

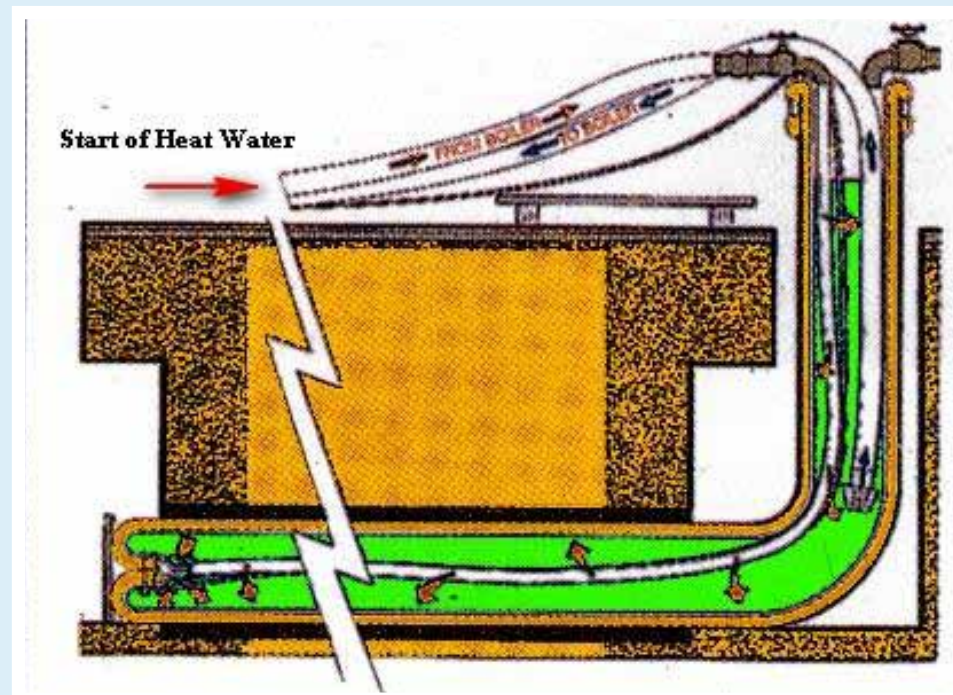
渠管的重鋪襯層

Relining of Drainage Pipelines

受損或被腐蝕的渠管現在很多時是以重鋪襯層的方法維修的，即以無坑挖掘法在管道內壁鋪上緊貼的襯層。渠務署普遍使用的襯層主要有兩種：

Damaged or corroded drainage pipelines are now often repaired by relining, i.e., installing a close-fit liner skin to the inner wall of the pipeline by trenchless method. There are two main types of liners commonly used by DSD:

- 原位內搪喉管法－襯層為軟的纖維套管。套管剪成維修的長度，通常是兩個沙井之間的長度(或需要局部維修的一小段)，黏附樹脂，通過沙井推進或拉進渠管，然後用水或蒸氣(局部維修用可脹大的卷筒)將套管擴大緊貼管道壁，再以熱水或蒸氣將套管搪好。過程一般需時數小時，待樹膠變硬。
Cured-in-place Pipe (CIPP) - The liner is a soft continuous fabric tube. A liner is cut to the length of repair normally the length between manholes (or a short section for localized repair), impregnated with resin, pushed/pulled into the pipe through a manhole, and then expanded against the pipe wall by hot water or steam (by inflatable packers for localized repair). The liner is then cured, by hot water or steam, normally for a few hours until it hardens.



