

Revised Application Documentation: Revision made By NSDA 25 May 2015

## **QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY**

### **Name and address of submitting body:**

Leather Sector Skill Council

CMDA Tower II

Gandhi Irwin Bridge Road

Egmore, Chennai – 600008

### **Name and contact details of individual dealing with the submission**

**Name:**R. Ramesh Kumar, IAS,

**Position in the organisation:** CEO, LSSC

#### **Address if different from above**

Same as above

**Tel number(s):** + 91 44 28594367 – 71

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## **List of documents submitted in support of the Qualifications File**

1. Annexure 1: Qualification Pack
2. Annexure 2: RFP for development of Occupational Standards
3. Annexure 3 Selection process of the Consultants to develop Occupational Standards
  - 3a. Minutes of the meeting of GC meetings
  - 3b. Composition of the Technical Committee
4. Annexure 4: Approval of Occupational Standards by Technical Committee and Governing Council
5. Annexure 5: Occupational Map & Progression matrix
6. Annexure 6: List of companies and Industry associations participated in the development of these qualification packs
7. Annexure 7: List of QP/NOS validating companies
8. Annexure 8: NSDC QRC observation and feedback sheet
9. Annexure 9: Standard protocol for accreditation & assessments
10. Annexure 10: Sample RPL Question Paper

## QUALIFICATION FILE SUMMARY

<b>Qualification Title</b>	Qualification Pack- CAD/CAM Operator – Goods (LSS/Q5101)		
<b>Body/bodies which will assess candidates</b>	Leather Sector Skill Council		
<b>Body/bodies which will award the certificate for the qualification.</b>	Leather Sector Skill Council		
<b>Body which will accredit providers to offer the qualification.</b>	Leather Sector Skill Council		
<b>Occupation(s) to which the qualification gives access</b>	Designing		
<b>Proposed level of the qualification in the NSQF.</b>	4		
<b>Anticipated volume of training/learning required to complete the qualification.</b>	120 Hours		
<b>Entry requirements / recommendations.</b>	CAD/CAM Certification		
<b>Progression from the qualification.</b>	Product Developer/ Designing in Leather Goods Segment		
<b>Planned arrangements for RPL.</b>	Candidates with relevant experience are identified and tested through a Recognition of Prior Learning (RPL) evaluation which has been designed by Technical Experts and Subject Matter Experts.		
<b>International Comparability</b>	<b>UK NOS</b> SKSFL4- Design patterns using CAD systems SKSFL5- Create digitised patterns using CAM systems		
<b>Formal structure of the qualification</b>			
<b>Title of unit or other component</b> (Include any identification code used)	<b>Mandatory/ Optional</b>	<b>Estimated size (learning hours)</b>	<b>Level</b>
LSS/N5101 Operating the CAD/CAM software	Mandatory	120	4
LSS/N8501 Maintain the work area	Mandatory		
LSS/N8601 Maintain health	Mandatory		
LSS/N8701 Comply with industry	Mandatory		

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum or Qualification Pack.

Give details of the document here:

Annexure1: Qualification Pack

## **SECTION 1**

### **ASSESSMENT**

#### **Name of assessment body:**

If there will be more than one assessment body for this qualification, give details.

Navriti Technologies Pvt Ltd, Bangalore

CLRI, Chennai

Mike Mirams Training Services India (Pvt) Ltd, Kolkata

#### **Will the assessment body be responsible for RPL assessment? Yes**

Give details of how RPL assessment for the qualification will be carried out and quality assured.

When the individual has relevant experience, he is assessed through a Recognition of Prior Learning (RPL) programme.

The candidate is assessed through a combination of theory test, practical knowledge and verbal questioning or VIVA. The test is designed by SME or Subject Matter Expert who prepares the test material with total integrity and objectivity. The candidate is administered a written test of 45 minutes and a practical test of 1.5 to 2 hours duration.

Upon successful completion of the test the candidate is declared competent for yet to be competent, depending upon which the training is advised.

The assessment is conducted by trained and qualified assessors following the guidelines of the LSSC. The tests are administered under strict confidentiality and absolute lack of bias or prejudice.

#### **Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:**

The process of assessment followed ensures that the assessment is strictly in accordance to the qualification pack, the NOS and PCs mentioned.

