
The learner can:	
2.1	carry out any low-resolution scanning necessary to establish the required software values
2.2	apply the required software values for: <ul style="list-style-type: none">the material to be scannedthe output required
2.3	ensure that the scanner to be used, and the material to be scanned, are clean

2.4	handle the material to be scanned in accordance with Health and Safety guidelines
2.5	load the material to be scanned with regard to alignment and positioning.

Learning outcome	The learner will:
3.	be able to produce and save scanned images in line with the job specification and company standards
Assessment criteria	
The learner can:	
3.1	produce scanned images which are correct in terms of the following: <ul style="list-style-type: none"> • physical size • file size • content • orientation • colour • sharpness • brightness (exposure) • contrast • colour space — RGB, CMYK and greyscale • output resolution
3.2	produce scanned images to the required image profiles
3.3	produce scanned images which are free of the following unwanted effects: <ul style="list-style-type: none"> • physical defects — fingerprints, dust damage and scratches • newton's rings • moiré patterning from screened originals • pixelisation • posterisation • halo effects
3.4	assess the scanned images against customer requirements and workplace standards
3.5	detect any problems with the scanned images and identify the probable causes of the problems
3.6	maintain the confidentiality of customer material
3.7	save the scanned image data files in the required format.

Learning outcome	The learner will:
4.	know how to plan and capture digital images
Assessment criteria	
The learner can:	
4.1	explain the law affecting printing in relation to: <ul style="list-style-type: none"> • defamation • copyright and ownership of images • obscenity • incitement

- forgery
- data protection
- 4.2 describe how to ensure the safe handling of customer material as required by their company
- 4.3 state the company requirements for the safe storage and archiving of digital artwork
- 4.4 describe the operation of equipment for the following:
 - the set-up of scanning equipment
 - the operation of scanning equipment
- 4.5 describe how Digital Imaging is affected by:
 - colour theory, eg: additive and subtractive systems such as RGB and CMYK; colour gamut's
 - the relationship between image size, file size and resolution
 - file formats for digital images - the differences between them and the reasons for using them
 - the range of methods, equipment, material and software appropriate to the imaging requirements
 - methods of controlling contrast, density and colour characteristics during scanning
 - the assessment of material for scanning - potential problems and solutions
 - colour management: how to set up, maintain and use image profiles
- 4.6 describe how to identify and correct faults which affect the quality of the scanned image
- 4.7 describe the principal activities involved with machine cleaning and calibration including:
 - the choice and use of suitable cleaning agents and lubricants
 - the methods used to set up and calibrate a scanner for use.

Unit 209

Use of scanning techniques to create digital images

Supporting information

Guidance

AC4.6 – Candidates must describe at least **three** faults which affect the quality of the scanned image.

Unit 210

Operate digital printing machines

UAN:	R/502/8503
Level:	Level 2
Credit value:	4
GLH:	25
Relationship to NOS:	This unit is linked to Proskills NOS Unit 227
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to operate digital printing machines in a production environment – where there is a customer, either internal or external, for whom work is produced

Learning outcome	The learner will:
1.	be able to prepare digital printing machines for production
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	ensure the required type, quantity and quality of materials are available to meet the job specification
1.3	accurately identify printing and post-printing requirements of the job
1.4	check that the machine and the work area are safe and ready for production
1.5	download or print the digital job file(s) to the digital printing machine so that the print output meets the job specification
1.6	make adjustments to the machine settings or print download settings as necessary to achieve the required job specification and quality standards.

Learning outcome	The learner will:
2.	be able to operate a digital printing machine
Assessment criteria	
The learner can:	
2.1	run the digital printing machine at the required speed and in accordance with manufacturer and company guidelines
2.2	keep up the supply of materials and consumables throughout the run

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| 2.3 | check that quality standards and job specifications are met |
| 2.4 | take action to correct faults which fall within the job holders responsibility |
| 2.5 | record production and quality assurance details in line with company requirements |
| 2.6 | follow the company procedure for the removal of waste. |

Learning outcome	The learner will:
3.	know how to operate digital printing machines
Assessment criteria	
The learner can:	
3.1	describe checks required to ensure effective operation of the print machine
3.2	explain how to start up and shut down the print machine
3.3	explain where to obtain information on the setting and operation of print machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	explain how to identify and correct faults which: <ul style="list-style-type: none"> • affect the quality of the product • produce a shortfall in output
3.8	describe situations that can be overcome by adjustments ,how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating print machines that may not be resolved by adjustment and the company procedure for dealing with them
3.10	explain the company/manufacture requirements in relation to machine cleaning, lubrication and maintenance. To include: <ul style="list-style-type: none"> • the principal activities involved with machine cleaning, lubrication & maintenance • roles & responsibilities for cleaning, lubrication & maintenance • which components wear or become degraded over time • the choice and use of suitable cleaning agents and lubricants.

Unit 210 Operate digital printing machines

Supporting information

Guidance

AC3.1 – Candidates should describe at least **three** checks to make to ensure effective operation of the print machine.

AC3.5 – Candidates should give at least **three** examples of things to monitor in regard to quality of output.

AC3.6 – Candidates must explain company waste disposal procedures for at least **two** types of waste

AC3.8 – Candidates must describe at least **three** situations

AC3.9 – Candidates must describe a least **two** problems.

Unit 211

Output digital image carriers for print

UAN:	L/502/8502
Level:	Level 2
Credit value:	8
GLH:	50
Relationship to NOS:	This unit is linked to Proskills NOS Units 129 and 131
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills.
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to produce image carriers for printing utilizing digital system technology, eg computer to plate (flexo, gravure, litho), film output technology.

Learning outcome	The learner will:
1.	be able to impose images electronically
Assessment criteria	
The learner can:	
1.1	obtain all the details needed for the job
1.2	select an appropriate imposition scheme by taking into account: <ul style="list-style-type: none">• the quantity required• the working size of the job• paper size• printing machine sizes and the number available• the type of printing machine to be used• colour fall (where appropriate)• the method of finishing
1.3	retrieve or create an imposition template that meets the requirements of the imposition scheme
1.4	identify and correct data, system and software problems which will affect the production of impositions.

Learning outcome	The learner will:
2.	be able to prepare images for processing
Assessment criteria	
The learner can:	
2.1	check that the job files are compatible with the imaging software to be used
2.2	set the required output parameters to meet the job specification, taking into account, for example : <ul style="list-style-type: none"> • resolution • screen ruling and dot type • screen angle • orientation • position on the image carrier • register or other marks • right/wrong reading • emulsion up/down • separations settings
2.3	make sure the required image carrier is loaded into the output device
2.4	check that the output device is calibrated and prepared for operation.

Learning outcome	The learner will:
3.	be able to produce and process image carrier
Assessment criteria	
The learner can:	
3.1	send the data to the output device
3.2	after imaging, process the image carrier as required
3.3	check that output meets the job requirements for quality and specification
3.4	store finished output in line with company guidelines
3.5	keep records for quality assurance and administrative purposes as required by their company
3.6	archive digital files in accordance with company procedures.

Learning outcome	The learner will:
4.	know how to produce computer-generated image carriers
Assessment criteria	
The learner can:	
4.1	explain what information is required to start the work
4.2	describe factors to consider when selecting an appropriate imposition scheme
4.3	describe problems that can occur during the process of producing computer generated image carriers and suggest possible solutions
4.4	explain the company procedures for reporting faults and delays to production

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| 4.5 | describe the operation of equipment for the following: <ul style="list-style-type: none">• the set-up of digital imaging equipment and software• the operation of digital imaging equipment and software |
| 4.6 | state the characteristics of sensitive material in printing |
| 4.7 | explain how to deal with digital files in relation to the following: <ul style="list-style-type: none">• file conversion techniques• file compression and decompression systems• file management. |

Unit 211 Output digital image carriers for print

Supporting information

Guidance

AC4.2 – Candidates must describe at least **three** factors to consider when selecting an appropriate imposition scheme

AC4.3 – Candidates must describe at least **three** problems that can offer during the process of producing computer generated image carriers.

UAN:	M/502/8508
Level:	Level 2
Credit value:	4
GLH:	26
Relationship to NOS:	This unit is linked to Proskills NOS Unit 219
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to identify mesh and frame size, including preparing the mesh and checking the tension. Also the learner will be required to prepare the mesh material, apply and dry stencil material, position the photo-positive; also exposing, developing and drying the stencil.

Learning outcome	The learner will:
1.	be able to prepare the mesh
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and select the mesh type and frame size
1.3	check the tension of the mesh
1.4	check that the condition of new and used mesh is suitable for use
1.5	prepare the mesh so that it will accept the stencil.

