

Overview

This standard is for those who install rigid flag/slab surfaces.

This standard is one of a series of six aimed at those who install the various forms of hardstanding surfaces that are used within the landscaping industries.

This standard is targeted at operatives working under limited supervision and focuses on the skills required both to understand the structure and undertake the installation of hard surfaces while working to specifications.

You will be expected to understand the impact of the installation on the immediate environment, and the impact of the environment on the structure.

Install rigid flag/slab surfaces

Performance criteria

You must be able to:

1. assess the risks associated with the site and the proposed work
2. select, prepare and use tools and equipment for the installation of rigid flag/slab surfaces, including personal protective equipment (PPE) and respiratory protective equipment (RPE) safely and correctly
3. keep damage, unnecessary waste, unwanted impact on the environment and pollution to a minimum whilst installing rigid flag/slab surfaces
4. set out for line and level
5. lay rigid flag/slab surfaces to a suitable pattern using manual and/or mechanically-aided techniques as appropriate
6. check laid surface for alignment
7. cut in to required standard at edges and around obstructions such as access covers
8. compact surface
9. check completed installation of rigid flag/slab surface for compliance and rectify any problems
10. fill joints and finish appropriately
11. maintain a clean and stain-free surface
12. keep the site in a clean and tidy condition whilst installing rigid flag/slab surfaces
13. clean, maintain and store tools and equipment after the installation of rigid flag/slab surfaces promptly and securely
14. protect rigid flag/slab surfaces correctly against weather and use until they are in a suitable condition
15. leave the site safe, tidy and suitable for intended use
16. maintain working relations with all those involved in, or affected by, the installation of rigid flag/slab surfaces
17. maintain communication with all those involved in, or affected by, your work
18. carry out your work in accordance with relevant environmental and health and safety legislation, risk assessment requirements, codes of practice and organisational policies

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Knowledge and understanding

You need to know and understand:

1. the weather conditions that are appropriate for installation of rigid flag/slab surfaces
2. how to carry out a risk assessment for installation of rigid flag/slab surfaces and decide on safe working conditions
3. how to interpret rigid flag/slab surface installation specifications
4. how to measure to ensure work is within tolerances
5. how falls, lines and levels are determined and set out
6. how to select and prepare the correct tools and equipment for the task, including personal protective equipment (PPE) and respiratory protective equipment (RPE)
7. how to use, maintain, clean and store the required tools and equipment safely and correctly, including splitter, saw and trimming tools
8. the importance of dust-suppression and respiratory protective equipment (RPE) when using a cut-off saw
9. the importance of edge restraints
10. how to calculate the quantity of paving materials required
11. how paving materials should be stored on-site, how they are delivered to the laying face and how they are positioned for the laying operative
12. the range of flag/slab surfaces available and their suitable applications
13. how a rigid laying course is prepared, the working life of the bed material and the importance of not preparing too large an area in advance of the laying face
14. the range of flag/slab patterns commonly used on site, their relative strengths and weaknesses, and how they are established
15. how buttering of receiving edges can improve the competence of hand-pointed mortar joints
16. how flag/slab surfaces are laid to radii and corners
17. how flag/slab surfaces are laid to ramped and dropped crossings, and at changes in gradient or direction of fall
18. the importance of mixing and randomising flags from three or more packs prior to laying
19. how flagged/slabbed surfaces are continuously checked for compliance to line, level, joint width and flag competence during the laying process

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20. how cutting-in is achieved following the principles of minimum flag/slab size, notched cuts and inboard cutting techniques
21. the use of concrete fillets around obstructions such as access covers
22. the importance of using the correct jointing material and its role in
23. the performance of the completed surface
24. techniques used for dry and wet (slurry) grouting, gun injection and hand pointing
25. how mauls, mallets and other compaction equipment is used and the use of any required attachments
26. removal and replacement of defective flags/slabs
27. how surfaces are continuously checked for compliance to line, level, joint width and material competence during the laying process
28. the importance of final compliance checks
29. the importance of maintaining communication with those involved in, or affected by, your work and how this should be done
30. the importance of following relevant environmental and ecological best practice to help minimise the impact of your work on the environment
31. your responsibilities under relevant health and safety legislation, codes of practice and organisational policies

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Scope/range

A. select and use the following types of tools and equipment when installing rigid flag/slab surfaces:

1. vibrating plate compactors
2. guillotine splitters
3. cut-off saws
4. maul and mallet
5. mechanical laying aids
6. vacuum laying aids

B. undertake the following tasks when installing rigid flag/slab surfaces:

1. laying to straight lines and slow curves
2. flag/slab laying to fast radii and corners using fan radius pattern
3. flag/slab laying to fast radii and corners using ring radius pattern
4. flag/slab laying to fast radii and corners using run-out pattern
5. flag/slab laying to fast radii and corners using new town corner pattern
6. cutting-in to edges and obstructions
7. pointing by hand
8. jointing with a mortar or polymeric slurry
9. compaction
10. lift and replace

C. use the following types of material:

1. concrete flags
2. natural stone slabs

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Glossary

Installation tasks:

- laying to straight lines and slow curves
- flag/slab laying to fast radii and corners using fan radius pattern
- flag/slab laying to fast radii and corners using ring radius pattern
- flag/slab laying to fast radii and corners using run-out pattern
- flag/slab laying to fast radii and corners using new town corner pattern
- cutting-in to edges and obstructions
- pointing by hand
- jointing with a mortar or polymeric slurry
- compaction
- lift and replace

Instructions: verbal or written.

Materials:

- concrete flags
- natural stone slabs

PPE: Personal protective equipment.

RPE: Respiratory protective equipment.

Specifications: drawings, schedules, method statements, Standard Operating Procedures (SOPs), manufacturers' guidelines, organisational policies.

Tools and equipment:

- hand tools including floats and trowels, brick/scutch hammers, paving hammer/ maul/mallet, alignment bar, string lines, line pins, cold chisels, punches, bolsters and pitching chisels
- vibrating plate compactors
- guillotine splitters
- cut-off saws
- maul and mallet
- mechanical laying aids

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- vacuum laying aids
- appropriate PPE and RPE

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