

Reinforced concrete water main pipe and fittings shall be joined using bell and spigot joint rings and continuous ring gaskets. Just prior to joining the pipes, the surfaces of the joint rings shall be wiped clean and the joint rings and rubber gasket shall be lubricated liberally with an approved type of joint lubrication compound. In storage the rubber gaskets shall be kept clean and free from oil or grease and be stored in a cool, dark place. When inserting gaskets in grooved spigot rings, the gasket and groove shall be well lubricated. The gasket shall be applied with hands free from sand, grit or foreign material. The gasketed pipe shall be carefully guided so as not to touch the sides or bottom of trench and pick up dirt on the soaped gaskets. The spigot end of the pipe with the gasket placed in the groove shall be carefully entered into bell end of pipe already laid, so as not to bump the ends causing damage to gasket or pipe or mortar covering. With the pipe in line and on the same grade as the previous pipe, the spigot shall be forced into the bell of the previous pipe, either with pressure from the hoisting equipment against the supporting cables, or by winches, pull jacks, or other approved methods. By means of 5/8-inch spacer blocks, the pipe shall be kept from being forced completely home, allowing space and safety for the rubber gasket inspection with a feeler gage. The gage, consisting of a thin hooked metal strip, shall be inserted in the annular space between the spigot ring and bell ring, and the hooked tip shall be slid along the rubber gasket around the full circumference of the spigot section. If cuts are detected in the rubber gasket, it shall be replaced. When the gasket inspection is satisfactory, the spacer blocks shall be removed and the pipe forced completely home. In its final position, the joints between pipe shall not be deflected more than 1/2 inch for 36-inch pipe and smaller, or more than 5/8 inch for 42-inch pipe and larger. Deflections shall not be made until the pipe is completely home. A band of burlap or other approved material, at least 5 inches wide, shall be placed around the outside of the pipe at the joint and fastened tightly in position. This band shall serve as a form for the lower three-quarters of the circumference of the pipe for the placing of a 1:2 cement mortar grout between the ends of the pipe. This grout shall be of creamy consistency and shall completely fill the space between the ends of the pipe. On pipes of 24-inch diameter or larger, the joint space remaining on the inside of the pipe shall be filled with a stiff mix of 1:2 cement mortar which shall be troweled in place so as to produce a continuous smooth, flush surface across the joint. The interior grout shall be omitted on pipe 20 inches or smaller in diameter.

Valves, fittings, plugs and caps shall be set in the manner heretofore specified for the cleaning and laying of pipe. Valve boxes shall be placed in such a manner that no shock or stress will be transmitted to the valve, and shall be plumb and centered over the wrench nut of the valve.

Where a fire hydrant is to be set in soil that is not free draining, a drainage pit 2 feet in diameter and 3 feet deep shall be excavated below the fire hydrant and backfilled to grade with gravel, stone or slag, meeting the grading requirements of No. 46, No. 6, No. 6a size coarse aggregate. All fire hydrants shall stand plumb.