PIPE JOINTS:

For the facilities in handling, transporting and placing in position, pipes are manufactured in small lengths of 2 to 6mts. These small pieces of pipes are then joined together after placing in position, to make one continuous length of pipe line. The design of these joints mainly depends on the condition of the pipe, internal water pressure and the condition of the support

Various types of joints which are mostly used are as:

(i) Spigot and socket joint.

(ii) Expansion joint.

(iii) Flanged joint

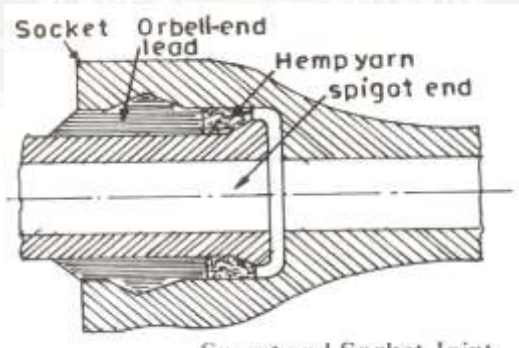
(iv) Screwed joint.

(v) Collar joint.

(vi) Flexible joint.

SPIGOT AND SOCKET JOINT

Sometimes this is called bell and spigot joint. This type of joint is mostly used for cast iron pipes. For the construction of tins joint the spigot or normal end of one pipe is slipped in socket or bell end of the other pipe until contact is made at the base of the bell. After this yarn of hemp is wrapped around the spigot end of the pipe and is tightly filled in the joint by means of yarning iron upto 5 cm depth. The hemp is tightly packed to maintain regular annular space and for preventing jointing material from falling inside the pipe.

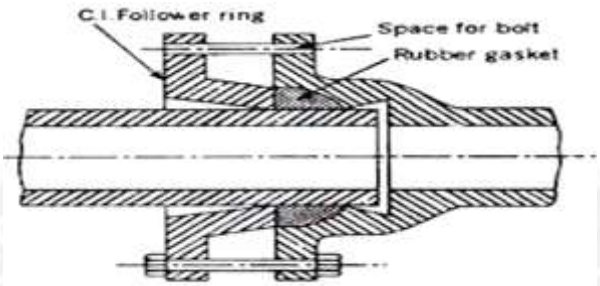


Spigot and Socket-Joint

After packing of hemp a gasket or joint runner is clamped in place round the joint so that it fits tightly against the outer edge of the bell. Sometimes wet clay is used to make tight contact between the runner and the pipe. The molten lead is poured into the v shaped opening left in the top by the clamped joint runner.

EXPANSION JOINT

This joint is used at such places where pipes expand or contract due to change in atmospheric temperature and thus checks the setting of thermal stresses in the pipes. In this joint the socket end is flanged with cast iron follower ring, which can freely slide on the spigot end or plat end of other pipe. An elastic rubber gasket is tightly pressed between the annular space of socket and spigot by means of bolts as shown in the figure. In the beginning while fixing the follower ring some space is left between the socket base and the spigot end for the free movement of the pipes under variation of temperatures.



Expansion Joint.

In this way when the pipe expands the socket end moves forward and when pipes contract, it moves backward in the space provided for it. The elastic rubber gasket in every position keeps the joint watertight.

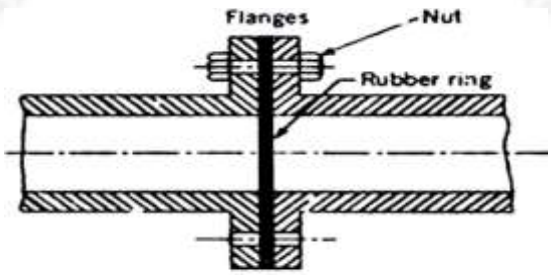
FLANGED JOINT

A flange can also be a plate or ring to form a rim at the end of a pipe when fastened to the pipe. A blind flange is a plate for covering or closing the end of a pipe. A flange joint is a connection of pipes, where the connecting pieces have flanges by which the parts are bolted together.

Used in places where disjointing is done.

Strong but rigid – cannot with stand vibrations.

Expensive – used in indoor works

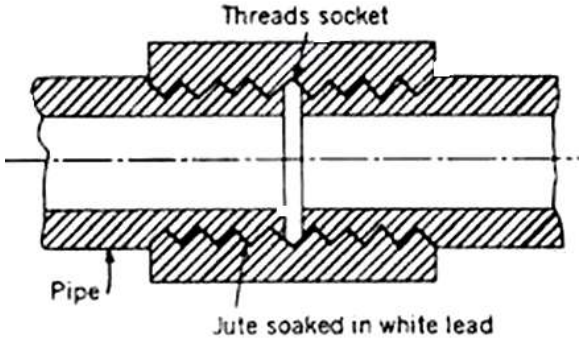


Flanged Joint.

SCREWED JOINT

Screwed piping is commonly used in low-cost, noncritical applications such as domestic water, fire protection, and industrial cooling water systems.

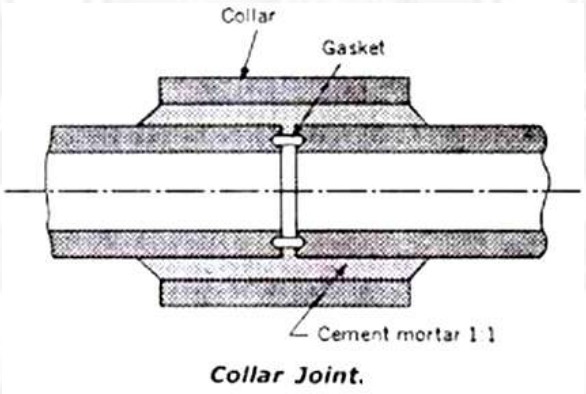
Installation productivity is moderately high, and specialized installation skill requirements are not extensive. Leakage integrity is good for low-pressure, low-temperature installations where vibration is not encountered.



Screwed Joint.

COLLAR JOINT

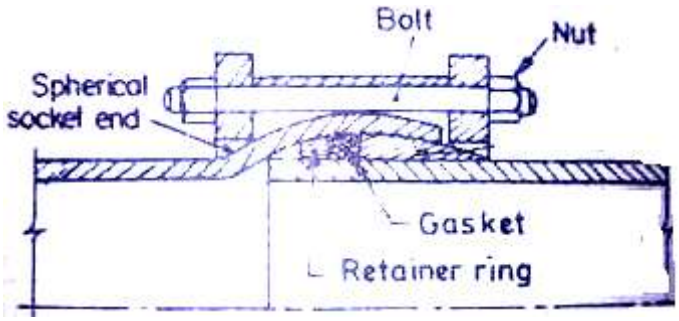
This type of joint is mostly used for joining big diameter concrete and asbestos cement pipes. The ends of the two pipes are brought in one level before each other. A gasket is placed between the grooves of the pipes and a collar is placed properly at the joint. Then the space between the pipes and the collar is filled up with cement mortar (1:1) and the surface is finished at an angle of 45^{o}.



Collar Joint.

FLEXIBLE JOINT

This type of joint is recommended for the places where the settlement of the pipe line may occur. For this joint one pipe has spigot end with a beat and the other pipe has socket end with spherical shape and it consists of several holes for nuts and bolts.



Flexible joint