b. The length-to-depth ratio of the initial flaw shall be assumed to be ≥20.

The appropriate material critical strength intensity (K_{IC}) in the NASGRO® database may be used, or test-derived K_{IC} in accordance with section 4.7.5 of this Standard may be entered manually into the program.

4.7.4 Flaw Growth Analysis for Annealed Glass

a. The following flaw growth velocity equation shall be used for vehicle/element glass structural life prediction:

$$v = v_0 e^{\beta K_I} \quad \text{(Eq. 1)}$$

where:

v = Flaw growth velocity
v_0 = Material parameter
β = Material parameter
K_I = Stress intensity.

b. v_0 and β in equation 1 shall be determined by test in accordance with ASTM C1368, Standard Test Method for Determination of Slow Crack Growth Parameters of Advanced Ceramics by Constant Stress-Rate Flexural Testing at Ambient Temperature, or ASTM C1576, Standard Test Method for Determination of Slow Crack Growth Parameters of Advanced Ceramics by Constant Stress Flexural Testing (Stress Rupture) at Ambient Temperature, for each material used, in the environment established for windowpane design.

c. The data generated in section 4.7.4.b of this Standard shall be fit to equation 1.

d. The test reports shall be delivered to the NASA Technical Authority as part of the verification package.

e. The following equation for stress intensity shall be applicable for glass structure where the critical flaw depth is small with respect to the thickness of the glass:

$$K_I = 1.1 \cdot \sigma \cdot \left(\frac{\pi a}{Q} \right)^{1/2} \quad \text{(Eq. 2)}$$