

**FIELD                    MANUFACTURING****Review of *Industrial Machine Knitting* unit standards**

| <b>Subfield</b>             | <b>Domain</b>                              | <b>Id</b>  |
|-----------------------------|--|--|
| Industrial Machine Knitting | Knitting Industry Quality Assurance        | 4856-4861  |
|                             | Knitting Industry Technology               | 4840-4855, 5011  |
|                             | Knitting Machine Operation                 | 4488, 4490-4493, 4716, 4719, 4995-5002, 8587, 8588, 16122, 16123 |
|                             | Knitting Machine Servicing and Maintenance | 4494-4500, 4720-4722, 5003-5010                                  |
|                             | Knitting Machine Technical Servicing       | 4501-4512, 4723-4732, 4779-4794                                  |
|                             | Warp Preparation – Warp Knitting           | 4715, 4717, 4718   |

The Apparel and Textile Industry Training Organisation has completed the review of the unit standards listed above.

**Date new versions published**

**March 2010**

**Planned review date**

**December 2015**

**Summary of review and consultation process**

Representatives from the knitting companies were invited to participate in the review of standards in the Industrial Machine Knitting subfield in May 2009 through the formation of an advisory group. The purpose of the review was to ensure that the standards continued to meet the needs of the industry.

Many of the unit standards had not been used and advisory group feedback indicated that they were redundant. Other standards were still relevant and have been retained. These standards only required minor changes to update definitions in the special notes.

**Main changes resulting from the review**

- 82 of the reviewed standards were designated as expiring and will not be replaced.
- Standard 4496 was replaced by standards 26164-26168.
- Special notes were updated in the remaining standards to improve consistency of terminology across the standards.

**Unit standards categorised as category C or D expire at the end of December 2011.**

**Impact on existing accreditations**

None.

## Impact on existing qualifications

Qualifications that contain the reviewed standards or classifications are tabled below.

|                                |  |
|--------------------------------|--|
| <b>Affected</b>                | The qualification lists a reviewed classification (domain or subfield) in an elective set<br>The qualification lists a standard that has changes to level or credits<br>The qualification lists a C or D category standard |
| <b>Not materially affected</b> | The qualification lists a standard that has a new title<br>The qualification lists a standard that has a new classification  |

The following Apparel and Textiles Industry Training Organisation qualifications are affected by the outcome of this review and will be updated when this review is completed.

| Qualification title   | Classification or standard in the qualification   |
|---|---|
| National Certificate in Industrial Machine Knitting (Advanced Technology - Circular Garment-Length) (Level 5) [Ref: 0160]   | 4728, 4786  |
| National Certificate in Industrial Machine Knitting (Advanced Technology - Circular Piece-Goods) (Level 5) [Ref: 0161]  | 4503, 4729, 4784  |
| National Certificate in Industrial Machine Knitting (Advanced Technology - Flat Bed) (Level 5) [Ref: 0162]  | 4724, 4725, 4728, 4729  |
| National Certificate in Industrial Machine Knitting (Advanced Technology - Flat Bed Fabric Design) (Level 5) [Ref: 0163]  | 4782, 4786, 4788, 4789, 4791, 4792  |
| National Certificate in Industrial Machine Knitting (Advanced Technology - Full-Fashioned) (Level 5) with strands in Design, Production, and Maintenance [Ref: 0164]  | 4506, 4723, 4728, 4729, 4788, 4789  |
| National Certificate in Industrial Machine Knitting (Advanced Technology - Full-Length Hosiery) (Level 5) [Ref: 0165]   | 4723, 4729, 4782  |
| National Certificate in Industrial Machine Knitting (Advanced Technology - Half-Hose) (Level 5) [Ref: 0166]   | 4723, 4729, 4782, 4788  |
| National Certificate in Industrial Machine Knitting (Service and Repair) (Level 3) with strands in Warp Knitting, and Weft Knitting [Ref: 0840]   | 4496  |
| National Certificate in Industrial Machine Knitting (Technology) (Level 4) with strands in Circular Garment-Length, Circular Piece-Goods, Flat Bed, Full-Fashioned, Full-Length Hosiery, Half-Hose, and Warp Knitting [Ref: 0159] | 4497-4499, 4501-4505, 4507-4512, 4722, 4723, 4726-4732, 4779-4781, 4783-4785, 4787, 4790, 4844-4853, 4859 |

## Review Categories and changes to classification, title, level, and credits

All changes are in **bold**.

