



Australian Government

**MEM07042 Undertake corrections and
basic maintenance to aluminium extrusion
dies and die support systems**

Release: 1

MEM07042 Undertake corrections and basic maintenance to aluminium extrusion dies and die support systems

Modification History

Release 1. Supersedes and is equivalent to MEM07042A Undertake corrections and basic maintenance to aluminium extrusion dies and die support systems

Application

This unit of competency defines the skills and knowledge required to undertake corrections to aluminium extrusion solid and hollow dies and die support systems after faulty extrusions have been examined and causes of faults identified.

Where the use of mobile load shifting equipment is required unit MEM11010 Operate mobile load shifting equipment should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM07001	Perform operational maintenance of machines/equipment
MEM07003	Perform routine machine setting
MEM07004	Perform complex machine setting
MEM07024	Operate and monitor machine and process
MEM07025	Perform advanced machine and process operation
MEM07032	Use workshop machines for basic operations
MEM07043	Identify causes of faulty aluminium extrusions
MEM07044	Test a new aluminium extrusion die
MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations

MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18003	Use tools for precision work
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Machine and process operations

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Prepare for die correction	2.1	Identify regulatory requirements and risk management procedures relevant to die access and handling, extruder operation and die correcting procedures
		2.2	Identify extrusion specifications, extruder operating procedures and other information relevant to die correction task
		2.3	Consult with die designer on intended correction, where required
		2.4	Select appropriate hand tools, hand held power tools, or

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	workshop machines to carry out die corrections
3 Correct solid dies	<ul style="list-style-type: none">3.1 Calculate intended change in extrusion flow or speed3.2 Determine bearing choke angles or length of bearing shortening as appropriate for required correction3.3 Speed up flow through appropriate shortening of bearing3.4 Slow down flow through appropriate choking of bearing3.5 Relieve clearances3.6 Supervise or run trial extrusions to test corrections
4 Correct hollow dies	<ul style="list-style-type: none">4.1 Assess if shortening or choking of mandrel bearings is required and select bearings to be corrected4.2 Determine choke angles and length of shortening as appropriate for required corrections4.3 Undercut mandrel to widen chambers4.4 Increase depth of chamber back into bridge4.5 Adjust mandrel stems4.6 Adjust weld bridges4.7 Speed up flow through appropriate shortening of bearing4.8 Slow down flow through appropriate choking of bearing
5 Undertake basic maintenance of dies	<ul style="list-style-type: none">5.1 Monitor case and assess when re-nitriding is required5.2 Prepare die for re-nitriding5.3 Clean and polish dies5.4 Repair fine bearing damage5.5 Maintain bearing angle and flatness during polishing and

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

repairs

5.6 Monitor fittings and devices for lifting die and die support components and arrange replacement or repair as necessary

6 Adjust die support system and components

6.1 Ensure toolstack components are flat and square with die and specified toolstack dimensions that will support dies, according to the force the extruder can exert are used

6.2 Check for and replace any coined bolsters

6.3 Check die slide alignment is within tolerance and re-align if necessary

6.4 Report persistent die support related faults after adjustment and recommend redesign or stiffening as appropriate

7 Maintain die records

7.1 Record details of all die corrections, including trial extrusions

7.2 Recommend any simple die design changes that increase productivity and recovery

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>