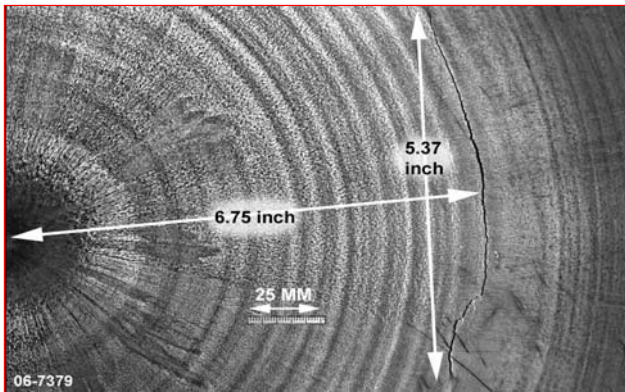


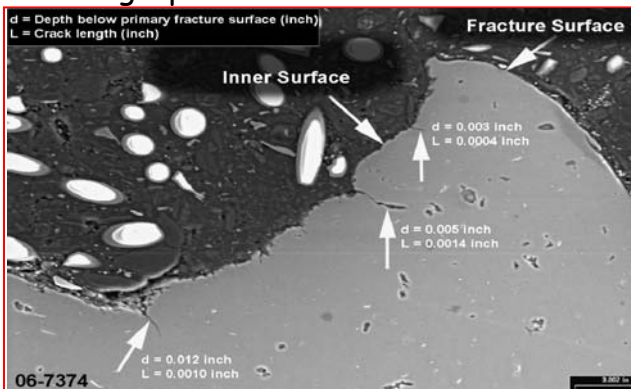
## METALLURGICAL LABORATORY FAILURE ANALYSIS CASE STUDY

|                              |   |
|------------------------------|---|
| Description                  | Failure in composite wound pressure vessel liner  |
| Problem                      | Spun aluminum alloy (6061-T6) liners failed during first proof pressurization cycle             |
| Analysis                     | Highly inhomogeneous deformation created local necks and local strains close to fracture strain |
| Resolution & Recommendations | Reduce deformation inhomogeneities by refining the grain size in extrusion stock                |

Fracture in Liner



Metallographic Cross Section



Failure Cascade

