



Circumferential fins have been observed on finished linings. They are raised localized ridges which appear to involve only the coated layer, but the underlying felt may also be involved in some circumstances.

Causes: Circumferential fins may involve only the coated layer, but the underlying plain layer(s) may also be involved. The Figures below show circumferential fins of varying severity and in differing situations.

Fins are associated with an inequality in length of the coated layer and plain layers. This can be brought about during impregnation by inner layers of plain felt being forced to move intermittently relative to the coated layer.

An interesting example of how relative movement of layers has occurred is shown in the impregnation issues section.

At the inversion end, or when liners are inverted through changes of section, circumferential fins can arise due to the inverting liner dragging the previously inverted liner thus inducing fins. This can also occur due to the problem of air accumulating within the liner at the top of the water column during inversion allowing inner layers to slip relative to the inflated coated layer.