ABSTRACT

WEAR-RESISTANT COATING SYSTEM AND METHOD

A method of forming a wear-resistant coating (14) on a metal substrate (12) includes depositing a metal alloy onto the metal substrate (12) to form a cladding (16), rough finishing the cladding (16) to thereby provide the cladding (16) with an average roughness, R_a, of from about 50 micro-inches to about 150 micro-inches, and work hardening the cladding (16) to thereby form the wear-resistant coating (14) and a hardened zone (18) thereof, wherein the hardened zone (18) has a hardness greater than a hardness of the metal substrate (12). A wear-resistant coating system (10) includes the metal substrate (12) and the wear-resistant coating (14) disposed on the metal substrate (12). The wear-resistant coating (14) is substantially resistant to corrosion from sea water at an ambient temperature of from about -40 °C to about 50 °C.

Fig. 1