Learning outcome	The learner will:
2.	know how to prepare the mesh
Assessment criteria	
The learner can:	
2.1	explain how to identify the image size
2.2	explain how to identify the machine to be used
2.3	explain how to select the frame
2.4	explain how to identify the required mesh material
2.5	describe why it is important that reclaimed mesh is free from stains and ghost images and how to confirm this
2.6	describe how to treat mesh material
2.7	explain how to check that stencil residue has been completely removed from reclaimed screens

2.8	describe the health and safety requirements when using chemicals and what personal protective equipment to use
2.9	describe the company procedure for reporting unsuitable frames and meshes.

Learning outcome	The learner will:
3.	be able to prepare stencils for production
Assessment criteria	
The learner can:	
3.1	obtain and check the job specification
3.2	obtain the photo-positive and check that it is fit for use
3.3	apply the stencil material to the screen and dry it in accordance with manufacturer's and company guidelines
3.4	position the photo-positive accurately on the screen
3.5	confirm that the exposure is correct to suit the stencil system
3.6	develop the stencil ensuring the water temperature and pressure are set in accordance with manufacturer's and company guidelines
3.7	dry stencils, checking that drying is even over the entire surface
3.8	check the stencils are free from fault.

Learning outcome	The learner will:
4.	know how to prepare stencils
Assessment criteria	
The learner can:	
4.1	describe the methods to use in the production of the different types of stencil
4.2	explain how to choose the type of stencil to use
4.3	explain reasons for choosing a particular stencil type
4.4	describe the materials available for the production of stencils
4.5	explain what safe light conditions are used in stencil processing
4.6	explain why it is important to position the photo-positive accurately and how the machine affects positioning
4.7	describe how to achieve the optimum exposure
4.8	describe the effects of under- and over-exposure
4.9	explain how the condition of the stencil affects the printed image
4.10	describe common faults associated with preparing the stencils for print.

Unit 212 Prepare stencils for printing

Supporting information

Guidance

AC4.10 – Candidates must describe at least **two** common faults associated with preparing stencils for print.

Unit 213

Make lithographic printing plates

UAN:	K/601/9400
Level:	Level 2
Credit value:	4
GLH:	26
Relationship to NOS:	This unit is linked to Proskills NOS Unit 251.
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to make plates and store them for reuse.

Learning outcome	The learner will:
1.	be able to produce lithographic printing plates
Assessment criteria	
The learner can:	
1.1	identify the required plate material for platemaking to meet the job specification
1.2	identify the required files and materials for exposing the plate to meet the job specification
1.3	check that the imaging/exposure and any on line processing equipment is ready for operation
1.4	load the plate into the imaging/exposure equipment in accordance with manufacturer's instructions
1.5	begin the imaging/exposure of the plate, in accordance with company guidelines
1.6	on completion of imaging/exposure, develop the plate to meet the job specification
1.7	check the plate for correct exposure, completeness of image and that it is free from damage.

Learning outcome	The learner will:
2.	know how to maintain lithographic printing plates
Assessment criteria	
The learner can:	
2.1	explain how and when to clean and protect plates for re-use
2.2	explain the conditions and procedure for storage of plates.

Learning outcome	The learner will:
3.	know how to produce lithographic printing plates
Assessment criteria	
The learner can:	
3.1	explain the types of lithographic printing plates and their uses
3.2	explain the process for producing a lithographic printing plate
3.3	explain checks to make before beginning the production process
3.4	describe common faults in plate making and plate processing, their causes and how to correct them
3.5	explain how and why, to report a fault that is not able to be corrected either due to lack of knowledge or lack of authority.

Unit 213 **Make lithographic printing plates**

Supporting information

Guidance

AC3.3 – Candidates must explain at least **three** checks to make before beginning the production process.

AC3.4 – Candidates must describe at least **three** common faults.

Unit 214

Prepare inks and coatings for printing

UAN:	M/601/9401
Level:	Level 2
Credit value:	4
GLH:	29
Relationship to NOS:	This unit is linked to Proskills NOS Unit 252
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to prepare printing inks and coatings for printing, either to achieve a specified colour or to alter the characteristics of the inks or coatings to suit the process conditions or substrate being printed.

Learning outcome	The learner will:
1.	be able to mix and match ink to meet the production specification
Assessment criteria	
The learner can:	
1.1	identify the mix and the inks required from the job instructions
1.2	obtain the required quantity and types of inks to make up the batch to meet the job specification
1.3	use company procedures for estimating and measuring the quantities required to produce the required mix in the required batch size(s)
1.4	produce the mix, following company procedures
1.5	match a sample against the specification, using approved test methods
1.6	record product details in line with company requirements.

Learning outcome	The learner will:
2.	know how to adjust viscosity and tack to suit materials or print conditions
Assessment criteria	
The learner can:	
2.1	explain the adjustments that can be made to viscosity or tack
2.2	list suitable medium with which to adjust the viscosity and tack
2.3	explain how to identify the required viscosity or tack has been achieved.

Learning outcome	The learner will:
3.	be able to store inks and coatings in accordance with company procedures
Assessment criteria	
The learner can:	
3.1	store inks and coatings in containers and conditions in accordance with company guidelines
3.2	ensure containers are marked in accordance with company procedures
3.3	record the stock control details required by the company.

Learning outcome	The learner will:
4.	know how to prepare inks and coatings for printing
Assessment criteria	
The learner can:	
4.1	explain where and how to obtain information on the job requirements
4.2	explain the operation of two of the following pieces of equipment: <ul style="list-style-type: none"> • ink weighing and checking equipment • viewing equipment • spectrophotometers
4.3	explain common problems with inks and coatings, and their likely causes
4.4	explain the administrative procedure for recording and reporting faults/problems
4.5	explain quality assurance and control in relation to: <ul style="list-style-type: none"> • techniques for controlling quality – testing, sampling • equipment for controlling quality – light standards for colour viewing, spectrophotometers, colour reference books
4.6	describe the types and characteristics of inks and coatings.

Unit 214 Prepare inks and coatings for printing

Supporting information

Guidance

AC4.3 – Candidates must explain at least **three** common problems with inks and coatings and their likely causes.

Unit 215

Set and run numbering, bar-coding or inline data printing equipment

UAN:	T/601/9402
Level:	Level 2
Credit value:	4
GLH:	30
Relationship to NOS:	This unit is linked to Proskills NOS Unit 253
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set and monitor numbering, bar-coding or inline data printing equipment. The numbering equipment may be conventional numbering 'clocks' or 'blocks' or ink-jet, thermal or laser technology.

Learning outcome	The learner will:
1. be able to set up numbering, bar-coding or non-impact printing equipment	
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	determine the sequence, orientation and position of the numbering or data on the sheet
1.3	for multiple sequential numbering, calculate the starting number for each number position
1.4	set the numbering device or print head to produce a clean image without causing physical damage to the substrate to be printed
1.5	check that any sequential numbering will operate and count in the right direction
1.6	check that any batch coding data is set-up accurately and any barcode images can be read by a barcode scanning device
1.7	ensure the working environment is safe for production
1.8	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to operate and monitor the quality of numbering, bar-coding or non-impact printing during production
Assessment criteria	
The learner can:	
2.1	monitor that any numbering or variable data is maintained in sequence
2.2	check that the numbering, bar-coding or other data can be read, eg by using a 'reading' device such as a barcode scanner
2.3	run the printing machinery at the optimum speed.
2.4	keep up the supply of materials and consumables throughout the run
2.5	check that quality standards and job specifications are met.

Learning outcome	The learner will:
3.	know how to set and monitor numbering, bar-coding or inline data printing equipment
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain the type of information required to ensure the equipment can be set correctly and where and when to obtain it
3.3	describe the identification and assessment of printing options and the stages in the printing process from pre-press to printed product
3.4	describe the operation of equipment for the following: <ul style="list-style-type: none"> • the operation of numbering, bar-coding or non-impact inline printing equipment • the principles of barcode construction, including the use of 'check' digits
3.5	explain the principles of impact and non-impact numbering and inline data printing
3.6	describe problems that can occur during the set up or operation processes and possible solutions.

Unit 215

Set and run numbering, bar-coding or inline data printing equipment

Supporting information

Guidance

AC3.6 – Candidates must describe at least **three** problems that can occur.