### Key to review category

- A** Dates changed, but no other changes are made - the new version of the standard carries the same Id and a new version number
- B** Changes made, but the overall outcome remains the same - the new version of the standard carries the same Id and a new version number
- C** Major changes that necessitate the registration of a replacement standard with a new Id
- D** Standard will expire and not be replaced

Subfield Industrial Machine Knitting  
 Domain Knitting Industry Quality Assurance

| <b>Id</b> | <b>Title</b>  | <b>Level</b> | <b>Credit</b> | <b>Review Category</b> |
|-----------|---|--------------|---------------|------------------------|
| 4856      | Monitor quality standards of knitted fabric production                                    | 3            | 3             | B                      |
| 4857      | Establish quality control technical specifications relating to knitting production        | 5            | 8             | B                      |
| 4858      | Monitor quality standards of incoming materials for knitted goods production              | 3            | 3             | B                      |
| 4859      | Control quality standards of processes related to knitted fabric production               | 4            | 8             | D                      |
| 4860      | Investigate and report on customer complaints related to knitted production               | 3            | 3             | B                      |
| 4861      | Demonstrate knowledge of and monitor consumer labelling of textile and garment production | 3            | 3             | D                      |

Domain Knitting Industry Technology

| <b>Id</b> | <b>Title</b>   | <b>Level</b> | <b>Credit</b> | <b>Review Category</b> |
|-----------|--|--------------|---------------|------------------------|
| 4840      | Classify textile fibres and describe the features of natural fibres relative to their textile uses         | 4            | 21            | D                      |
| 4841      | Describe the production of manufactured fibres and their features relative to their textile use            | 4            | 28            | D                      |
| 4842      | Describe the production and characteristics of yarns produced on staple fibre spinning systems             | 3            | 14            | D                      |
| 4843      | Apply the properties of fibres and yarns to the design of knitted goods                                    | 5            | 7             | B                      |
| 4844      | Explain the impact of colouration and finishing processes to the production of warp-knitted fabrics        | 4            | 7             | D                      |
| 4845      | Explain the impact of dyeing and finishing on the production of socks                                      | 4            | 4             | D                      |
| 4846      | Explain the impact of colouration and finishing to the production of full-length hosiery                   | 4            | 4             | D                      |
| 4847      | Explain the impact of colouration and finishing processes to the production of circular piecegoods fabrics | 4            | 7             | D                      |
| 4848      | Explain the impact of colouration and finishing to the production of knitwear                              | 4            | 4             | D                      |
| 4849      | Explain the impact of cutting and sewing processes to the production of warp-knitting machines             | 4            | 6             | D                      |
| 4850      | Explain the impact of sewing processes to the production of sock machines                                  | 4            | 3             | D                      |
| 4851      | Explain the impact of sewing processes to the production of full-length hosiery machines                   | 4            | 4             | D                      |
| 4852      | Explain the impact of making-up processes to the production of circular piecegoods machines                | 4            | 6             | D                      |
| 4853      | Relate the making-up of ladies' underwear to the production of circular garment-length machines            | 4            | 3             | D                      |
| 4854      | Explain the impact of cut, make, and trim processes to the production of knitwear panels                   | 3            | 4             | D                      |

| <b>Id</b> | <b>Title</b>   | <b>Level</b> | <b>Credit</b> | <b>Review Category</b> |
|-----------|--|--------------|---------------|------------------------|
| 4855      | Explain the impact of making-up processes to the production of fashioned knitwear panels | 3            | 4             | D                      |
| 5011      | Demonstrate knowledge of industrial machine knitting                                     | 3            | 6             | B                      |

