



SPECIFYING THE FULLER PILE

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Introduction

Engineers and contractors wanting to specify the Fuller Pile as their deep foundation element of choice for building, bridge, or other structures can do so by simply designating the deep foundation elements as Fuller Piles on the plans and specifications for the project. Some owners wanting bids from other solutions may choose to designate the deep foundation elements as “hybrid piles”, “composite piles”, or “displacement piles” as Fuller Piles are often labeled under these categories.

Recommended General Notes

For any commercial building project, we recommend the following General Notes be provided on the structural drawings under the heading Fuller Piles:

- A. Fuller Piles shown on the structural drawings shall be designed in accordance with the Geotechnical Report titled ____ by ____ and dated ____.
- B. Fuller Piles shall be designed for the following unfactored/factored loads:
Compression - ____ kips
Tension - ____ kips
Lateral - ____ kips
- C. Fuller Piles must conform with Chapter 18 of the referenced building code. Submit product data, job specific drawings, and calculations sealed by a professional engineer.
- D. Other than test piles, pile length for bidding purposes is ____ ft. Test pile length shall be as indicated in the Geotechnical Report.
- E. Fuller Pile installation and grout feed procedures shall be in accordance with the Geotechnical Report.
- F. Grout volumes shall be recorded for each extension installed in units of ft³ per stick.
- G. Documented grout volumes for each pile shall exceed 90% of grout volumes recorded for the test pile(s). Where documented grout volumes do not meet this requirement, the Geotechnical Engineer shall approve or otherwise define remedial methods for the situation.
- H. ____ piles shall be load tested. Load tests shall be as defined in the Geotechnical Report and monitored by the Geotechnical Engineer.
- I. In plan, the maximum permitted out-of-tolerance shall be 3 in. per pile in any direction.
- J. Submit an as-built plan survey for all piles.

Additional Recommended Specifications

Where book specifications are used for the deep foundation elements or where additional notes are desired by the engineer of record for inclusion with the general notes shown on the plans, a book specification page can be downloaded from our company website www.fullerpile.com. This document contains information related to the manufacturing of parts and pieces making up the fuller pile and is not needed in most cases. Most of this information is submitted as product data as part of the delegated design.

Loads and other Information Required to Perform a Delegated Design of Fuller Piles

As noted in item B of the recommended general notes for Fuller Piles, compression, tension, and lateral loads at the pile head are required to perform a delegated design of Fuller Piles. These loads can be provided as ASD loads (sometimes referred to as unfactored or service loads) or LRFD loads (sometimes called factored loads). It is important that the engineer of record clearly indicate which type of load is provided. Unless given specific instructions regarding conversion between ASD and LRFD loads, Fuller Pile delegated designers assume a 1.5 factor commonly used in the industry. In other words, if ASD loads are provided, Fuller Pile delegated designers use LRFD and design for 150% of the vertical and lateral loads provided. In accordance with standard practice and



Chapter 18 of the 2021 International Building Code, compression load testing is performed using a factor of safety of 2.0 applied to the provided ASD compressive load for the pile.

Where the engineer of record desires to specify the pile head as fixed or free, they are encouraged to do so. Otherwise, the delegated designer will consider both options when arriving at the most economical solution for the project. As a final note, Fuller Piles are often installed 6-12 inches into a pile cap. If a maximum or minimum embedment is required, this information should be provided to the delegated designer and shown on the structural drawings.

Part Identification Numbers

The Fuller Pile Design Guide referenced by the delegated designer and available to the engineer of record for the project refers to Fuller Piles using our common size designations FPXXX. For example, FP450 denotes our standard 4.5 in. diameter pipe size used to construct the Fuller Pile. Each Fuller Pile contains a lead section, extensions, and couplings that tie sections together. Bolts of different sizes and strengths are specified by the delegated designer depending on design loads provided for the project or torque requirements for installation, whichever is more demanding. Steel pile caps are not required for all projects, but are provided when desired by the contractor or engineer of record or when custom designed by the delegated designer for relatively high tension demand at the pile head. Table 2 provides manufacturing part identification numbers for the standard size Fuller Piles referred to in the Fuller Pile Design Guide.

Table 1. Various Fuller Pile assembly and parts designation numbers.