*Validity* depends upon how well the assessment actually measures the learning outcome. The test is prepared against the assessment criteria set by the council, which has in turn identified the core skills and the supplementary skills in terms of NOS and PC. That the test is designed according to the assessment criteria and is prepared by subject matter experts who are established in their fields ensures the validity of the test.

*Consistency* of the test is dependent on the fact that the assessment generates consistent results inspite of change in evaluators, location etc. The MCQ pattern followed for the theory rules out any element of prejudice or subjectivity on the part of the evaluator. The practical is designed in such a manner that the core skills and supplementary skills are tested and evaluated. The trained assessors who are experts in the field ensure that the test is consistent.

*Fairness* is ensured as the students are given equal opportunity irrespective of their religion, social background or gender. The roll numbers assigned to the candidates conceal their identity and making the evaluation impartial.

#### Training Assessors

The Assessors selected after the interview are given training by a team of Certified Senior Assessors on the process flow of assessment administration. The 2 day workshop addresses following key issues in assessment.

##### Communication & Confidence Building

- Testing of Core Skills- Administering/ theory & practical test
- Testing of Supplementary Skills- Administering theory and practical
- Impartial and fair assessment
- Being respectful to local languages, customs and behavior patterns
- Giving instructions correctly ensuring proper compliance to norms
- Addressing unexpected challenges and problems

#### Training For Assessments Administration Process

Materials to be carried by the Assessor to Assessment Centre:

1. Relevant question papers for each candidate scheduled and one for the Assessor
2. Relevant response sheets for each candidate, plus one for the assessor
3. Attendance sheet (Theory and Practical)
4. Stationary like Pens, envelopes (for packing theory and practical response sheets, question papers), staplers, etc.

Administration

Assessments consists of two parts: Practical and Theory

Theory

The process of theory assessment is described below:

1. Assessor should reach the venue 45 minutes before the start of the test.
2. Make sure all the desks are cleared and see that each candidate has the required stationery for the test before entering the hall.
3. Check if candidates have the valid training ID card or else an ID card approved by the Government of India (PAN Card, Aadhar Card, DL, etc.)
4. Candidates without any identification are not allowed to take the test. This has to be adhered to without any tolerance. Candidates without ID card should be asked to leave the test venue.
5. Gather all candidates in examination hall.
6. Cross check attendance of each candidate on the attendance sheet and ensure that only those candidates that are present on it are taking the test. Candidates' whose names are not available on the attendance sheet are informed to leave the test venue.
7. Assessor will read out the general instructions to candidates and ensures that the candidates are clear about the instructions of the assessments

General Instructions for candidates:

- No usage of electronic devices (mobiles and calculators) during the test
  - No malpractice during the test hours
  - Talking is not allowed during the test
  - Do not mark anything on question papers
  - There are 35(Varies for different QPs) multiple choice questions
  - Each question has only one correct answer
  - There is no negative marking
  - The questions are spread across multiple pages. You need to attempt questions on all pages to complete the test.
  - In the answer sheet, pencil is preferable but you can mark responses in black/blue pen.
  - The duration of the test is for 60 minutes
  - After completing the test, you must return all the question papers and response sheets.
8. Assessor will answer candidate's questions if any
  9. Distribute the question papers and response sheets to the candidates
  10. Assessor to ensure that the candidates fill the appropriate information in the required fields
  11. Once testing begins, assessor is required to help candidate with regards to marking, understanding the meaning of questions, but do not help them with responses
  12. Assessor will distribute attendance sheet during the test and ensure all candidates sign on the attendance sheet
  13. Assessor will collect response sheets, question papers and copy of candidate's ID proof from all candidates post completion of test
  14. Ensure that there are signatures of Assessor and candidates filled in the appropriate boxes.
  15. All response sheets and question papers should match the head count before candidates leave the

