

METALLIC SEAL FOR USE IN HIGHLY-CORROSIVE OIL AND GAS ENVIRONMENTS

ABSTRACT

A metal seal assembly to seal components in highly corrosive environments, such as a sour well environment. The seal assembly is comprised of a base metal structural component with a softer metal layer applied onto its surface. The purpose of the soft metal layer is to locally deform and, thereby, form a seal against a surface of an opposing component. The base metal structure of the seal may be comprised of a corrosion-resistant alloy. In addition, the soft metal layer may be comprised of a corrosion-resistant alloy, such as a refractory metal like tantalum.

Fig. 1