

POSITIONLESS EXPANDING LOCK RING FOR SUBSEA ANNULUS SEALS FOR LOCKDOWN

ABSTRACT

Wellhead assemblies, seal assemblies, and methods of locking down an annulus seal (22) disposed within an annulus (16) between outer and inner wellhead members (12, 13), are provided. A seal assembly (21) is positioned in an annulus (16). An energizing member (24, 41) is axially translated downward to energize an annulus seal element (22) and outwardly radially compress a high-strength lockdown member (25) into contact with an inner diameter surface (15) of a wellhead member (12). The wellhead member (12) can include a set of wickers (32). During compression, the outer diameter surface (35) of the lockdown member (25) is plastically deformed onto the set of wickers (32).

[Figure 2]