Domain      Knitting Machine Operation

| <b>Id</b> | <b>Title</b>   | <b>Level</b> | <b>Credit</b> | <b>Review Category</b> |
|-----------|--|--------------|---------------|------------------------|
| 4488      | Set yarns onto weft-knitting machines  | 2            | 3             | D                      |
| 4490      | Alter the lengths of component sections of knitted fabric panels                                   | 3            | 2             | D                      |
| 4491      | Alter fabric knitting widths on industrial knitting machines                                       | 3            | 4             | D                      |
| 4492      | Identify the nature of continuous-filament and spun yarns as raw materials                         | 2            | 2             | D                      |
| 4493      | Operate full-fashioned knitting machine  | 3            | 6             | D                      |
| 4716      | Thread warps into warp-knitting machines   | 3            | 10            | D                      |
| 4719      | Demonstrate knowledge of company knitting production range and control of production quantities    | 3            | 3             | B                      |
| 4995      | Operate tricot machines as an additional knitting machine operating skill                          | 3            | 4             | D                      |
| 4996      | Operate Raschel machines as an additional knitting machine operating skill                         | 3            | 6             | D                      |
| 4997      | Operate half-hose machines as an additional knitting machine operating skill                       | 3            | 6             | D                      |
| 4998      | Operate full-length hosiery machines as an additional knitting machine operating skill             | 3            | 6             | D                      |
| 4999      | Operate circular piecegoods machines as an additional knitting machine operating skill             | 3            | 6             | D                      |
| 5000      | Operate full-fashioned machines as an additional knitting machine operating skill                  | 3            | 8             | D                      |
| 5001      | Operate flat bed machines as an additional knitting machine operating skill                        | 3            | 6             | D                      |
| 5002      | Operate circular garment-length machines as an additional knitting machine operating skill         | 3            | 6             | D                      |
| 8587      | Set up, adjust, and operate a cup seaming machine to cup seam knitted panels                       | 2            | 1             | D                      |
| 8588      | Set up, adjust, and operate an industrial linking machine to assemble knitwear from knitted panels | 3            | 6             | D                      |
| 16122     | Operate industrial knitting machines   | 3            | 10            | B                      |
| 16123     | Carry out remedial adjustments and quality checks on industrial knitting machines                  | 3            | 10            | B                      |

Domain      Knitting Machine Servicing and Maintenance

| <b>Id</b> | <b>Title</b> | <b>Level</b> | <b>Credit</b> | <b>Review Category</b> |
|-----------|--------------|--------------|---------------|------------------------|
|-----------|--------------|--------------|---------------|------------------------|

| Id    | Title   | Level | Credit | Review Category |
|-------|---|-------|--------|-----------------|
| 4494  | Demonstrate knowledge of the knitting and fashioning cycles of full-fashioned machines                        | 3     | 7      | B               |
| 4495  | Demonstrate knowledge of the cam actions of weft-knitting latch needle machines                               | 3     | 7      | B               |
| 4496  | Repair and service industrial knitting machines under direction   | 3     | 84     | C               |
| 26164 | <b>Perform basic repairs and service relating to knitting elements for industrial knitting machines</b>       | 3     | 21     |                 |
| 26165 | <b>Adjust machine settings and monitor and control knitting quality on industrial knitting machines</b>       | 3     | 19     |                 |
| 26166 | <b>Repair and service industrial knitting machines</b>  | 3     | 19     |                 |
| 26167 | <b>Change pattern selection and control systems to a prepared programme on an industrial knitting machine</b> | 3     | 14     |                 |
| 26168 | <b>Service and repair ancilliary machines in the industrial knitting industry</b>                             | 3     | 11     |                 |
| 4497  | Maintain the knitting heads of circular weft-knitting machines  | 4     | 14     | D               |
| 4498  | Maintain the knitting heads of industrial flat bed knitting machines  | 4     | 28     | D               |
| 4499  | Maintain the knitting heads of full-fashioned machines  | 4     | 56     | D               |
| 4500  | Set up plated fabric constructions  | 3     | 6      | D               |
| 4720  | Demonstrate knowledge of the movements and timings of tricot element bars to the needle action                | 3     | 7      | B               |
| 4721  | Demonstrate knowledge of the movements and timings of Raschel element bars to the needle action               | 3     | 7      | B               |
| 4722  | Maintain the knitting heads of warp-knitting machines   | 4     | 4      | D               |
| 5003  | Repair and service tricot machines as additional skills for mechanics   | 3     | 14     | D               |
| 5004  | Repair and service Raschel machines as additional skills for mechanics  | 3     | 21     | D               |
| 5005  | Repair and service half-hose machines as additional skills for mechanics                                      | 3     | 21     | D               |
| 5006  | Repair and service full-length hosiery machines as additional skills for mechanics                            | 3     | 14     | D               |
| 5007  | Repair and service circular piecegoods machines as additional skills for mechanics                            | 3     | 21     | D               |
| 5008  | Repair and service full-fashioned machines as additional skills for mechanics                                 | 3     | 35     | D               |
| 5009  | Repair and service flat bed machines as additional skills for mechanics                                       | 3     | 21     | D               |
| 5010  | Repair and service circular garment-length machines as additional skills for mechanics                        | 3     | 21     | D               |