Unit 216

Set and run ancillary printing machine equipment

UAN:	A/601/9403
Level:	Level 2
Credit value:	5
GLH:	35
Relationship to NOS:	This unit is linked to Proskills NOS Unit 254
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to prepare and monitor the performance of printing machine equipment. Ancillary printing machine equipment is any piece of equipment which is associated with (and usually connected to) a printing machine but does not form part of the main printing machine itself.

Learning outcome	The learner will:
1.	be able to set ancillary printing machine equipment for use
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required to meet the job specification
1.3	ensure the working environment is safe for production
1.4	set the ancillary equipment to meet the job specification.

Learning outcome	The learner will:
2.	be able to operate the ancillary equipment
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met.

Learning outcome	The learner will:
3.	know how to set and run ancillary printing machine equipment
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	describe how to check that print equipment is ready for effective operation
3.3	explain where to obtain information on the setting and operation of machinery
3.4	describe situations that can be overcome by adjustments ,how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.5	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 216 Set and run ancillary printing machine equipment

Supporting information

Guidance

AC3.2 – Candidates must give at least **three** examples of how to check print equipment is ready for effective operation.

AC3.4 – Candidates must describe at least **three** situations.

AC3.5 – Candidates must describe at least **two** problems.

Unit 217

Set and run over-printing machinery

UAN:	F/601/9404
Level:	Level 2
Credit value:	7
GLH:	45
Relationship to NOS:	This unit is linked to Proskills NOS Unit 255
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and operate printing machinery designed to print onto a pre-made product. It also includes problem solving.

Learning outcome	The learner will:
1.	be able to set up an over-printing machine for production
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set the inserting equipment to meet the job specification
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run over-printing machinery effectively
Assessment criteria	
The learner can:	
2.1	run the printing machinery at the optimum speed
2.2	keep up the supply of materials and consumables throughout the run
2.3	check that quality standards and job specifications are met
2.4	record production and quality assurance details in line with company requirements
2.5	follow the company procedure for the removal of waste.

Learning outcome	The learner will:
3.	know how to set and operate over-printing machinery
Assessment criteria	
The learner can:	
3.1	explain how to obtain details of the work required
3.2	explain how to start up and shut down over printing machinery in: <ul style="list-style-type: none"> • normal operation • emergency situations
3.3	explain the company procedure for obtaining authorisation to begin production and why this is important
3.4	explain the identification and assessment of printing options, including the stages in the printing process from pre-press to printed product
3.5	describe the operation of over-printing machinery
3.6	explain the principles of the over-printing process that is used
3.7	explain how to identify faults which: <ul style="list-style-type: none"> • affect the quality of the image • produce a shortfall in output • create risks to health and safety.

Unit 218

Set and use ink drying equipment

UAN:	J/601/9405
Level:	Level 2
Credit value:	3
GLH:	23
Relationship to NOS:	This unit is linked to Proskills NOS Unit 256
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to use ink drying or ink curing equipment associated with printing machinery. Common ink drying/curing equipment includes: Ultra Violet (UV), Infra Red (IR) and hot air.

Learning outcome	The learner will:
1.	be able to set up ink drying equipment
Assessment criteria	
The learner can:	
1.1	check that the drying equipment is ready for production
1.2	ensure the drying equipment is set to operate at the temperature or intensity required.

Learning outcome	The learner will:
2.	be able to maintain the quality of output from ink drying equipment
Assessment criteria	
The learner can:	
2.1	monitor that the output meets the required quality in accordance with job specification, for example: <ul style="list-style-type: none">• ink setting and hardening rates meet production requirements• the correct temperature is maintained throughout the run• the quality of the image is maintained during drying activities
2.2	stack work in accordance with company guidelines.

Learning outcome	The learner will:
3.	know how to use ink drying equipment
Assessment criteria	
The learner can:	
3.1	explain how to obtain the information required to operate the ink drying equipment effectively
3.2	describe how to start up and stop ink drying equipment for: <ul style="list-style-type: none"> • normal use • emergency situations
3.3	explain the company procedure for the removal of waste from ink drying equipment
3.4	describe faults that can occur when operating ink drying equipment, what causes them and how to correct them
3.5	explain why it is important to check that there is no build up of material or combustible matter in or around the dryer
3.6	explain where and how to obtain the maintenance plan and operating procedures for the ink drying equipment
3.7	describe the company's procedure for reporting faults.

Unit 218

Set and use ink drying equipment

Supporting information

Guidance

AC3.4 – Candidates must describe at least **three** faults that can occur, their causes and how to correct them.

Unit 219

Prepare and maintain image carriers for printing

UAN:	D/601/9412
Level:	Level 2
Credit value:	4
GLH:	25
Relationship to NOS:	This unit is linked to Proskills NOS Unit 257
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to prepare and maintain image carriers and related consumables (such as blocks, pads, plates, or engraved cylinders).

Learning outcome	The learner will:
1.	be able to prepare image carriers for printing
Assessment criteria	
The learner can:	
1.1	identify and select the required image carrier(s) and any associated materials to meet the job specification
1.2	prepare the image carrier for use by fitting into/onto any externally-prepared carrier devices in accordance with company guidelines
1.3	ensure the image carrier is located and fitted in accordance with manufacture and company guidelines prior to production.

Learning outcome	The learner will:
2.	know how to store image carriers
Assessment criteria	
The learner can:	
2.1	explain how and when to clean and protect an image carrier
2.2	explain how to report any image carrier wear or damage in line with company procedures
2.3	explain the company procedure for labelling and storing image carriers.

Learning outcome	The learner will:
3.	know how to prepare and maintain image carriers for printing
Assessment criteria	
The learner can:	
3.1	describe the operation of image carrier mounting equipment
3.2	describe the difference between direct and indirect image transfer, giving an example of each
3.3	describe faults than can occur with image carriers, what causes them and how to correct them
3.4	describe the company's quality control checks on image carriers
3.5	describe the company's procedure for reporting faults
3.6	explain the types of image carriers used in the company.

Unit 219

Prepare and maintain image carriers for printing

Supporting information

Guidance

AC3.3 – Candidates must describe at least **two** faults that can occur, their causes and how to correct them.

Unit 220

Set and run die stamping printing machinery

UAN:	H/601/9413
Level:	Level 2
Credit value:	6
GLH:	41
Relationship to NOS:	This unit is linked to Proskills NOS Unit 260
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to undertake all the steps required to make a die stamping machine ready for production, to run the machine to produce commercially acceptable work, and to assist in identifying and correcting faults with the equipment.

Learning outcome	The learner will:
1.	be able to prepare die stamping machinery for production
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	set the paper transport to run, so that: <ul style="list-style-type: none">the job stock is fed and forwarded without misses or doublesthe transport operates safely at the required running speedsheets are delivered squarely and form an even pileproduction times can be met
1.3	fit and position the die, so that: <ul style="list-style-type: none">the die is securedthe die is square
1.4	set the pressure to ensure the product will meet the job specification
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run die stamping machinery
Assessment criteria	
The learner can:	
2.1	run the die stamping machine at the required speed
2.2	follow the company procedures for the removal of waste
2.3	stack work in accordance with company guidelines.

Learning outcome	The learner will:
3.	know how to set and operate die stamping printing machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down die stamping print machinery in: <ul style="list-style-type: none"> • normal operations • emergency situations
3.2	explain the information required to set the machinery to run effectively and where to obtain it
3.3	explain how to obtain and confirm authorisation to run the job and why this is important
3.4	explain how to identify faults which: <ul style="list-style-type: none"> • affect the quality of the image • produce a shortfall in output
3.5	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.6	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 220

Set and run die stamping printing machinery

Supporting information

Guidance

AC3.5 – Candidates must describe at least **three** situations.

AC3.6 – Candidates must describe at least **two** problems.

Unit 221

Set and use reel handling equipment

UAN:	K/601/9414
Level:	Level 2
Credit value:	3
GLH:	23
Relationship to NOS:	This unit is linked to Proskills NOS Unit 261
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to use reel handling equipment on printing machines. It includes knowledge of problems and risks with this equipment.

Learning outcome	The learner will:
1.	be able to set up reel handling equipment
Assessment criteria	
The learner can:	
1.1	obtain the required quantity and quality of materials to meet job specification
1.2	prepare reel handling equipment, so that: <ul style="list-style-type: none">• reels are selected and held safely and securely• the equipment operates efficiently.

Learning outcome	The learner will:
2.	be able to operate reel handling equipment in accordance with manufacturer and company guidelines
Assessment criteria	
The learner can:	
2.1	ensure the material is delivered and securely loaded to the machine
2.2	maintain the supply of materials throughout the run
2.3	monitor the substrate during the production process.

