SEAL WITH ENHANCED NOSE RING

ABSTRACT

A seal assembly between a wellhead housing (10) having a bore (12) and a casing hanger (18), has an inner seal leg (22) for sealing against hanger (18) and an outer seal leg (26) for sealing against housing (10). An extension (50) extends downward from outer seal leg (26) and is connected to a nose ring (51) having a downward facing shoulder (53) that rests on the hanger shoulder (19) to provide a reaction point for setting operations. A lock ring (52) is retained within interior portion of the nose ring (37). An upward facing shoulder (55) formed on an upper portion of nose ring (37) contacts the lower surface (42) of the inner seal leg (22). The shoulder (55) prevents the downward deflection of the inner leg (22) and eliminates buckling due to Poisson effect from the resulting axial force due to growth of the seal legs during setting operations. The shoulder (55) thus prevents crooked or twisted setting of the seal to prevent plastic strain in the seal.

Figure 3