

Life cycle costs

Crash Cushion should be selected upon their life cycle cost rather than their ex-works price.

The life cycle cost is affected by:

1. The cost of the product without installation, C_{ew}
2. Number of impact per year, N
3. The cost required to restore the system, C_{re}
4. The cost of the installation, C_{in}
5. The maximum number of impacts that the crash cushion is able to sustain, M

$$LCC = (C_{in} + C_{ew}) \cdot \text{int} \left[\frac{N \cdot Y}{M} \right] + C_{re} \cdot \left(N \cdot Y - \text{int} \left[\frac{N \cdot Y}{M} \right] \right)$$

The design of any crash cushion should be oriented to reduce the cycle life cost against the point 1, 2, 3, 4 and 5.