Learning outcome	The learner will:
3.	know how to use reel handling equipment
Assessment criteria	
The learner can:	
3.1	describe how to start and stop reel handling equipment in: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain faults that can occur with the reel handling equipment and where to obtain information on corrective actions
3.3	describe the risks associated with preparing and operating reel handling equipment and how to avoid them
3.4	describe problems associated with reels, the causes and possible solutions
3.5	explain where and how to obtain the maintenance plan and operating procedures for the reel handling equipment.

Unit 221

Set and use reel handling equipment

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** faults and where to obtain information on corrective actions for these.

AC3.4 – Candidates must describe at least **three** problems associated with reels, the causes of these and possible solutions to rectify these.

Unit 222

Set and run in-line converting or enhancing equipment

UAN:	F/601/9418
Level:	Level 2
Credit value:	7
GLH:	44
Relationship to NOS:	This unit is linked to Proskills NOS Unit 262
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set and run in-line converting and/or enhancing equipment on a printing machine. In-line converting or enhancing equipment is equipment which is used to apply a coating or other image-enhancing material to the substrate or any form of finishing or converting technique which is run in-line immediately before or after the printing units. It includes techniques such as cutting and creasing, rotary die-cutting, laminating, embossing, foiling and coating.

Learning outcome	The learner will:
1.	be able to set in-line converting or enhancing equipment
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set the in line converting equipment to meet the job specification taking into consideration, for example: <ul style="list-style-type: none">• the size, type and caliper of the substrate• grain direction• press running speed• that dies, formes, cylinders, blankets, etc are mounted onto or into the unit to allow effective production• any enhancing materials (eg foils, coatings, laminates)• controlled removal of waste• production times
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run in-line converting or enhancing equipment
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed, and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run in-line converting or enhancing equipment
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	describe how to check that the equipment is ready for effective operation
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	explain the types of faults that can affect the quality of output, and their possible causes
3.8	describe situations that can be overcome by adjustments ,how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 222

Set and run in-line converting or enhancing equipment

Supporting information

Guidance

AC3.2 – Candidates must describe at least **three** examples of checks that can be done on equipment to confirm it's ready for operation/

AC3.5 – Candidates must explain at least **two** examples of things to monitor to ensure quality of output.

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.7 – Candidates must explain at least **two** types of faults and their possible causes.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 223

Set and run in-line folding equipment

UAN:	J/601/9419
Level:	Level 2
Credit value:	7
GLH:	42
Relationship to NOS:	This unit is linked to Proskills NOS Unit 263
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set in-line folding equipment on a printing machine. It also requires knowledge of adjustments and problem solving.

Learning outcome	The learner will:
1.	be able to set and operate in-line folding equipment
Assessment criteria	
The learner can:	
1.1	obtain all necessary details for the job
1.2	ensure the working environment is safe for production
1.3	set the folding equipment ensuring that any register requirements are met
1.4	set up any gluing, stitching, sheeting or rotary cutting equipment required to produce the product to specification
1.5	ensure the output meets the job specifications and company quality standard prior to full production
1.6	check output meets the company's quality standard.

Learning outcome	The learner will:
2.	know how to set and operate in-line folding equipment
Assessment criteria	
The learner can:	
2.1	explain how to start up and shut down the equipment in: <ul style="list-style-type: none">• normal operation• emergency situations
2.2	explain what information is required to set up and run the job and where to obtain it
2.3	explain how to identify the cause of problems which: <ul style="list-style-type: none">• would reduce the rate of output

- cause damage or distortion to the end product
 - affect the efficient operation of equipment
- 2.4 describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
- 2.5 describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 223 Set and run in-line folding equipment

Supporting information

Guidance

AC2.4 – Candidates must describe at least **three** situations.

AC2.5 – Candidates must describe at least **two** problems.

Unit 224

Set and run auto-packing, storage or palletising equipment

UAN:	J/601/9422
Level:	Level 2
Credit value:	3
GLH:	22
Relationship to NOS:	This unit is linked to Proskills NOS Units 265 and 314
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set and run automatic packing, storage or palletising equipment at the end of a printing machine. It is also suitable for those who work on newspapers and periodicals.

Learning outcome	The learner will:
1.	be able to set auto-packing, storage or palletising equipment
Assessment criteria	
The learner can:	
1.1	obtain all details and materials required for the job
1.2	set up the equipment, taking in to consideration, for example: <ul style="list-style-type: none">quantities (as required in job specification) for batches, bundles or cartons are inputproduct is wrapped without damage, distortion or wastebundles are square, leave the stacker centrally at the selected running speed and in the required orientationunder wrap (where used) is appliedstrapping feeds freely without snaggingthe required number of straps are applied.

Learning outcome	The learner will:
2.	be able to run auto-packing, storage or palletising equipment
Assessment criteria	
The learner can:	
2.1	operate the equipment at the production speed and in accordance with company guidelines
2.2	maintain the supply of packing materials throughout the run

2.3	monitor that packed/stored/palletised product meets the company's quality standards
2.4	forward packaged products to the designated dispatch location with identification records in accordance with company guidelines.

Learning outcome	The learner will:
3.	know how to set and run auto-packing, storage or palletising equipment
Assessment criteria	
The learner can:	
3.1	describe the equipment used in the company for auto-packing, storage or palletising equipment
3.2	explain how to label the product once packaged in accordance with company procedures
3.3	describe problems that could occur when operating auto-packing, storage or palletising equipment and possible solutions
3.4	describe the company's procedure for recording and reporting problems affecting auto-packing, storage or palletising equipment.

Unit 224

Set and run auto-packing, storage or palletising equipment

Supporting information

Guidance

AC3.3 – Candidates must describe at least **two** problems that could occur and possible solutions for them.

Unit 225

Prepare and load sheet-fed substrates

UAN:	R/601/9424
Level:	Level 2
Credit value:	3
GLH:	21
Relationship to NOS:	This unit is linked to Proskills NOS Unit 266
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to prepare and handle substrates in sheet form in a printing environment. It includes knowledge of stacking and storage.

Learning outcome	The learner will:
1.	be able to maintain the condition of substrates in sheet form for printing
Assessment criteria	
The learner can:	
1.1	ensure that substrates for print are protected from physical damage and deterioration
1.2	store substrates for print in an environment that will minimise the effects of changes to humidity and temperature
1.3	make sure materials for print are identified in respect of their type and their intended use (eg for job or stock)
1.4	use pallet moving equipment in accordance with manufacturer's and company guidelines.

Learning outcome	The learner will:
2.	be able to stack and load sheet substrates
Assessment criteria	
The learner can:	
2.1	check that the substrate has been identified in accordance with the job specification
2.2	unwrap the substrate using tools and equipment in accordance with company guidelines
2.3	aerate the substrate to eliminate related feeding problems
2.4	stack the substrate into the machine feeder ensuring an even pile is maintained
2.5	protect printed stacks from damage or deterioration.

Learning outcome	The learner will:
3.	know how to prepare and load sheet-fed substrates
Assessment criteria	
The learner can:	
3.1	explain the ideal conditions and environment in which to store substrates
3.2	explain the consequences of poor storage environment
3.3	explain the company procedure if the substrate does not meet the required standard
3.4	explain when and how to de-stack printed sheets for further processing, packing or transport
3.5	explain the consequences of handling printed sheets before sufficiently dry.

Unit 226

Set and run automated inserting machinery for newspapers and periodicals

UAN:	H/601/9427
Level:	Level 2
Credit value:	4
GLH:	25
Relationship to NOS:	This unit is linked to Proskills NOS Unit 309
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run automated inserting machinery. It includes knowledge of problems and offering solutions.

Learning outcome	The learner will:
1.	be able to set automated inserting equipment for newspapers and periodicals
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set the inserting equipment to meet the job specification taking into consideration, for example: <ul style="list-style-type: none">• the size of the document• required sequence• mis-feed detector(s) are set• synchronization with other machinery• production time
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run automated inserting equipment for newspapers and periodicals
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed and in accordance with company guidelines

2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run automated inserting equipment for newspapers and periodicals
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain check to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	explain the possible causes of faults which result in for example: <ul style="list-style-type: none"> • documents missing or duplicated • damaged copies • poor synchronisation
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 226 Set and run automated inserting machinery for newspapers and periodicals

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 227

Set and run in line automated stitch and trim equipment for newspaper and periodical production

UAN:	F/602/8626
Level:	Level 2
Credit value:	4
GLH:	28
Relationship to NOS:	This unit is linked to Proskills NOS Unit 250.
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set and run in-line stitching-trimming machinery for Newspaper and Periodicals production. They will be expected to control the equipment whilst running production jobs to produce commercially acceptable work, and to understand how to identify and correct faults with the equipment.

