

Foundation dressing & grouting:

- 1.1 The surfaces of foundation shall be dressed to bring the top surface of the foundation to the required level, prior to placement of equipment/equipment bases on the foundations.
- 1.2 All the equipment bases and structural steel base plates shall be grouted and finished as per these specifications unless otherwise recommended by the equipment manufacturer.
- 1.3 The concrete foundation surfaces shall be properly prepared by chipping and/or grinding as required to bring the type of such foundation to the required level to provide the necessary roughness for bondage and to ensure enough bearing strength. All laitance and surface film shall be removed and cleaned.

1.4 Grouting mix

The grouting mixture shall be composed of Portland cement, sand and water. The Portland cement to be used shall conform to ISI No. 269 or equivalent. Sand shall conform to ISI No. 383/2386 or equivalent. The grout proportions for flat bases where the grouting space does not exceed 35 mm shall be 50 kg bag of cement to 75 kg of sand. Only the required quantity of water shall be added so as to make the mix quaky and flowable and the mix shall not show excess water on top when it is being puddled in place. For thicker grout beds upto 65 mm, the amount of sand shall be increased to 105 Kg per bag of cement. Bases which are hollow and are to be filled full of grouting shall be filled to a level of 25 mm above the outside rim with a mortar mix in the volumetric proportion of one part of cement and 1.5 part sand and 1.5 part 6 mm granite gravel. An acceptable plasticizer may be added to the grout mixes in a proportion recommended by the plasticiser's manufacturer. All such grouts shall be thoroughly mixed for not less than five minutes in an approved mechanical mixer and shall be used immediately after mixing.

1.5 Placing of Grout:

After the base has been prepared, its alignment and level has been checked and approved and before actually placing the grout a low dam shall be set around the base at a distance that will permit pouring and manipulation of the grout. The height of such dam shall be at least 25 mm above the bottom of the base. Suitable size and number of chains shall be introduced under the base before placing the grout, so that such chains can be moved back and forth to push the grout into every part of the space under the base.

The grout shall be poured either through grout holes provided or shall be poured at one side or at two adjacent sides giving it a pressure head to make the grout move in a solid mass under the base and out in the opposite side. Pouring shall be continued until the entire space below the base is thoroughly filled and the grout stands at least 25mm higher all around than the bottom of the base. Enough care should be taken to avoid any air or water pockets beneath the bases.

18.6 Finishing of the Edges of the grout:

The poured grout should be allowed to stand undisturbed until it is well set. Immediately thereafter, the dam shall be removed and grout, which extends beyond the edges of the structural or equipment base plates shall be cut off, flushed and removed. The edges of the grout shall then be pointed and finished with 1:2 cement mortar pressed firmly to bond with the body of the grout and smoothened with a tool to present a smooth vertical surface. The work shall be done in a clean and scientific manner and the adjacent floor spaces, exposed edges of the foundations, and structural steel and equipment base plates shall be thoroughly cleaned of any spillage of the grout.

18.7 Checking of equipment after grouting:

After the grout is set and cured, the Contractor shall check and verify the alignment of equipment, alignment of shafts of rotating machinery, the slopes of all bearings, pedestals, centering of rotors with respect to their sealing bores, couplings etc. as applicable and the like items to ensure that no displacement has taken place during grouting. The values recorded prior to grouting shall be used during such post grouting checkup and verification. Such pre and post grout records of alignment details shall be maintained by the Contractor in a manner acceptable to the Engineer In-Charge.