



Australian Government

PMBPREP305 Change extrusion die and setup

Release: 1

PMBPREP305 Change extrusion die and setup

Modification History

Release 1. Supersedes and is equivalent to PMBPREP305B Change extrusion die and setup

Application

This unit of competency covers the skills and knowledge required to remove and refit dies, pins, sizing dies (calibrator), vacuum blocks and seals as used in extrusion line processes.

This unit of competency is typically performed by experienced operators or those in similar roles who are required to plan and prepare the change, select dies that match product/process specification, make the changeover and test the changeover, and fine tune settings to meet specifications.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Preparation

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

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

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| 1 Prepare to change dies or cores | 1.1 Plan process for closing down machinery and inform relevant personnel |
| | 1.2 Take last-off samples as required for die reports |

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| | | 1.3 | Select dies or cores to match product/process specification |
| | | 1.4 | Implement measures to control identified hazards in line with procedures and duty of care |
| 2 | Shut down extruder | 2.1 | Stop downstream equipment |
| | | 2.2 | Stop feed, drop temperatures, stop vacuum pump and purge the extruder |
| | | 2.3 | Activate isolating locks, disconnect power to heaters |
| 3 | Change set-up | 3.1 | Remove, clean and store die according to workplace procedures |
| | | 3.2 | Fit replacement die ensuring that locating devices and marks are matched and securing devices are installed and tightened to specification |
| | | 3.3 | Remove and re-fit calibrator sleeve and seals as required |
| | | 3.4 | Set heats according to pre-start procedures |
| 4 | Restart and test-run the new set-up | 4.1 | Check operation of die against product quality |
| | | 4.2 | Compare machine setting ranges against documented requirements |
| | | 4.3 | Check the first-off sample for required standards |
| | | 4.4 | Fine-tune settings and other production variables as required |
| | | 4.5 | Note variances between standard operating procedures (SOPs) and actual production run |
| | | 4.6 | Complete workplace documentation and report to appropriate personnel |

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| 5 | Anticipate and solve problems | 5.1 | Recognise a problem or a potential problem |
| | | 5.2 | Determine problems needing priority action |
| | | 5.3 | Refer problems outside area of responsibility to appropriate person, with possible causes |
| | | 5.4 | Seek information and assistance as required to solve problems |
| | | 5.5 | Solve problems within area of responsibility |
| | | 5.6 | Follow through items initiated until final resolution has occurred |

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- emergency procedures
- work instructions
- SOPs
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment Tools and equipment include one or more of:

- hand carts and trolleys
- hoists/lifting equipment not requiring any special permits or licences

- basic hand tools
- hand tools
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- hot surfaces
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- heat, smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment, product mass
- other hazards that might arise

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- corrosion of die surface
- inadequate fitting
- faulty components
- machine malfunction
- variation in product.

Operational knowledge includes one or more of:

- procedures

- training
- technical information such as journals, engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Unit Mapping Information

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Links

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