



Australian Government

MSFFL3057 Select and fit diamond tools for concrete surface preparation and polishing

Release: 1

MSFFL3057 Select and fit diamond tools for concrete surface preparation and polishing

Modification History

Release 1. Supersedes and is equivalent to MSFFL3048 Select and fit diamond tools for concrete surface preparation and polishing.

Application

This unit describes the skills and knowledge required to select and fit appropriate diamond grinding and polishing tools for use in concrete floor preparation and finishing machines. It applies to concrete cleaning and polishing operations in commercial and residential environments and involves application of skills and knowledge at a sub-trade worker level.

This unit applies to flooring technicians working in accordance with pre-determined work orders.

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

Flooring technology

Unit Sector

Flooring technology

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify the required concrete surface application	1.1 Examine concrete surface to be prepared and polished to evaluate the level, any undulations and surface condition 1.2 Establish types of grinding and polishing techniques required based on floor inspection of the job 1.3 Determine the need for wet or dry application and any additional

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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	abrasives required 1.4 Evaluate floor moisture test results and use results to determine the floor grinding and polishing steps for the job
2. Select diamond grinding tools	2.1 Identify required diamond tools and bond type for surface preparation 2.2 Determine grit size for grinding based on job requirements 2.3 Match segments of diamond tool and bond type to the job requirements and machine to be used for grinding 2.4 Fit diamond tools to the planetary machine for surface preparation operations ensuring tool rotation is correct for the machine set-up
3. Select floor diamond polishing tools	3.1 Identify required diamond tools and bond type for surface polishing 3.2 Determine grit size for the polishing job 3.3 Match segments of diamond tool and bond type to the job requirements and machine to be used for polishing 3.4 Fit diamond tools to the planetary machine for surface polishing operations ensuring tool rotation is correct for the machine set up
4. Clean up work area and tools	4.1 Examine all diamond tools and identify those which are able to be re-used and which are to be discarded 4.2 Clean and store tools and equipment in accordance with workplace procedures 4.3 Record items to be discarded in workplace documentation and make disposal in accordance with manufacturer recommendations 4.4 Clear work area and safely remove waste

Foundation Skills

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

Unit Mapping Information

Supersedes and is equivalent to MSFFL3048 Select and fit diamond tools for concrete surface preparation and polishing.

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 MSFFL3057 Select and fit diamond tools for concrete surface preparation and polishing

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Performance Evidence

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

- selected and fit appropriate diamond grinding and polishing tools to be used in planetary action concrete finishing equipment to meet the requirements of 2 different jobs.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- concrete surface preparation and polishing:
 - Australian Standards requirements
 - environmental protection and sustainability requirements
 - equipment types:
 - full set of single or twin segments (for when a flat floor finish is required)
 - half set of single or twin segments (for when flat floor finish is not required)
 - different diamond tool applications:
 - floor flattening and removing undulation (hard, medium and soft concrete)
 - removal of surface contaminants:
 - carpet glue
 - vinyl adhesive
 - epoxy paint
 - smoothing exposed aggregate
 - grinding exposed aggregate
 - concrete surface polishing (hard, medium and soft)
 - gloss levels (high, medium and low gloss)
 - hardness of material being ground (aggregate and sand abrasiveness)
 - the grinding and/or polishing pressure
 - bond types:
 - metal
 - resin
 - ceramic

- hybrid
- factors that influence wear:
 - hardness of the bond
 - diamond grit size
 - number of segments
 - presence of water
 - use of additional abrasives such as sand, silicone or carbide
 - quality of diamond tool being used
 - machine speed
 - operator experience
 - grit size
 - too small so surface contaminants, such as glue smears
 - too coarse leaving scratching and excessive diamond wear
 - bond
 - too soft, leaving machine marks and excessive diamond wear
 - too hard, resulting in glazed surface
 - not using hardest bond first
 - incorrect choice of segments could result in an uneven floor, excessive diamond consumption and overloading the planetary machine, scratches remaining in finished floor
- procedures and protocols for the recording, reporting and maintenance of workplace records and information.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - concrete surface floors for polishing
 - equipment, tools and materials to complete tasks in the Performance Evidence
 - work orders
 - workplace procedures.

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

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