



Australian Government

Assessment Requirements for MSL965002 Perform glass coating, grinding and finishing operations

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL965002A Perform glass coating, grinding and finishing operations

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- safely performing glass coating operations, including:
 - cleaning and preparation of glass surfaces
 - preparing coating solutions
 - coating/strip coating and dedicated coating
 - protecting coated surfaces
 - electroplating
 - removal/partial removal of coating
 - metal coating glass surfaces or applying opaque treatments to industry standards
- safely performing glass grinding operations, including:
 - grinding and hand lapping glass to be used in fabrication and for a precision fit
 - selecting abrasives and metal grinding tools
 - interpreting specifications for glass-ground joints
 - testing ground surfaces for leakage
 - preparing glass stopcocks
- safely performing glass finishing operations, including:
 - cleaning, rinsing and drying
 - evacuating and sealing
 - metallising
 - flame and/or mechanical polishing
- following safe work practices and recommended procedures for glass coating, grinding and finishing operations
- selecting appropriate grades of glass, coating materials, abrasives and finishing agents for specific jobs
- identifying atypical situations or problems and taking appropriate actions
- minimising waste
- communicating with customers/research team to confirm specifications and timelines and to seek advice or additional information when necessary
- recording and reporting work results.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- use of glassblowing materials, equipment, tools and techniques
- chemistry of coating materials and coating process
- theoretical and practical principles of materials and processes for glass coating, glass grinding and glass finishing
- theory of equipment operation and use
- common faults in coating, grinding and finishing operations and methods for control
- safety procedures relevant to coating, grinding and finishing operations
- waste disposal procedures
- relevant hazards, work health and safety (WHS) and environment requirements.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event. The timeframe must allow for adequate assessment of operation under all normal and a range of abnormal conditions.
- This unit of competency is to be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
 - MSL965001 Design and manufacture glass apparatus and glass systems
 - MSL965003 Construct, modify and maintain vacuum systems
- Holistic assessment methods include:
 - inspection of examples of glasswork coating, grinding and finishing and workplace documentation completed by the candidate
 - analysis of the candidate's work records over a period of time to ensure accurate and consistent work is obtained within required timelines
 - feedback from peers and supervisors
 - oral/written questioning about properties of glass; glass coating, grinding and finishing operations; quality problems and safe work procedures.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - a scientific glassblowing facility; appropriate safety equipment; materials; safe work procedures; and coating, grinding and finishing methods
 - bench burner, hand torch, micro torch and ribbon burner, gas supplies and gas economiser
 - coating solutions and baths
 - grinding tools and abrasives
 - hand tools, such as carbon paddles and mandrels, range of forceps, glass tubing gauges, angle setting jigs, calipers, glass support rollers, brass shapers, carbon rods, glass knife, stainless steel gauze, vernier calipers and other measuring tools, and strain viewer
 - glassworking lathe, mechanical glass cutters and saws, mechanical glass grinding equipment
 - annealing oven
 - measuring and recording equipment.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.

- The assessor must demonstrate both technical competence and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience.
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with a laboratory about performing the competency being assessed within the last twelve months.

Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>