hall

### Practical

The following points describe the process of administering practical assessments

1. Cross check the candidate names with theory attendance sheet and ID cards of each candidate to see if the same candidates who have attended the theory test are attending practical too.
2. Before starting the assessment, assessor to build a rapport with the candidate so that he/she is comfortable during test.
3. Assessors to fill the mandatory information of candidate in the assessment checklist.
4. Assessor to ensure that candidate fills the details and signs in the attendance sheet.
5. Give an activity for candidates to perform. Observe him/her carefully while performing the task and assign scores against each PC provided in the assessment checklist. Each PC should not be asked separately instead evaluate against each PC based on the particular task given to the candidate
6. Ask viva questions to the candidate wherever applicable, and accordingly provide scores in the appropriate box.
7. Total the score obtained by the candidate for all the NOSs and calculate the grand total score.
8. Assessor should ensure that he has scored all the NOSs, if not remarks have to be provided.
9. Signatures of candidate and assessors to be filled in the appropriate boxes
10. The same procedure is followed for all candidates appearing for practical assessment.
11. On completion of practical assessments, count the response sheets and match it with the head count of candidates attended the test.
12. On completion of the test, attach ID card copy with assessment checklist of each candidate. These need to be carefully stapled.

All the practical response sheets are packed in an envelope

### **Give details of the document(s) here:**

Annexure 9: Standard protocol for accreditation & assessments

Annexure 10: A sample RPL question paper is attached

### **ASSESSMENT EVIDENCE**

**Complete the following grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification on page 1.**

<b><u>CRITERIA FOR ASSESSMENT OF TRAINEES</u></b>
<b><u>Job Role</u></b> CAD/CAM Operator –Goods
<b><u>Qualification Pack</u></b> LSS/Q5101
<b><u>Guidelines for Assessment</u></b> 1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC 2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC 3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below) 4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria 5. To pass the Qualification Pack, every trainee should score a minimum of 50% aggregate

6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOSs to pass the Qualification Pack

Assessable Outcomes	Assessment criteria for the outcome	Total Mark	Out Of	Marks Allocation	
				Theory	Skills Practical
1.LSS/N5101 (Operating the CAD/CAM software)	PC1. Ensure the work are is free from hazards as per the safety norm of the organization	45	3	1	2
	PC2. Ensure the cleanliness and orderliness of the work place as per the organizational standards		2	0	2
	PC3. Obtain and check the data on the specification sheet and carry out functions in line with the responsibilities of job role		3	1	2
	PC4. Set the machine parameters as per the manufacturers instruction		3	0	3
	PC5. Draw the pattern on the CAD software, if applicable, as per specification given		4	1	3
	PC6. Digitize the manual pattern on the CAD software, if applicable, as per specification given		2	0	2
	PC7. Perform grading of good , if applicable, as per measurements provided by client		3	1	2
	PC8. Perform modeling and testing of good on CAD, if applicable		3	1	2
	PC9. Adjust the pattern specification as per the product standards and allowances required		3	0	3
	PC10. Set parameters on CAM machine as per required output		3	1	2
	PC11. Ensure the design output is cut and handed over to the next department		3	1	2
	PC12. Ensure the work is saved as a back-up before shutting down the CAD machine		3	1	2
	PC13. Shut down, after use, the CAD/CAM system carefully and in accordance with company instructions		3	1	2
	PC14. Manage the helpers work as per the organizational standards and requirements		2	0	2

	PC15. Ensure the sheets are prepared for the next operation as per the standards specified by the organization		2	0	2
	PC16. Ensure the product is free from production and handling damages		3	1	2
		<b>Total</b>	<b>45</b>	<b>10</b>	<b>35</b>
2. LSS/N8501 (Maintain the work area, tools and machines)	PC1. Handle materials, machinery, equipment and tools safely and correctly	<b>50</b>	2	0	2
	PC2. Use correct lifting and handling procedures		2	0	2
	PC3. Use materials to minimize waste		3	1	2
	PC4. Prepare and organize work		3	1	2
	PC5. Maintain a clean and hazard free working area		3	1	2
	PC6. Deal with work interruptions		3	1	2
	PC7. Move about the workplace with care		2	0	2
	PC8. Maintain tools and equipment		2	0	2
	PC9. Carry out running maintenance within agreed schedules		2	0	2
	PC10. Carry out maintenance and/or cleaning outside responsibility		2	0	2
	PC11. Report unsafe equipment and other dangerous occurrences		3	1	2
	PC12. Ensure that the correct machine guards are in place		2	0	2
	PC13. Work in a comfortable position with the correct posture		3	1	2
	PC14. Use cleaning equipment and methods appropriate for the work to be carried out		2	0	2
	PC15. Dispose of waste safely in the designated location		3	1	2
	PC16. Store cleaning equipment safely after use		1	0	1
	PC17. Complete and store accurate records and documentation		2	0	2
	PC18. Maintain proper lighting, ventilation to make sure general comfort is there while working		2	0	2
	PC19. Give inputs and assist in completing documentation		2	0	2