Learning outcome	The learner will:
1.	be able to set stitching-trimming machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	ensure the required type, quantity and quality of materials are available and loaded to meet the job specification
1.3	ensure the working environment is safe for production
1.4	set up the line so that the output meets the job specification, to include: <ul style="list-style-type: none">• positioning and condition of stitch
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run stitching-trimming machinery
Assessment criteria	
The learner can:	
2.1	run stitching-trimming machinery at the required speed, and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	ensure the product is forwarded to the next stage in the production process.

Learning outcome	The learner will:
3.	know how to set and run stitching-trimming machines
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain check to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • stitch legs of unequal length • stitch legs not closed • stitches missing
3.8	describe situations that can be overcome by adjustments ,how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 227

Set and run in line automated stitch and trim equipment for newspaper and periodical production

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 228

Materials handling, transportation and storage within the print working environment

UAN:	Y/601/9392
Level:	Level 2
Credit value:	4
GLH:	25
Relationship to NOS:	This unit is linked to Proskills NOS Unit 312
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to identify, transport and store materials within the print working environment.

Learning outcome	The learner will:
1.	be able to identify and select the required type and quantity of materials
Assessment criteria	
The learner can:	
1.1	identify materials by their labels/identification marks
1.2	locate materials
1.3	check that materials match their markings
1.4	select the required type and quantity of materials.

Learning outcome	The learner will:
2.	be able to handle and transport materials in accordance with company guidelines
Assessment criteria	
The learner can:	
2.1	handle the materials safely, and in accordance with company guidelines, taking into account, for example: <ul style="list-style-type: none">• handling equipment• manual handling techniques• personal protective equipment
2.2	transport the materials safely using the appropriate transportation methods and equipment as specified in company guidelines. To include:

- manual handling
- handling/lifting equipment.

Learning outcome	The learner will:
3.	know the impact of incorrect handling and transporting of materials
Assessment criteria	
The learner can:	
3.1	describe how materials can be damaged during the handling and transportation of materials.
3.2	explain the types of personal injury that can occur through incorrect handling and transportation of materials.

Learning outcome	The learner will:
4.	know how to position /store materials in accordance with organisational procedures.
Assessment criteria	
The learner can:	
4.1	explain factors to consider when positioning or storing materials
4.2	explain the difficulties/hazards which can be encountered when positioning or storing materials
4.3	give solutions to the difficulties/hazards which can be encountered in positioning or storing materials.

Learning outcome	The learner will:
5.	be able to position or store materials in accordance with organisational procedures
Assessment criteria	
The learner can:	
5.1	position or store materials, taking into account: <ul style="list-style-type: none"> • avoiding damage to the materials or surrounding objects • security of materials • ease of access for further work.

Unit 228

Materials handling, transportation and storage within the print working environment

Supporting information

Guidance

AC4.1 – Candidates must explain at least **three** factors to consider when positioning or storing materials.

AC4.2 – Candidates must explain at least **three** examples of difficulties/hazards which can be encountered when positioning or storing materials.

AC4.3 – Candidates must give solutions to all difficulties/hazards identified in AC4.2.

Unit 229

Set and run auto punching and cutting machinery

UAN:	L/601/9423
Level:	Level 2
Credit value:	5
GLH:	33
Relationship to NOS:	This unit is linked to Proskills NOS Unit 349
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run auto punching and cutting machinery in the Print Finishing process. There is also the need to have knowledge of adjustments and problem solving when operating this type of equipment.

Learning outcome	The learner will:
1.	be able to set auto punching and cutting machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the auto punching and cutting machinery so that: <ul style="list-style-type: none">punching and cutting is clean without any burrspunching and cutting is in register with the printed productall waste is removed from sheetsproduction times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run auto punching and cutting machinery
Assessment criteria	
The learner can:	
2.1	operate the equipment at the required production speed, and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met

2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run auto punching and cutting machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example <ul style="list-style-type: none"> • products having a burred edge • products being out of register with the print
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 229

Set and run auto punching and cutting machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 230

Set and run foil blocking machinery

UAN:	K/601/9428
Level:	Level 2
Credit value:	6
GLH:	36
Relationship to NOS:	This unit is linked to Proskills NOS Unit 350
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run foil blocking machinery. The unit also includes making adjustments to the machinery and problem solving.

Learning outcome	The learner will:
1.	be able to set up foil blocking machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up foil blocking machinery, so that, for example: <ul style="list-style-type: none">• the temperature is correct for the material to be blocked• material to be blocked is fed squarely, coming to the register against stops• the foil is fed evenly, to give minimum gap between impressions• images are clean, sharp and have overall solid colour density• images are accurately positioned on the material to meet job specification• subsequent colours are in register and fit with other colours• production times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run foil blocking machinery
Assessment criteria	
The learner can:	
2.1	run foil blocking machinery at the required speed, and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run foil blocking machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • image out of square • foil not sticking to material surface • image not having solid appearance • image blurred • marking of material outside image area • loss of fine detail
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 230

Set and run foil blocking machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 231

Set and run insetting-stitching-trimming machines

UAN:	M/601/9429
Level:	Level 2
Credit value:	7
GLH:	45
Relationship to NOS:	This unit is linked to Proskills NOS Unit 352.
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to who set and run in-line insetting-stitching-trimming machinery. The unit also includes knowledge of adjustments and problem solving.

Learning outcome	The learner will:
1.	be able to set in-line insetting-stitching-trimming machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the line, so that, for example: <ul style="list-style-type: none">• sections are inserted to give the required page sequence• sections and covers are fed into the stitcher squarely and without damage• stitched books hold firmly, and are securely clenched• stitched books are fed into the trimmer squarely and without damage• books are trimmed evenly and squarely to the required size, without marking• books are delivered without damage or distortion• production times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run in-line insetting-stitching-trimming machinery
Assessment criteria	
The learner can:	
2.1	run in-line insetting-stitching-trimming machinery at the required speed, and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work for mailing or according to the company's approved method.

Learning outcome	The learner will:
3.	know how to set and run in-line insetting-stitching-trimming machines
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • stitch legs of unequal length • stitch legs not closed • stitches missing • marks on book spines
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 231 Set and run insetting- stitching-trimming machines

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 232

Set and run wire binding machinery

UAN:	L/502/8497
Level:	Level 2
Credit value:	3
GLH:	22
Relationship to NOS:	This unit is linked to Proskills NOS Unit 355.
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to use wire binding machinery. The unit also contains problem solving.

Learning outcome	The learner will:
1.	be able to set wire binding machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up wire binding machinery, so that: <ul style="list-style-type: none">• sheets are square• wire is fed without any damage to the wire or product• production times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run wire binding machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed, and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste

2.6	stack or pack finished work in accordance with company approved method.
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Learning outcome	The learner will:
3.	know how to set and run wire binding machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in <ul style="list-style-type: none"> • sheets out of square • damaged wire or product
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 232 Set and run wire binding machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 233

Set and run booklet making machinery

UAN:	H/601/9430
Level:	Level 2
Credit value:	5
GLH:	31
Relationship to NOS:	This unit is linked to Proskills NOS Unit 356.
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and operate booklet making machinery. It includes knowledge of problems that can occur with this type of equipment.

Learning outcome	The learner will:
1.	be able to set booklet-making machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set the collator to meet the job specification taking into consideration, for example: <ul style="list-style-type: none">• the size of the flat sheet• the flat sheets are in the required sequence• each pile showing its different, accurately-positioned printed image• mis-feed and double detector(s) are set• production times
1.5	set the stitch-fold unit so that: <ul style="list-style-type: none">• the staples are positioned as required by job specification• the fold is made in the required position• the settings are appropriate for the booklet thickness and size
1.6	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run booklet making machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run booklet making machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • pages missing or duplicated • wire stitches or staples missing, broken or misformed • wire stitches/staples and fold not aligned • trimming faults such as out of square or wrong size • marking of inside or outside pages
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 233 Set and run booklet making machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 234

Set and run guillotines

UAN:	A/601/9417
Level:	Level 2
Credit value:	5
GLH:	33
Relationship to NOS:	This unit is linked to Proskills NOS Units 357 and 309.
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set and run guillotines, including knowledge of faults and problems that can occur with guillotines.