| Domain Knitting Machine Technical Servicing |  | Level | Credit | Review Category |
|---|--|-------|--------|-----------------|
| <b>Id</b>                                   | <b>Title</b>   |       |        |                 |
| 4501  | Supervise industrial knitting plant operation and production   | 4     | 36     | D               |
| 4502  | Carry out knitted fabric production and costing calculations   | 4     | 10     | D               |
| 4503  | Change machine gauges on half-hose, circular piecegoods, or circular garment-length machines         | 5     | 12     | D               |
| 4504  | Set up and maintain yarn-furnishing devices to specification   | 4     | 6      | D               |
| 4505  | Change gauge on flat bed weft-knitting machines  | 5     | 12     | D               |
| 4506  | Carry out technically critical repairs to full-fashioned machines                                    | 6     | 42     | D               |
| 4507  | Carry out knitted fabric analysis calculations   | 4     | 4      | D               |
| 4508  | Prepare control programmes for knitting machines with mechanical control systems                     | 4     | 14     | D               |
| 4509  | Prepare pattern-selection programmes for knitting machines with mechanical pattern-selection systems | 4     | 7      | D               |
| 4510  | Prepare control programmes for knitting machines with electro-mechanical control systems             | 4     | 14     | D               |
| 4511  | Prepare electro-mechanical pattern-selection programmes for knitting machines                        | 4     | 7      | D               |
| 4512  | Adjust and repair electro-mechanical selection systems for knitting machines                         | 4     | 4      | D               |
| 4723  | Prepare control programmes for computer-controlled knitting machines without CAD                     | 5     | 8      | D               |
| 4724  | Prepare control programmes for electronic flat bed knitting machines without CAD                     | 5     | 21     | D               |
| 4725  | Prepare supplementary control programmes for electronic flat bed machines without CAD                | 5     | 12     | D               |
| 4726  | Prepare design programmes for computer-controlled knitting machines without CAD                      | 4     | 5      | D               |
| 4727  | Prepare computer-assisted design and control programmes for knitting machines with CAD               | 4     | 5      | D               |
| 4728  | Prepare style programmes for full-fashioned, flat bed or circular garment-length machines with CAD   | 5     | 16     | D               |
| 4729  | Adjust and service computerised control systems for knitting machines                                | 5     | 6      | D               |
| 4730  | Analyse and design patterns and constructions for knitting on tricot machines                        | 4     | 8      | D               |
| 4731  | Analyse full-length hosiery constructions  | 4     | 3      | D               |
| 4732  | Analyse and design patterned full-length hosiery   | 4     | 5      | D               |
| 4779  | Analyse and design patterns and constructions for knitting on Raschel machines                       | 5     | 8      | D               |
| 4780  | Analyse and design structures for knitting on multi-track circular piecegoods machines               | 4     | 5      | D               |
| 4781  | Analyse and design weft knitted structures and patterns produced by cam changes                      | 4     | 4      | D               |

| <b>Id</b> | <b>Title</b>  | <b>Level</b> | <b>Credit</b> | <b>Review Category</b> |
|-----------|---|--------------|---------------|------------------------|
| 4782      | Analyse and design shaped knitted articles or components based on plain fabric                    | 5            | 4             | D                      |
| 4783      | Analyse and design purl (links/links) structures and patterns                                     | 4            | 4             | D                      |
| 4784      | Analyse and design fine-gauge jacquard circular piecegoods fabrics                                | 5            | 12            | D                      |
| 4785      | Analyse and design coloured jacquard patterns for socks and knitwear                              | 4            | 4             | D                      |
| 4786      | Analyse and design rib stitch-transfer patterns   | 5            | 7             | D                      |
| 4787      | Analyse and design plated patterns and structures   | 4            | 4             | D                      |
| 4788      | Analyse and design Intarsia patterns  | 5            | 7             | D                      |
| 4789      | Analyse and design patterns based on plain fabric and full-fashioned lace techniques              | 5            | 5             | D                      |
| 4790      | Analyse and design self-coloured patterns based on tuck and float stitches on plain fabric        | 4            | 4             | D                      |
| 4791      | Analyse and design Aran and other patterns based on stitch transfer and needle-bed racking        | 5            | 14            | D                      |
| 4792      | Analyse and design fabrics containing flechage, appendage, entrelac, and similar pattern elements | 5            | 10            | D                      |
| 4793      | Check knitted production for quality  | 3            | 3             | B                      |
| 4794      | Evaluate results of quality control checks and apply results to knitting machines                 | 5            | 7             | B                      |

Domain Warp Preparation – Warp Knitting

| <b>Id</b> | <b>Title</b>   | <b>Level</b> | <b>Credit</b> | <b>Review Category</b> |
|-----------|--|--------------|---------------|------------------------|
| 4715      | Operate warping machinery for warp knitting          | 2            | 16            | B                      |
| 4717      | Carry out yarn length calculations for warp knitting | 2            | 4             | B                      |
| 4718      | Service warping machinery used in warp knitting      | 3            | 14            | B                      |