Window strength assurance

- Strength is a strong function of area and finish (as well as intrinsic strength)
- Weibull distribution: failure probability vs. stress-area function
- Sapphire and quartz have well characterized Weibull parameters (moduli and characteristic strength)
- Choose thickness, finish to give low failure probability (5% or less) at a TEST pressure
- Test pressure set to assure: if no failure under test then no failure under fatigue (cyclic or static)
- Pressure Test all windows