For applications that include Local Leak Rate Testing (LLRT), the Flowserve Anchor/Darling swing check valve can be supplied with resilient seating materials such as Ethylene-Propylene (EPR) or with a metallic seat with controlled seat bandwidth.

Recently, Flowserve qualified two new replacement materials using the guidelines of IEEE323. The two newly qualified EPR elastomer compounds for use in containment isolation valves of commercial nuclear power generation plants are:

• Parker EPR E740-75
• Parker EPR E962-90

The qualification program included:

• Radiation aging to 23.1 Mrads of Gamma radiation
• Thermal aging equivalent to six years at 216°C (420°F)
• Seat leakage tests before and after thermal and
  radiation aging

The two new elastomer materials are available in a soft seat design configuration and are direct replacements for the now obsolete Parker compound E692-75 soft seats.

The new soft seat materials will fit on the existing check valve disc and utilize the same soft seat retainer ring. Other than the soft seat, no new parts are required.

Custom Engineered Swing Check Valves With Metallic Seating Materials and Controlled Seat Bandwidths

Specific check valve applications, where low-pressure and high-pressure seating are both required, can be handled with custom engineering of the seating surfaces. Utilizing the specific application requirements, Flowserve engineers can design the valve in-body seat crown to handle seating stresses for pressure ranges that allow acceptable leak-tight performance under full system pressures and LLRT conditions. Note that this design feature is limited to larger swing check valve sizes.

Figure 1: Flowserve Anchor/Darling swing check valve

Figure 2: Swing check valve disc with soft seat installed

Note: *The Parker E692-75 compound is now obsolete.*

For more details on how these items can improve your check-valve performance, contact your Flowserve Raleigh sales representative directly or call 1-800-225-6989.

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