

EXPANDABLE SOLID LOAD RING FOR CASING HANGER

ABSTRACT

A subsea wellhead assembly includes a housing (12) with a bore (14). A hanger (10) is lowered into the housing (12), the hanger (10) having at least one downward facing load shoulder (40). An expandable load ring (42) is carried on the hanger (10). When casing weight is applied to the hanger (10), the weight energizes the load ring (42), causing it to expand and thereby increase the contact area between a load shoulder (19) on the load ring (42) and a load shoulder (16) on the housing (12). The shoulders (40, 19, 16) create a path for the load to be transferred to the housing (12). The increase in contact area increases the load carrying capacity of the hanger (10). The load ring expansion is limited to elastic expansion to allow it to return to a retracted position when the casing weight is removed.

Figure 1