

# Damage to the Surface of Liners



Damage to the liner surface, including cuts to the surface, seams, and cracks, have been observed on finished liners.

**Causes:** Damage can occur to liners at any stage after vacuum impregnation. Damage to a liner before impregnation would be revealed due to the loss of vacuum.

After impregnation, the liner passes through and over rollers including the impregnation nip rollers. Any rollers which are contaminated with catalyzed resin from a previous job could leave hard projections of cured resin on the rollers which are capable of damaging the coating. Similarly, any uneven or rough surfaces, including boots, that have significant contact with the liner could also damage the coating.

If the components used in association with liner end detail, hold-back rope, or hose attachment, during inversion are inadequately taped the coating could be damaged especially if the inversion head is too low and the liner is allowed to run with the inverted liner not up to size.

Care should be taken to keep the liner away from roller end fittings and to enter it centrally through the inversion ring. The latter reduces the drag on the top ring. Drag on the top ring, especially with large diameter liners, can drag the cuffed-back liner at least partly off the top ring which could potentially cause damage from the Bandlt buckles.