ABSTRACT

FULL BORE WELLHEAD LOAD SHOULDER AND SUPPORT RING

A full bore support system for a hanger or other equipment in a wellhead features a support groove in the wellhead that can be integrally made or on an insert. A support ring can have a variety of configuration and features an energizing surface and a limit surface that ultimately share the load. The receiving groove is configured to guide the support ring as it expands to minimize bending and distortion. The support ring is recessed and protected until it is actuated outwardly into a supporting position. A high strength low modulus material is preferred to withstand the radial expansion and the applied loads and environmental conditions. Various shapes for the ring are contemplated including a C-ring and a ring made from segments movable with respect to each other.