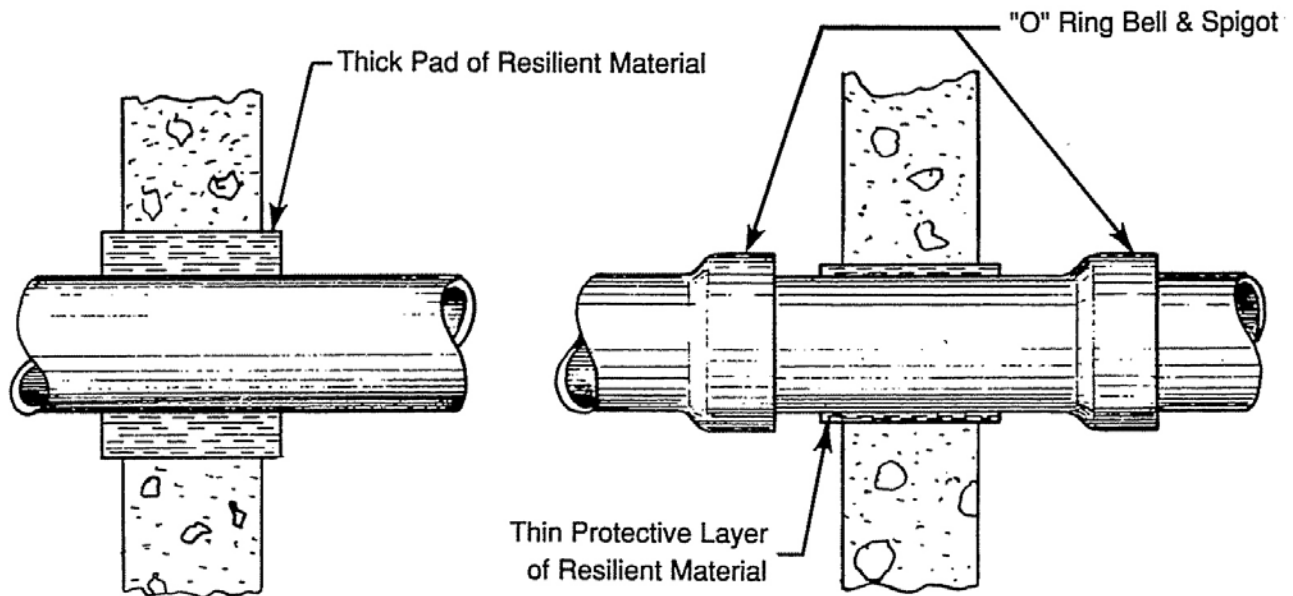


## FRP Pipe Penetration Through Concrete Surfaces



Where FRP composite piping systems go through a concrete wall or structure, precautions must be taken to prevent excessive strain on the pipe due to the differential settling between the structure and pipe. Piping systems should be designed with sufficient flexibility near wall penetrations to minimize reactions to slight wall movements.

Several methods are available to compensate for this settling without straining the pipe, and to prevent leakage. The use of flexible seals between the pipe and wall penetration is a standard practice used to protect FRP composite pipe from abrasion and minimize effects of wall movements. A segmented rubber seal, such as manufactured by Thunderline/Link Seal in Livonia, MI, is often used with FRP composite pipe.

When available, O-ring sealed joints may be incorporated into the piping system at wall penetrations. A sufficient thickness (2" minimum) of a resilient material, such as rubber, when wrapped around the pipe before pouring the concrete, will help prevent point loads from small amounts of differential settling.

If the pipe is not sealed into the wall, it must be protected from surface abrasion. A heavy gage sheet metal sleeve will often provide sufficient protection.