	PC20. Report the need for maintenance and/or cleaning outside your area of responsibility		2	1	1
	PC21. Ensure safe and correct handling of materials, equipment and tools		2	0	2
	PC22. Maintain appropriate environment to protect stock from pilfering, theft, damage and deterioration		2	0	2
		<b>Total</b>	<b>50</b>	<b>8</b>	<b>42</b>
3.LSS/N8601 (Maintain health, safety and security at work)	PC1. Comply with health and safety related instructions applicable to the workplace	<b>45</b>	3	0	3
	PC2. Use and maintain personal protective equipment as per protocol		3	1	2
	PC3. Carry out own activities in line with approved guidelines and procedures		2	0	2
	PC4. Maintain a healthy lifestyle and guard against dependency on intoxicants		3	1	2
	PC5. Follow environment management system related procedures		3	0	3
	PC6. Identify and correct (if possible) malfunctions in machinery and equipment		3	1	2
	PC7. Report any service malfunctions that cannot be rectified		2	0	2
	PC8. Store materials and equipment in line with manufacturer's and organizational requirements		2	0	2
	PC9. Safely handle and move waste and debris		3	1	2
	PC10. Minimize health and safety risks to self and others due to own actions		2	0	2
	PC11. Seek clarifications, from supervisors or other authorized personnel in case of perceived risks		2	0	2
	PC12. Monitor the workplace and work processes for potential risks and threats		2	0	2



	PC13. Carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		3	1	2
	PC14. Report hazards and potential risks/ threats to supervisors or other authorized personnel		2	0	2
	PC15. Participate in mock drills/ evacuation procedures organized at the workplace		3	0	3
	PC16. Undertake first aid, fire-fighting and emergency response training, if asked to do so		3	0	3
	PC17. Take action based on instructions in the event of fire, emergencies or accidents		2	0	2
	PC18. Follow organization procedures for shutdown and evacuation when required		2	0	2
		<b>Total</b>	<b>45</b>	<b>5</b>	<b>40</b>
4. LSS/N8701 (Comply with industry, regulatory and organizational requirements)	PC1. Carry out work functions in accordance with legislation and regulations, organizational guidelines and procedures	<b>15</b>	3	0	3
	PC2. Seek and obtain clarifications on policies and procedures, from the supervisor or other authorized personnel		4	1	3
	PC3. Apply and follow these policies and procedures within the work practices		2	0	2
	PC4. Provide support to the supervisor and team members in enforcing these considerations		3	1	2
	PC5. Identify and report any possible deviation to these requirements		3	0	3
		<b>Total</b>	<b>15</b>	<b>2</b>	<b>13</b>

## **SECTION 2**

### **EVIDENCE OF NEED**

#### **What evidence is there that the qualification is needed?**

Based on industry feedback and extrapolating from the limited data received from various visits and questionnaires we have arrived at roles which comprise of approximately 80% of the workforce within the leather sector across the respective sub-sectors undertaken in this study.

This have been prioritized keeping the following criteria in consideration:

- They have the highest incremental requirements in terms of human resource
- Acquired with a short/modular and focused intervention and thereby enhancing employability of those with minimal education
- Such skills can also be obtained in lesser time duration as compared to engineering or ITI

#### **What is the estimated uptake of this qualification and what is the basis of this estimate?**

Skills Gap Analysis Reports for industry demand and secondary research data, though these do not lend to accurate demand projection.

