KCS 11 50 05 : 2019

Shallow Foundation

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국토교통부

Foreword

• In accordance with the change to the construction standards code system, the duplications and conflicts between existing construction standards (design standards, standard specifications) were compared and reviewed and then integrated into this standard as a standard code.

• This standard was established by integrating the parts corresponding to the road construction standard specification, landscape construction standard specification, and the sewer standard specification, based on the existing highway bridge standard specification and the building construction standard specification. The history of this standard and its revisions is as follows.

Construction Standard	Main Content	Enacted or Revised (Year.Month)
Highway bridge standard specification	• Established highway bridge standard specification	Enacted (1977.12)
Highway bridge standard specification	• Reflected the revisions to the concrete construction standard specification	Revised (1983.12)
Highway bridge standard specification	• Reflected the latest details of domestic & international specifications and technology development	Revised (1992.11)
Highway bridge standard specification	• Specification divided into design and construction sections, and contents on maintenance included	Enacted (1996.4)
Highway bridge standard specification	• Reorganized into a new system to resolve conflicts between different sectors	Revised (1999.8)
Highway bridge standard specification	• Added TMC steel standards & improved welding standards	Revised (2005.2)
Highway bridge standard specification	• New regulations added for construction of high-performance materials including rolled steel for bridge structures and high-strength concrete, as well as quality control technology for centrifugal concrete piles	Revised (2013.2)
Highway bridge standard specification	• Ultrasonic inspection added as a non-destructive inspection method in addition to radiographic inspection	Partially revised (2015.6)
Building construction standard specification	• Prepared and established by the Architectural Institute of Korea at the request of the Ministry of Construction	Enacted (1967.12)
Building construction standard specification	• Complemented and revised to reflect new materials and construction methods	Revised (1978.12)

Construction Standard	Main Content	Enacted or Revised (Year.Month)
Building construction standard specification	• Complemented and revised to reflect new materials and construction methods	Revised (1985.12)
Building construction standard specification	• Complemented and revised to reflect new materials and construction methods	Revised (1989.8)
Building construction standard specification	• Integrated accumulated experience and knowledge, analyzed and organized related literature and data at home and abroad, and systematized new materials and technologies according to domestic technology levels	Fully revised (1994.8)
Building construction standard specification	• Systematized chapters and clauses into a code system, changed classifications to match the operating system of the Ministry of Construction and Transportation, and revised the specification to make it more realistic and practical	Revised (1999.5)
Building construction standard specification	• Consolidated 29 chapters to 24 chapters by analyzing the specifications system of other countries, as well as descriptions by citing Korean Industrial Standards or other relevant standards according to the principle of preparing performance specifications	Revised (2006.4)
Building construction standard specification	• Revised to introduce and apply new technologies and construction methods related to green growth in the architectural field	Revised (2013.7)
Building construction standard specification	• Revised quality standard for asphalt primers in waterproofing work (Measures to resolve difference from KS standards)	Partially revised (2015.12)
KCS 11 50 05 : 2016	• Integrated and maintained as code in accordance with the changes to the construction standards code system	Enacted (2016.6)
KCS 11 50 05 : 2016	• Amended according to Korean Industry Standards and Construction Standards	Amended (2018.7)

Table of Contents

1. General

1.1 Scope of application

(1) This standard applies to foundation work where a high-quality substrate exists near the surface and is directly supported by the substrate in the form of a shallow foundation.

(2) It is applicable when the settlement is unlikely to exceed the tolerance due to the absence of a highly compressible soil layer under the substrate.

(3) If there is a highly compressible soil layer under the substrate, use a deep foundation or consider the u

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(3) Testing and inspection: Submit a plan for the various tests and inspections before starting the construction.

2. Materials

2.1 Concrete

(1) Matters related to concrete shall follow the applicable requirements of KCS 14 20 10.

2.2 Reinforcement

(1) Matters related to reinforcement shall follow the applicable requirements of KCS 14 20 11.

3. Construction

3.1 Preparatory work

3.1.1 Matters to investigate and confirm before construction

(1) Investi

(2) Deter oundation method.

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(1) Before acilities to preve

(2) If un nstruction super

3.2 Earth

3.2.1 Fou

(1) Maint aditions to excav

(2) Finish

(3) If layi n, fill the voids nmer.

(4) If layir mall roller or a

(5) For a pe of the bottom surface is greater than 1:4.

(6) When there are concerns about the inflow of water or rainwater, develop proper drainage measures.

(7) If the bottom surface is rocky, completely remove foreign substances such as rock debris; for soil, use proper compaction equipment to handle the compaction.

(8) When a bridge foundation is installed on a slope, restore the slope to its original state when refilling the foundation trench.

3.2.2 Slope stability

(1) When performing foundation excavation for structures on steep slopes, review the stability of the slope during construction or after completing the structure.

(2) When refilling a foundation excavation of abutments on a slope, restore the slope to its original state, then restore the green corridor by maintaining the planting.

3.3 Substrate inspection

(1) The actual conditions of the foundation floor and ground survey data should be compared and reviev

(2) Confir n on the result

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(4) Prepar

3.4 Matte

(1) Constr le

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