Australian Government

Assessment Requirements for PMBTECH506 Analyse the design of products and tools

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

Assessment Requirements for PMBTECH506 Analyse the design of products and tools

Modification History

Release 1. Supersedes and is equivalent to PMBTECH506B Analyse the design of products and tools

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and demonstrate the ability to:

- read and interpret tool drawings, productivity data, product specifications, materials data, technical information, equipment specifications and instruments/control panels
- analyse information and data to predict interactions of materials, tooling, equipment and process and their impact on product design and tooling design
- apply the analysis to make recommendations, including:
  - tooling design/improvement
  - product design modifications related to tooling features
- use analysis and balancing tools, as appropriate, to examine optimum tool design
- communicate technical information verbally and in writing
- calculate and interpret statistics, product formulae and process conditions.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- polymer materials, their additives and the rheological, heat and other effects of processing to the design of tools and components
- function of tool components and systems
- function of clamping/mounting/ancillary systems
- tool operating principles and adjustments
- impact of product design on tooling design
- impact of tooling design on product
- impact of tool design and material properties on productivity
- the technical strengths and weaknesses of common processing and fabrication technologies and their relative suitability for classes of products
- the economic and market features of common processing and fabrication technologies and their impact on the selection of a technology for a product
- impact of polymer and polymer compound properties on tool performance and product
- material/tool interactions
- the impact of different tool designs on product and productivity
- the temperature effects on process and product
- types of tool designs required for different product types
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
  - their possible causes
  - potential consequences
  - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- Where the assessee does not currently possess evidence of competency in *MEM09002B Interpret technical drawing* and *MSMOPS401 Trial new process or product*, one or both may be co-assessed with this unit.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
  - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
  - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project in an operational workplace. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur using a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
  - walk-throughs
  - pilot plant operation
  - industry-based case studies/scenarios
  - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
  - relevant VET or other qualification/Statement of Attainment
  - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions

    - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
    - being currently employed undertaking the type of work being assessed
    - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
    - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
    - conducting on the job training/assessments of the type of work being assessed
    - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

Links

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