



Australian Government

MSFFL3047 Polish concrete floors using planetary machines

Release: 1

MSFFL3047 Polish concrete floors using planetary machines

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers selecting and operating floor surfacing machines designed for wet or dry polishing of concrete floors. It applies to concrete cleaning and polishing operations in on-site commercial and residential environments and involves application of skills and knowledge at a sub-trade worker level.

Licensing, legislative or certification requirements may apply to this unit and relevant state/territory and local government agencies should be consulted to determine any necessary certification or licensing for undertaking flooring work. Access to construction sites requires certification of general induction training specified by the National Code of Practice for Induction for Construction Work (ASCC 2007).

Pre-requisite Unit

Competency Field

Unit Sector

Flooring technology

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Select concrete polishing equipment	1.1	Planetary concrete grinding/polishing equipment and attachments are selected consistent with the needs of the job
		1.2	Hand edge and corner polishing tools are selected consistent with the needs of the job
		1.3	Equipment is checked for serviceability and safety and any faults are corrected or processed for repair
2	Clean and prepare sub-floor	2.1	Applicable work health and safety (WHS), legislative and organisational requirements relevant to polishing concrete floors are followed including selecting, correctly fitting and using personal protective equipment

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| | | 2.2 | Fittings, fixtures, loose debris, dirt and other items are removed from the sub-floor |
| | | 2.3 | Sub-floor is inspected to determine the need for removal of existing adhesive, paint or other contaminants |
| | | 2.4 | Planetary polishing machine, appropriate machine rotation speed, direction and diamond tools are selected for removal of contaminants |
| | | 2.5 | Machine is attached to a suitable power supply, emergency stop is released, the machine powered up and contaminants are removed in accordance with manufacturer specifications |
| 3 | Polish the floor | 3.1 | Machine is attached to a suitable power supply, emergency stop is released, the machine powered up, a passing pattern established and main area is polished to the required standard in accordance with manufacturer specifications |
| | | 3.2 | Outer zones are overlapped and passes staggered to achieve desired finish |
| | | 3.3 | Machine operation is monitored constantly to ensure motor/motors are running within manufacturer's safe operational limits and no electrical faults are evident |
| | | 3.4 | Perimeter of the designated area is polished using edge and corner polishing equipment and appropriate attachments |
| | | 3.5 | Diamond polishing tools are examined for wear and exchanged, when required, throughout the polishing process |
| | | 3.6 | Excessive wear of polishing tools is recognised and remedial action taken as required |
| | | 3.7 | Floor area is cleaned, inspected and re-worked as required |
| 4 | Clean up work area and tools | 4.1 | All tools and grinding/polishing equipment are cleaned, maintained and stored |
| | | 4.2 | Equipment is cleaned, maintained and stored |
| | | 4.3 | Work area is cleared and waste removed |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies 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. Range is restricted to essential operating conditions and any other variables essential to the work environment.

Legislative requirements include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- work health and safety (WHS)
- the environment
- equal employment opportunity (EEO)
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage

WHS requirements include:

- Commonwealth, state or territory legislation and regulations
- organisational safety policies and procedures
- the use of personal protective equipment and clothing
- firefighting equipment
- first aid equipment
- hazard and risk control and elimination
- control of hazardous materials and substances
- manual handling, including lifting and carrying

Organisational requirements include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards

	• WHS • emergency and evacuation • ethical standards • recording and reporting • access and equity principles and practices • equipment use, maintenance and storage • environmental management (waste disposal, recycling and re-use guidelines)
Types of concrete polishing equipment and supplies include:	• single headed, double headed and planetary action grinders/polishers • dust/vacuum systems • diamond abrasives
Selection of diamond tool segments includes:	• half set (for contaminant removal e.g. glue when a flat floor finish is not required) • full set (for flattening)
Diamond abrasive wear includes influence of:	• hardness of material being ground (e.g. aggregate and sand abrasiveness) • the grinding/polishing pressure • hardness of the bond • diamond grit size • number of segments • presence of water • use of additional abrasives
Planetary machine maintenance includes:	• ensuring all external electrical fittings are sound, effective and dry • checking tightness of head locks • inspecting heads for slop or broken ‘fingers’ (spiring steel heads) • effectiveness of the planetary seal • condition of the chain ring • condition of the drive sprocket • condition of belt tensioner • cleanliness of machine electrical cabinet • current electrical safety tags fitted
Instructions include:	• equipment manufacturer specifications and operational procedures • workplace procedures relating to WHS, tool handling and operation, reporting and communication • work instructions, including job sheets, plans, drawings and designs
Sources of power supply	• single or three-phase

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| Attachments include: | • air cleaning/vacuum attachment |
| Fault reporting includes: | • verbal or written reporting |
| Personal protective equipment includes: | • that prescribed under legislation, regulation and enterprise policies and practices |
| Fittings and fixtures include: | • nails |
| | • door stops |
| | • gripper strips |
| | • metal or other material mouldings |

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFFL3047 Polish concrete floors using planetary machines

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Performance Evidence

- Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for operating and maintaining planetary grinding/polishing equipment
- Apply safe handling practices for equipment, products and materials
- Follow work instructions, operating procedures and inspection practices to:
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
 - minimise the risk of injury to self and others
- Polish a concrete sub-floor using single headed, double headed and planetary action concrete polishing equipment correctly and safely
- Complete operator maintenance on concrete polishing equipment
- Modify activities to cater for variations in workplace contexts and environment
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of faults and problems
- Collect and understand information related to the use and maintenance of grinding and polishing equipment
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity
- Use pre-checking and inspection techniques to anticipate polishing problems to avoid re-work and wastage
- Recognise and respond to circumstances outside instructions or personal competence
- Plan and organise activities, including the preparation and layout of the worksite and the obtaining of tools
- Use mathematical ideas and techniques to correctly complete measurements and estimate material requirements
- Maintain current knowledge of:
 - tools and materials
 - concrete surface polishing techniques
- Use workplace technology related to the use and operator maintenance of concrete polishers and associated materials

Knowledge Evidence

- State or territory WHS legislation, regulations, standards and codes of practice relevant to the use of concrete polishing equipment

- Organisational and site standards, requirements, policies and procedures for the use of concrete polishing equipment
- Types of concrete polishers and procedures for their safe use, operation and maintenance
- Polisher attachments, their uses, limitations and maintenance requirements
- Diamond polishing tools, uses and wear factors
- Environmental protection requirements
- Established communication channels and protocols
- Relevant problem identification and resolution

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
 - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to single, double and planetary action grinders/polishers and hand grinding and edging tools, manufacturer/user instructions and/or manuals, and a defined polishing standard.

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