

Overview

This standard is for those who install flexible 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.

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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 flexible 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 flexible flag/slab surfaces
4. set out for line and level
5. lay flexible flag/slab surfaces to a suitable pattern using manual and/or mechanically-aided techniques as appropriate
6. check laid flag/slab surfaces for alignment
7. cut-in flags/slabs to required standard at edges and around obstructions such as access covers
8. compact flags/slabs
9. check completed installation of flexible flag/slab surfaces for compliance and rectify any problems
10. fill joints and recompact
11. keep the site in a clean and tidy condition whilst installing flexible flag/slab surfaces
12. clean, maintain and store tools and equipment after the installation of flexible flag/slab surfaces promptly and securely
13. protect flexible flag/slab surfaces correctly against weather and use until they are in a suitable condition
14. leave the site safe, tidy and suitable for intended use
15. maintain working relations with all those involved in, or affected by, the installation of flexible flag/slab surfaces
16. maintain communication with all those involved in, or affected by, your work
17. 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 flexible flag/slab surfaces
2. how to carry out a risk assessment for installation of flexible flag/slab surfaces and decide on safe working conditions
3. how to interpret flexible 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 flexible paving materials required
11. how flexible slab/flag surfaces are delivered to the site, stored and how they are positioned for the laying operative
12. the range of flag/slab surfaces available and their suitable applications
13. how to determine the most suitable type of laying-course preparation (screeded, individual bed, or a combination of both) for any given flag/slab-laying project
14. the range of flag/slab patterns commonly used, their relative strengths and weaknesses, and how they are established
15. the importance of mixing and randomising flag/slab surfaces from three or more packs prior to laying
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. how flagged/slabbed surfaces are continuously checked for compliance to line, level, joint width and flag/slab competence during the laying process
19. how cutting-in is achieved following the principles of minimum flag/slab size, notched cuts and inboard cutting techniques
20. the use of concrete fillets around obstructions such as access

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covers

21. the importance of using the correct jointing material and its role in the performance of the completed surface
22. techniques used for dry and wet grouting
23. the size, mass and type of compaction equipment suitable for the type of surface being laid
24. how compaction equipment is used, and the use of any required attachments
25. the removal and replacement of defective flags/slabs
26. how surfaces are continuously checked for compliance
27. 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
30. the importance of following environmental and ecological best practice to help minimise the impact of your work on the environment
31. your responsibilities under current 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 flexible flag/slab surfaces:
1. hand tools
 2. vibrating plate compactors
 3. guillotine splitters
 4. cut-off saws
 5. Maul and mallet
 6. Mechanical laying aids
 7. Vacuum laying aids
- B. undertake the following tasks when installing flexible flag/slab surfaces:
1. flag/slab 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 around obstructions
 7. jointing
 8. compaction
 9. lift and replace
- C. use the following types of material:
1. concrete flags
 2. natural stone slabs

Glossary

Installation tasks:

- flag laying to straight lines and slow curves
- flag laying to fast radii and corners using fan radius pattern
- flag laying to fast radii and corners using ring radius pattern
- flag laying to fast radii and corners using run-out pattern
- flag laying to fast radii and corners using new town corner pattern
- cutting-in to edges and around obstructions
- jointing
- compaction
- lift and replace

Instructions: verbal or written.

Material:

- concrete flags
- natural stone slabs

PPE: Personal Protective Equipment.

RPE: Respiratory Protective Equipment.

Specifications: drawing, 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 plates compactors
- guillotine splitters
- cut-off saws
- maul and mallet
- mechanical laying aids
- vacuum laying aids
- appropriate PPE and RPE

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