

842 - DRILLING AND GROUTING

SECTION 842

DRILLING AND GROUTING

842.1 DESCRIPTION

Drill holes and grout anchor bolts, dowel bars, tie bars and reinforcing steel into the existing concrete as shown in the Contract Documents.

BID ITEMS

Drilling and Grouting
Drilling and Grouting (Repair) (Set Price)

UNITS

Each
Each

842.2 MATERIALS

Provide materials that comply with the applicable requirements.

| | |
|---|----------------------|
| Reinforcing Steel | DIVISION 1600 |
| Anchor Bolts | DIVISION 1600 |
| Dowel Bars and Tie Bars | DIVISION 1600 |
| Cementitious Grout | DIVISION 1700 |
| Type IV Epoxy-Resin Bonding System for Concrete | DIVISION 1700 |

842.3 CONSTRUCTION REQUIREMENTS

a. Drilling Holes. Provide the Engineer with a copy of the grout (cementitious or Type IV epoxy-resin bonding system for concrete) manufacturer’s instructions. Drill the holes into the existing concrete to the diameter recommended by the grout manufacturer. When drilling for new reinforcing steel, use a pacometer to avoid drilling into the existing reinforcing steel. In the absence of recommendations from the grout manufacturer, drill the holes approximately ¼ ± 1/16 inch larger than the diameter of the anchor bolts, dowel bars, tie bars and reinforcing steel without damaging adjacent concrete. Maintain proper vertical and horizontal alignment while drilling the holes.

b. Preparing Holes.

(1) General.

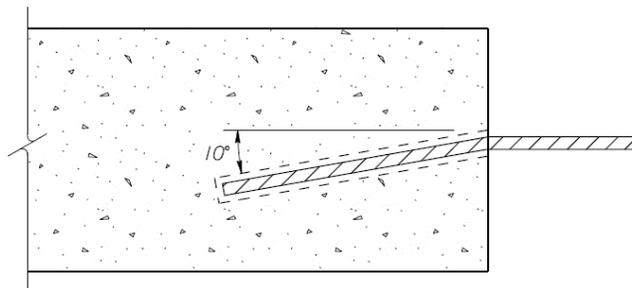
- Use compressed air to blow out the hole.
- Use a brush to clean the hole.
- Use compressed air to blow out and dry the hole.

(2) Vertical Holes. Do not leave ungrouted vertical holes overnight and exposed to freezing temperature.

(3) Horizontal Holes. Drill holes at an angle of 10° (minimum) from the horizontal plane as shown in

FIGURE 842-1. When a conflict is encountered (such as reinforcement), a hole angle less than 10° may be drilled provided that a pre-qualified self-contained grouting system is used.

FIGURE 842-1



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c. Grouting Holes. Mix, apply and cure the grout according to the manufacturer's instructions. Fill the dry, clean holes with an approved grout. Insert the bolt, bar or reinforcing steel into the freshly grouted hole so that no voids exist between the bolt, bar or reinforcing steel and the concrete. Clean overflow and center the bar or bolt in the hole.

d. Testing. When designated in the Contract Documents, proof load 20% of the installed anchorages to 90% of the design load according to the procedures in the Contract Documents.

842.4 MEASUREMENT AND PAYMENT

The Engineer will not measure the drilling and grouting of bars and bolts that are included in other items of work (such as the erection of structural steel and concrete pavement patching).

When shown as a bid item in the contract, the Engineer will measure each drilled and grouted hole.

Payment for "Drilling and Grouting" at the contract unit price, and "Drilling and Grouting (Repair) (Set Price) at the contract unit set price, is full compensation for the specified work.