- Feedback from industry for demand though sample size may not lend to accurate figures
- Training duration, and current and potential training capacity envisaged

#### **What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?**

- NSDC list of Approved and Under-Development QPs was checked prior to commissioning the work
- Consultations with Leather Sector Skill Council
- NSDC QRC team also confirmed the same

#### **What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?**

- Agencies have been appointed by the SSC to assess the training delivery and implementation
- Monitoring of evaluation of assessments
- Employer feedback will be sought post-placement
- Periodic review is scheduled after two years

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

Annexure 4: Approval of Occupational Standards by Technical Committee and Governing Council

Annexure 5: Occupational Map & Progression matrix

Annexure 8: NSDC QRC observation and feedback sheet

## SECTION 3

### SUMMARY EVIDENCE OF LEVEL

Level of qualification:

Four


Summary of Direct Evidence (from learning outcomes):

Justify the NSQF level allocated to the QP by building upon the five descriptors of NSQF. Explain the reasons for allocating the level to the QP.

Generic NOS is/are linked to the overall authority attached to the job role

Summary of other evidence (if used):

CAD CAM Operator (Goods)- LSS/Q5101					
Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility	Level
<p>Computer Aided Design/ Computer Aided Manufacturing (CAD/ CAM) Operator use computer hardware and graphic software to generate design drawings.</p> <p>He/she has to identify the manual pattern to digitize it using the software and perform size wise grading as per the measurement</p> <p>He/she has to ensure the</p>	<p>CAD CAM Operator is expected to have <b>knowledge of the functioning</b> of CAD CAM Operating process and the principles used in the system</p> <p><b>The differences and advantages</b> of 2D and 3D design, size wise grading and computer operating process.</p> <p><b>Knowledge of</b> leather goods manufacturing process</p> <p>Considering the in-depth <b>professional and factual knowledge</b>, which a CAD CAM operator has for the CAD CAM operation; this QP is pegged at Level 4.</p>	<p>CAD CAM operator <b>identifies the requirement of</b> the leather goods and <b>selects appropriate</b> graphics and software to be used for designing before starting the designing process.</p> <p><b>identifies and reviews the error in the design</b> and <b>takes appropriate actions</b> for rectification. He/ she <b>diagnoses the basic problems</b> with the machines based on visual inspection.</p>	<p>CAD CAM operator is expected to understand production manuals and job cards. He/ she is has to prepare the work area and select the right software and graphics before starting the operation.</p> <p>He/she is required to <b>check the design</b> of the leather goods material and also ensure the design output is cut as per the design. Has to do calculation to ensure optimum utilization of time and resources.</p> <p>All of this requires <b>application of</b></p>	<p>The jobholder is mainly responsible for:</p> <ul style="list-style-type: none"> <li>Perform CAD CAM operation using the software</li> <li>Visually inspect for errors in the design</li> <li>Maintaining the work area</li> </ul> <p>The process of designing leather goods could vary from one production unit to another, the versions of software being used to another and also could depend on the type of goods being produced</p> <p>So the jobholder based on his <b>own learning</b></p>	4

<p>design output is cut and handed over to the next department</p> <p>The activities identified are the <b>familiar and routine activities</b> for them as these activities are independent of job and the production unit he/she is deployed in. Considering the outcomes the job roles is pegged at level 04</p>			<p><b>problem solving, analytical and mathematic principles.</b></p> <p>Operator has to continuously give and receive instruction/ feedback from co-workers and supervisors on the design process hence they are expected to be good in <b>communication skills.</b></p> <p>Jobholder is expected to conduct themselves in  ways, which show a basic understanding of the <b>social and professional environment of working in the production unit</b></p>	<p><b>and experience,</b> identify appropriate graphics and tools to maximize the productivity and increase one's efficiency. He/she is continuously engaged in the <b>self-learning process</b> and he/she has the <b>responsibility for own</b> work.</p> <p>Jobholder is majorly responsible for his own job and self-learning process which justifies the pegging of the QP at level 4 and not directly involved in some learning of others (which is a requirement for Level 5). In his routine activity he is free from supervision (which is a requirement of level 3).</p>	
Level 4	Level 4	Level 4	Level 4	Level 4	

## **SECTION 4**

### **EVIDENCE OF RECOGNITION OR PROGRESSION**

**What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?**

While designing the national occupational standards, occupational mapping was done on a large sample size and validated across the country. The career progression for roles in each occupation was also analysed and decided, based on industry validation across the country. The current challenges faced by the industry, at large, was also kept in mind.

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

Annexure 5: Occupational Map & Progression matrix

Annexure 6: List of companies and Industry associations participated in the development of these qualification packs