Learning outcome	The learner will:
1.	be able to set/programme and run guillotines
Assessment criteria	
The learner can:	
1.1 obtain all details of the work required	
1.2 identify and obtain the materials needed to meet the job specification	
1.3 check that the guillotine and work area is safe and ready for production	
1.4 follow manufacturers instruction to start up the guillotine	
1.5 set up the guillotine taking into consideration:	
<ul style="list-style-type: none">the use of an existing programme or the need to create a programmed cutting sequencethe required cut size(s) is(are) produced with minimum handlingsetting the back fence manually for each cutproduction time	
1.6 run the guillotine, making sure that, for example:	
<ul style="list-style-type: none">cuts are clean, square and accurately positionedclamp pressure does not cause marking or set-off	
1.7 monitor the output to ensure the job specification and company quality standards are met	
1.8 record production information in accordance with company requirements	
1.9 follow the company procedures for the removal of waste.	

Learning outcome	The learner will:
2.	know how to run guillotines
Assessment criteria	
The learner can:	
2.1	explain the information required to carry out the work and where to obtain it
2.2	describe the principles of guillotining
2.3	explain the risks associated with operating a guillotine, and how to avoid them
2.4	explain how to start up and stop the guillotine in: <ul style="list-style-type: none"> • normal operation • emergency situations
2.5	explain the company's method for stacking of finished work from the machine.

Learning outcome	The learner will:
3.	be able to monitor quality of guillotine cutting
Assessment criteria	
The learner can:	
3.1	check that the company's quality standards are being met
3.2	record the quality assurance details following company procedures.

Learning outcome	The learner will:
4.	know how to monitor quality of guillotine cutting
Assessment criteria	
The learner can:	
4.1	describe the company's quality standards for guillotine work
4.2	describe faults with a product that can occur in guillotine work, how to identify and rectify them
4.3	explain how to check that the machine is safe to operate, once quality defects have been corrected
4.4	explain the company procedure for recording and reporting problems or faults.

Unit 234 Set and run guillotines

Supporting information

Guidance

AC4.2 - Candidates must describe at least **three** faults.

Unit 235

Set and run mail processing machinery

UAN:	K/601/9431
Level:	Level 2
Credit value:	5
GLH:	31
Relationship to NOS:	This unit is linked to Proskills NOS Unit 359
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run mail processing machinery. There is also the need to have knowledge of adjustments and problem solving when operating this type of equipment.

Learning outcome	The learner will:
1.	be able to set mail processing machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up mail processing machinery, so that: <ul style="list-style-type: none">• material feeds squarely and centrally to the trimmer unit, when trimming is required• material is processed without damage or distortion• inserts are fed accurately into the required envelopes• envelopes, carrier sheets or wrappings are coded accurately• an accurate count is maintained• production times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run mail processing machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed, and in accordance with company guidelines

2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work according to the company's approved method.

Learning outcome	The learner will:
3.	know how to set and run mail processing machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example <ul style="list-style-type: none"> • incorrect or missing codes • missing or incorrectly positioned inserts • unacceptable marking of the product • material jamming • damage or distortion to the product
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 235 Set and run mail processing machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 236

Set and run adhesive binding machinery

UAN:	T/601/9433
Level:	Level 2
Credit value:	5
GLH:	31
Relationship to NOS:	This unit is linked to Proskills NOS Unit 360.
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set and run adhesive binding machinery. It includes knowledge of adjustments and problem solving.

Learning outcome	The learner will:
1.	be able to set adhesive binding machinery
Assessment criteria	
The learner can:	
1.1 obtain and check the job specification	
1.2 identify and obtain the materials required for the job	
1.3 ensure the working environment is safe for production	
1.4 set the adhesive binding machinery to meet the job specification taking into consideration, for example:	
<ul style="list-style-type: none">• the size of the article• the temperature and volume of the adhesive• production speeds• Synchronization with other machinery• production times	
1.5 ensure the output meets the job specifications and company quality standard prior to full production.	

Learning outcome	The learner will:
2.	be able to run adhesive binding machinery
Assessment criteria	
The learner can:	
2.1 operate the machinery at the required production speed, and in accordance with company guidelines	
2.2 keep up the supply of materials throughout the run	
2.3 monitor the output to ensure the job specification and company quality standards are met	

2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run adhesive binding machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • cracking of the surface along score lines • print being out of square on the front cover and spine • rounding of spines • too much and too little glue penetration • poor page-pull strength • covers not registering correctly with book block
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 236 Set and run adhesive binding machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 237

Set and run casing-in machinery

UAN:	F/601/9435
Level:	Level 2
Credit value:	6
GLH:	31
Relationship to NOS:	This unit is linked to Proskills NOS Unit 361
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run casing in machinery. It includes the need to understand how to make adjustments and solve problems with this type of equipment.

Learning outcome	The learner will:
1.	be able to set casing-in machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the casing-in machine so that the output will meet the job specification and the company quality standards
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run casing-in machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work according to the company's approved method.

Learning outcome	The learner will:
3.	know how to set and run casing-in machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output,
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • the book block incorrectly positioned within the case • the book block not glued securely into the case • glue marking of the case and book block • lifting of endpapers from cover turn-in
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 237 Set and run casing in machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.7 – Candidates must define the possible causes of at least **two** faults.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 238

Set and run case making machinery

UAN:	J/601/9436
Level:	Level 2
Credit value:	6
GLH:	37
Relationship to NOS:	This unit is linked to Proskills NOS Units 344 and 362
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run case making machinery. It includes the need to understand how to make adjustments and solve problems with this type of equipment.

Learning outcome	The learner will:
1.	be able to set case making machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the case making machine taking into consideration, for example: <ul style="list-style-type: none">• boards and hollows transfer from feeders squarely and evenly• grain direction• cover material transfers from the feeder squarely and evenly• glue is applied evenly at the correct temperature• cover material is turned in evenly and squarely onto boards• production times
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run case making machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed, and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work according to the company's approved method.

Learning outcome	The learner will:
3.	know how to set and run case making machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • blistering of cover material • uneven corner cutting • uneven turn-ins • turn-ins not tight • cover boards not parallel with each other • cover material not adhering to boards
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 238 Set and run case making machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

UAN:	R/601/9438
Level:	Level 2
Credit value:	5
GLH:	31
Relationship to NOS:	This unit is linked to Proskills NOS Unit 363
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run Folding Machinery. It includes the need to understand how to make adjustments and solve problems with this type of equipment.

Learning outcome	The learner will:
1.	be able to set the folding machinery
Assessment criteria	
<p>The learner can:</p> <p>1.1 obtain and check the job specification</p> <p>1.2 identify and obtain the materials required for the job</p> <p>1.3 ensure the working environment is safe for production</p> <p>1.4 set the equipment to meet the job specification taking into consideration, for example:</p> <ul style="list-style-type: none"> • the size, type and caliper of the flat sheet • position and type of fold • Imposition • grain direction • production time • mis-feed and double detector(s) are set • production times <p>1.5 ensure the output meets the job specifications and company quality standard prior to full production.</p>	

Learning outcome	The learner will:
2.	be able to run Folding machinery
Assessment criteria	
<p>The learner can:</p> <p>2.1 operate the machinery at the required production speed, and in accordance with company guidelines</p>	

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| 2.2 | keep up the supply of materials throughout the run |
| 2.3 | monitor the output to ensure the job specification and company quality standards are met |
| 2.4 | record production information in accordance with company requirements |
| 2.5 | follow the company procedures for the removal of waste |
| 2.6 | stack or pack finished work in accordance with company approved method. |

Learning outcome	The learner will:
3.	know how to set and run folding machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	explain the possible causes of faults which result in for example: <ul style="list-style-type: none"> • sheets folded out of square • slitting and perforating not parallel to sheet edge • unacceptable creasing of sections • incorrect header and footer alignment • sections not in page sequence • marking of sections
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 239 Set and run folding machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 240

Set and run multi-knife trimming machinery

UAN:	Y/601/9439
Level:	Level 2
Credit value:	4
GLH:	25
Relationship to NOS:	This unit is linked to Proskills NOS Unit 364
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run multi-knife trimming machinery It includes the need to understand how to make adjustments and solve problems with this type of equipment.

