



Australian Government

Assessment Requirements for PMBTECH505E Choose polymer materials for an application

Release: 1

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Modification History

Release 1. Unit code changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBTECH505 Choose polymer materials for an application.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit of competency, and demonstrated the ability to:

- choose polymer materials for one application, to meet job and product specifications.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- polymerisation process
- polymer characteristics
- property changes caused by different mechanisms and conditions for addition polymerisation
- typical processing conditions for typical polymers, including polythene
- property changes caused by using bulk, suspension, solution and emulsion addition polymerisation
- property changes caused by different mechanisms for condensation polymerisation
- the formation and properties of cross-linked polymers
- impact of polymer structure and polymerisation process on polymer properties
- properties and applications of polymers
- the impact of tacticity on addition polymer properties
- the property changes caused by different copolymer structures
- the influence of molecular structure on chain regularity
- the difference between polymer reinforcements and polymer composites
- methods for polymer testing
- basic chemistry, including:
 - atomic structure
 - molecular weight
 - periodic table
 - ionic and covalent bonding
 - intermolecular bonding
 - hydrogen bonding
 - structure of organic compounds

- functional groups and typical reactions
- saturated and unsaturated compounds
- aromatic compounds
- hydrolysis
- addition reactions
- organisational procedures relevant to the work environment or job role
- hazards that may arise in the job or work environment, and:
 - their possible causes
 - potential consequences
 - appropriate risk controls.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet –

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>