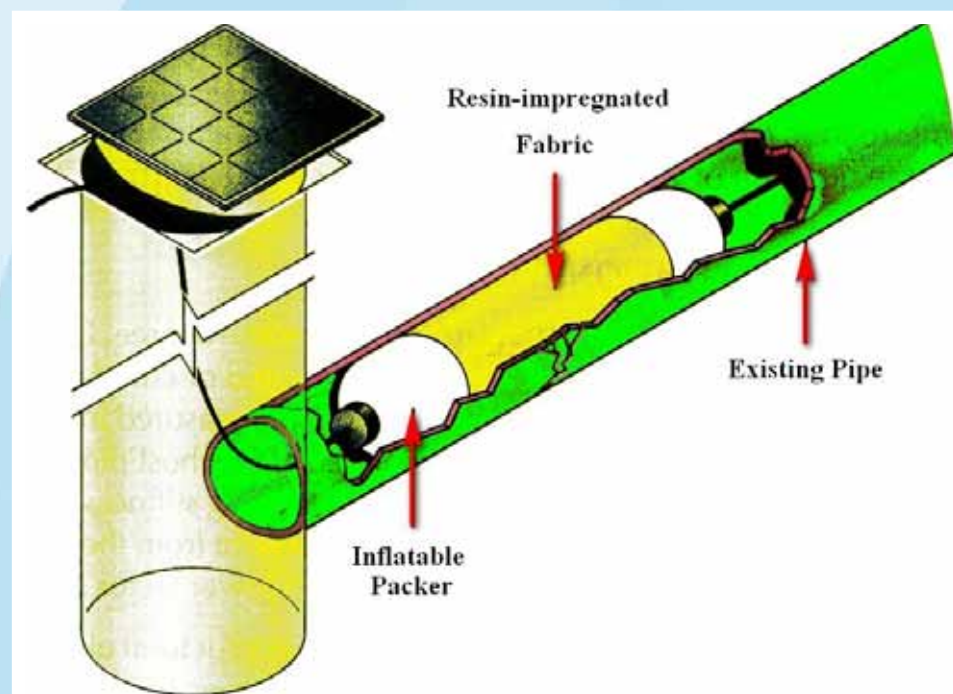
鋪設作業示意圖
Illustration on lining operation



將襯層套管放入渠管
Liner being inserted into pipeline



以熱水將套管搪好
Curing of liner by hot water



供局部維修的一小段襯層
Part-liner for localized repair

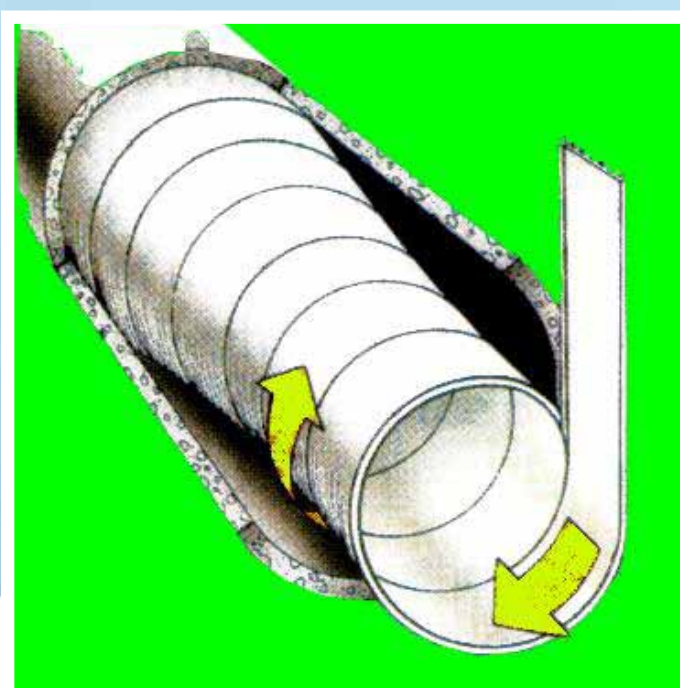


可脹大的卷筒卷上黏附樹脂的襯層
Resin-impregnated part-liner being laid on inflatable packer



可脹大的卷筒放入沙井內
Inflatable packer being lowered into manhole

- 螺旋捲繞式襯層－襯層是聚氯乙烯帶，由繞帶機在沙井／管道內捲繞成管狀，在兩個沙井之間形成連續不斷的襯層。
Spirally-wound liners – The liner consist of a PVC strip which is helically wound by a winding machine inside the manhole/pipeline to form a continuous liner between two manholes.



襯管由一條襯帶構成的
Liner pipe being formed from liner strip



繞線機在沙井內開始繞襯管
Winding machine starting to form liner pipe inside manhole



襯管到達下游沙井
Lining formed up to the downstream manhole



供大口徑管道用的繞線機
Winding machine for large diameter pipeline



完成的襯管
Completed lining



重鋪襯層在大形箱型暗渠內進行中
Lining work in progress inside large-sized box culvert