Learning outcome	The learner will:
1.	be able to set multi-knife trimming machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the multi-knife trimmer, so that: <ul style="list-style-type: none">• piles are fed squarely into the trimmer• the clamp holds the pile firmly without marking• piles are trimmed squarely and delivered without damage or distortion• the trimmed size is within variations permitted by their company• production times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run multi-knife trimming machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed, and in accordance with company guidelines

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| 2.2 | keep up the supply of materials throughout the run |
| 2.3 | monitor the output to ensure the job specification and company quality standards are met |
| 2.4 | record production information in accordance with company requirements |
| 2.5 | follow the company procedures for the removal of waste |
| 2.6 | stack or pack finished work according to the company's approved method. |

Learning outcome	The learner will:
3.	know how to set and run multi-knife trimming machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • unacceptable cut size variation • score marks on cut surfaces • glue marks on cut surfaces • ragged cut on bottom pages • book spines splitting at head or tail • books not square • creasing on spines
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 240 Set and run multi-knife trimming machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 241

Set and run multiple hopper feeders

UAN:	L/601/9440
Level:	Level 2
Credit value:	4
GLH:	25
Relationship to NOS:	This unit is linked to Proskills NOS Unit 365
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run multiple hopper feeder machinery. They will be expected to know how to make adjustments and solve problems with this type of equipment.

Learning outcome	The learner will:
1.	be able to set multiple hopper feeders
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the hopper feeders so that: <ul style="list-style-type: none">• sections are brought together to give the required page sequence• sections are fed squarely from hoppers to the transport chain• separation ensures that sections are transported squarely, without damage• production times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run multiple hopper feeders
Assessment criteria	
The learner can:	
2.1	run multiple hopper feeders at the required speed, safely and efficiently
2.2	keep up the supply of materials throughout the run

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| 2.3 | monitor the output to ensure the job specification and company quality standards are met |
| 2.4 | record production information in accordance with company requirements |
| 2.5 | follow the company procedures for the removal of waste |
| 2.6 | stack or pack finished work for mailing or according to the company's approved method. |

Learning outcome	The learner will:
3.	know how to set and run multiple hopper feeders
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • sections not gathered in the correct order • sections not inserted in the correct order • sections failing to feed and separate • sections feeding unevenly • sections tearing • sections marking
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 241 Set and run multiple hopper feeders

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 242

Set and run auto-fed sewing machinery

UAN:	H/601/9444
Level:	Level 2
Credit value:	4
GLH:	25
Relationship to NOS:	This unit is linked to Proskills NOS Unit 366
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run auto-fed sewing machinery. There is also the need to have knowledge of adjustments and problem solving when operating this type of equipment

Learning outcome	The learner will:
1.	be able to set auto-fed sewing machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the sewing machine, so that: <ul style="list-style-type: none">• the feeder locates the centre of each section• sections are fed squarely and without damage into the sewing machine• sewing positions are spaced across spines within the finished trim size• sewing holds sections securely without damage or distortion• sewn book blocks are delivered without damage• production times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run auto-fed sewing machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed, and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work according to the company's approved method.

Learning outcome	The learner will:
3.	know how to set and run auto-fed sewing machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain check to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • missed stitches • loose stitches • sections not square at head • glue marks on sections • rub marking on sections
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 242 Set and run auto-fed sewing machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 243

Set and run cutting and creasing machinery

UAN:	K/601/9445
Level:	Level 2
Credit value:	5
GLH:	33
Relationship to NOS:	This unit is linked to Proskills NOS Unit 401
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run cutting and creasing machinery in the Print Finishing process. There is also the need to have knowledge of adjustments and problem solving when operating this type of equipment.

Learning outcome	The learner will:
1.	be able to set cutting and creasing machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	check that the cutting forme matches the job
1.5	set the cutting and creasing machinery ready to run safely, taking into consideration, for example: <ul style="list-style-type: none">• material is fed squarely into the machine• the position of cuts and creases is accurate• material is cut and creased squarely and delivered without damage• production time
1.6	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run cutting and creasing machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed and in accordance with company guidelines

- | | |
|-----|--|
| 2.2 | keep up the supply of materials throughout the run |
| 2.3 | monitor the output to ensure the job specification and company quality standards are met |
| 2.4 | record production information in accordance with company requirements |
| 2.5 | follow the company procedures for the removal of waste |
| 2.6 | stack or pack finished work in accordance with company approved method. |

Learning outcome	The learner will:
3.	know how to set and run cutting and creasing machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • unacceptable variation in cut size or position • ragged cuts • uneven or misaligned creases • marking, damage or distortion to the product
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 243 Set and run cutting and creasing machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 244

Set and run laminating equipment

UAN:	Y/601/9411
Level:	Level 2
Credit value:	4
GLH:	25
Relationship to NOS:	This unit is linked to Proskills NOS Unit 407
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run laminating equipment. There is also the need to have knowledge of adjustments and problem solving when operating this type of equipment

Learning outcome	The learner will:
1.	be able to set laminating equipment
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the laminator, so that: <ul style="list-style-type: none">laminating film is fed squarely on to the productlaminating takes place without marking, creasing or air bubblesproduction times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run laminating equipment
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed and in accordance with company safety guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met

2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run laminating equipment
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output, give 3 examples of things to monitor
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • bubbles • creases • material not fed square • de lamination
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 244 Set and run laminating equipment

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 245

Set and run slitting and re-reeling equipment - adhesive label production

UAN:	R/601/9410
Level:	Level 2
Credit value:	3
GLH:	19
Relationship to NOS:	This unit is linked to Proskills NOS Unit408
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run slitting and re-reeling equipment. There is also the need to have knowledge of adjustments and problem solving when operating this type of equipment.

Learning outcome	The learner will:
1.	be able to set slitting and re-reeling equipment
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required for the job
1.3	ensure the working environment is safe for production
1.4	set up the slitting and re-reeling equipment, so that, for example: <ul style="list-style-type: none">• slitting is clean without any burrs• waste is removed from final reels• reels are produced of the required length, meterage, quantity• reels are square to the core• production times can be met
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run slitting and re-reeling equipment
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed and in accordance with company guidelines

2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run slitting and re-reeling equipment in - adhesive label production
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • reels of the wrong length • reels out of square to the core • inaccurate slitting.

Unit 245

Set and run slitting and re-reeling equipment - adhesive label production

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

Unit 246

Create digital artwork for print

UAN:	M/601/9396
Level:	Level 2
Credit value:	5
GLH:	38
Relationship to NOS:	This unit is linked to Proskills NOS Unit 710
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to create digital artwork prepare the layout of documents, including images and text. Proof reading and problem solving skills and knowledge are also required.

Learning outcome	The learner will:
1.	be able to prepare layout of documents for print
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	agree the number of colours that will be used to print the job in line with the job specification
1.3	identify, locate and retrieve data, text and graphics required for the job
1.4	select or create a template that is appropriate for the style of document
1.5	confirm page size and orientation, margins, columns, headers and footers to produce a balanced presentation throughout the document
1.6	select typefaces appropriate for the style of document or as specified by the customer
1.7	save templates and originals to preserve their integrity and to comply with the organisation's requirements.

Learning outcome	The learner will:
2.	be able to set text to agreed typographical specifications
Assessment criteria	
The learner can:	
2.1	use input devices to import or capture image files to meet the job requirements

2.2	retain required text formatting when importing original text files
2.3	use automated checking facilities to eliminate spelling and other errors
2.4	check the document against the job requirements and the typographical specification to confirm that: <ul style="list-style-type: none"> the layout is correct the correct typefaces have been used
2.5	rotate, crop, and/or overlay text to create effective digital artwork to meet the customer's requirements
2.6	align and justify text to meet the job requirements throughout the document
2.7	use effects, for example: <ul style="list-style-type: none"> bold italics underlines indents horizontal and vertical alignment
2.8	select and apply printable colours to text where required.

Learning outcome	The learner will:
3.	be able to import and use images in digital artwork
Assessment criteria	
The learner can:	
3.1	use input devices to import or capture image files eg CD, scanner, camera, pen drive
3.2	choose a file format, image resolution which is suitable for the printing method to be used to print the document
3.3	resize images to fit the available space on the page
3.4	rotate, crop, and/or overlay images to create digital artwork suitable for its purpose and the customer's requirements.

Learning outcome	The learner will:
4.	be able to proof and correct digital artwork for print
Assessment criteria	
The learner can:	
4.1	output a suitable proof for checking
4.2	review the document for possible faults with images, such as low resolution, poor colour, sizing or text wrapping problems before submission
4.3	submit the proof for review
4.4	amend existing file in line with alterations marked on the proof eg data, text, image
4.5	save intermediate and final files to preserve their integrity and to comply with their organisation's requirements
4.6	obtain authorisation before releasing the work for print.

Learning outcome	The learner will:
5.	know how to create digital artwork for print
Assessment criteria	
The learner can:	
5.1	describe the organisation's arrangements and requirements for the safety, security and storage of customers work
5.2	identify the reasons for selecting one printing process over another
5.3	describe pieces of hardware and software used to produce artwork for print
5.4	explain the meaning of the following terms: <ul style="list-style-type: none"> • typography • alignment • font-style and size • copyright • cropping • PDF
5.5	identify factors which can have an influencing effect on the creation of digital artwork for print
5.6	identify the range of file types used in the creation of artwork for print and their suitable application
5.7	identify the administrative procedures to be considered when producing artwork for print
5.8	identify the checks which must be carried out to ensure the artwork is suitable for output
5.9	list types of proof reader's marks and explain their meanings
5.10	explain the difference between 'brightness' and 'contrast' in relation to images
5.11	explain the term 'image resolution'
5.12	explain what is meant by 'bleed' with regards to the page edge
5.13	explain the term 'screen ruling' and how it can be expressed.

Unit 246

Create digital artwork for print

Supporting information

Guidance

AC5.3 – Candidates must describe at least **three** pieces of hardware and software.

AC5.5 – Candidates must identify at least **three** factors.

AC 5.9 – Candidates must list at least **four** types of proof reader's marks and their meanings.

Unit 248

Set and run carton enhancing machinery

UAN:	R/502/8498
Level:	Level 2
Credit value:	5
GLH:	17
Relationship to NOS:	This unit is linked to Proskills NOS Unit 362
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to be able to set up and run Carton Enhancing machinery. There is also the need to have knowledge of adjustments and problem solving when operating this type of equipment.

Learning outcome	The learner will:
1.	be able to set carton enhancing machinery
Assessment criteria	
The learner can:	
1.1	obtain and check the job specification
1.2	identify and obtain the materials required to meet the job specification
1.3	ensure the working environment is safe for production
1.4	set the carton enhancing machinery to meet the job specification taking into consideration, for example: <ul style="list-style-type: none">• material is fed squarely and consistently, without damage or distortion• enhancements are made in the correct position on the material• the finished product is free from unacceptable creasing, marking or distortion• production times
1.5	ensure the output meets the job specifications and company quality standard prior to full production.

Learning outcome	The learner will:
2.	be able to run carton enhancing machinery
Assessment criteria	
The learner can:	
2.1	operate the machinery at the required production speed and in accordance with company guidelines
2.2	keep up the supply of materials throughout the run
2.3	monitor the output to ensure the job specification and company quality standards are met
2.4	record production information in accordance with company requirements
2.5	follow the company procedures for the removal of waste
2.6	stack or pack finished work in accordance with company approved method.

Learning outcome	The learner will:
3.	know how to set and run carton enhancing machinery
Assessment criteria	
The learner can:	
3.1	explain how to start up and shut down the machinery for: <ul style="list-style-type: none"> • normal operation • emergency situations
3.2	explain checks to make to ensure effective operation of the machinery
3.3	explain where to obtain information on the setting and operation of machinery
3.4	explain the company procedure for obtaining authorisation to begin production and why it is important to follow the procedure
3.5	explain when, how and what to monitor to ensure the quality of the output
3.6	explain the company procedure for the disposal of waste
3.7	define the possible causes of faults which can result in, for example: <ul style="list-style-type: none"> • in-put material feeding out of square • in-put material jamming • unacceptable creasing, marking, damage or distortion to the product
3.8	describe situations that can be overcome by adjustments, how to make adjustments to the settings to meet the job specifications and how to ensure the machine is safe for use after adjustments have been made
3.9	describe problems that can occur when operating machinery that may not be resolved by adjustment and the company procedure for dealing with them.

Unit 248 Set and run carton enhancing machinery

Supporting information

Guidance

AC3.2 – Candidates must explain at least **three** checks to make to ensure effective operation of machinery.

AC3.5 – Candidates must give at least **three** examples of things to monitor

AC3.6 – Candidates must explain company disposal procedures for at least **two** types of waste.

AC3.8 – Candidates must describe at least **three** situations.

AC3.9 – Candidates must describe at least **two** problems.

Unit 327

Plan and produce edited images

UAN:	M/502/8511
Level:	Level 3
Credit value:	4
GLH:	15
Relationship to NOS:	This unit is linked to Proskills NOS Unit 127
Endorsement by a sector or regulatory body:	This unit is endorsed by Proskills
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to edit digital images. It covers the process of retrieving, editing, converting and archiving for production output.

Learning outcome	The learner will:
1.	be able to decide on the imaging approach
Assessment criteria	
The learner can:	
1.1	ensure all elements of the job are available, eg photos (digital or original)
1.2	select the hardware and software most suitable for the editing they intend to carry out
1.3	check the compatibility of the elements to be combined in the editing process and decide how to treat any elements that are not compatible.

Learning outcome	The learner will:
2.	be able to produce edited images
Assessment criteria	
The learner can:	
2.1	import the required image elements into the editing software
2.2	produce edited images to suit the requirements of the job
2.3	produce edited images which are accurate in terms of the following: <ul style="list-style-type: none">• physical size• file size• content• colour• sharpness

	<ul style="list-style-type: none"> • brightness (exposure) • contrast • colour space — RGB, CMYK and greyscale • output resolution
2.4	check the content and quality of the edited images against customer requirements and workplace standards
2.5	take action to make customer amendments
2.6	maintain the confidentiality of customer material
2.7	save the edited image data files in the required / appropriate format.

Learning outcome	The learner will:
3.	know how to plan and produce edited images
Assessment criteria	
The learner can:	
3.1	explain their understanding of the law as it affects printing in relation to: <ul style="list-style-type: none"> • Copyright & Ownership of Images • Obscenity • Forgery
3.2	describe the Ethical Issues relevant in printing
3.3	describe how to ensure the safe handling of customer material as required by their company
3.4	state the requirements for Security & Storage within their company for: <ul style="list-style-type: none"> • High value products or print with a high risk of theft • Secure means of archiving digital and conventional prints
3.5	state company procedures for communicating with customers
3.6	describe workplace policy and practice in relation to the following: <ul style="list-style-type: none"> • standards • procedures
3.7	describe the operation of image editing equipment and software
3.8	describe the key factors which affect digital imaging, to include: <ul style="list-style-type: none"> • Sources of original material, eg photographers and graphics artists • Colour theory, eg: additive and subtractive systems such as RGB and CMYK; colour gamut's • Compatibility in digital images • The relationship between image size, file size and resolution • File formats for digital images - the differences between them and the reasons for using them
3.9	describe how to deal with digital files in relation to the following: <ul style="list-style-type: none"> • file conversion techniques • file compression and decompression systems • file management



Appendix 1 Relationships to other qualifications

Links to other qualifications

Centres are responsible for checking the different requirements of all qualifications they are delivering and ensuring that candidates meet requirements of all units/qualifications.

These qualifications have connections to the:

- Level 2 NVQ in Printing (5158)

Literacy, language, numeracy and ICT skills development

These qualifications can develop skills that can be used in the following qualifications:

- Functional Skills (England) – see www.cityandguilds.com/functionalskills
- Essential Skills (Northern Ireland) – see www.cityandguilds.com/essentialskillsni
- Essential Skills Wales – see www.cityandguilds.com/esw



Appendix 2 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on **www.cityandguilds.com**.

Centre Manual - Supporting Customer Excellence contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification, as well as updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document includes sections on:

- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

Our Quality Assurance Requirements encompasses all of the relevant requirements of key regulatory documents such as:

- SQA Awarding Body Criteria (2007)
- NVQ Code of Practice (2006)

and sets out the criteria that centres should adhere to pre and post centre and qualification approval.

Access to Assessment & Qualifications provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information such on such things as:

- **Walled Garden:** how to register and certificate candidates on line
- **Events:** dates and information on the latest Centre events
- **Online assessment:** how to register for e-assessments.

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Useful contacts

UK learners General qualification information	T: +44 (0)844 543 0033 E: learnersupport@cityandguilds.com
International learners General qualification information	T: +44 (0)844 543 0033 F: +44 (0)20 7294 2413 E: intcg@cityandguilds.com
Centres Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: centresupport@cityandguilds.com
Single subject qualifications Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 F: +44 (0)20 7294 2404 (BB forms) E: singlesubjects@cityandguilds.com
International awards Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: intops@cityandguilds.com
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: walledgarden@cityandguilds.com
Employer Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	T: +44 (0)121 503 8993 E: business@cityandguilds.com
Publications Logbooks, Centre documents, Forms, Free literature	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413

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