

# THE PERFORMANCE OF CORRUGATED METAL GASKET COATED COPPER AND NICKEL

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## ABSTRACT

Corrugated metal gasket still developed to replace asbestos material. However, corrugated metal gasket still has problem, i.e. still leakage for higher surface roughness. To overcome the leakage, the corrugated metal gasket coated by softer material. SUS304 coatings is steel a problem because steel is difficult to coated. Therefore it is necessary to examine how the coating process is appropriate? The results of the coating also need to be checked, is there a strong bond between the base material and the coating material? This study aims to conduct a corrugated metal gasket coating process made from SUS304 with copper and nickel coating materials and testing the adhesion between the base material and the coating material. The gasket with relatively same rigidity but the surface of the gasket is softer so that the surface material fills the flange roughness. The research consist of (1) gasket forming (2) gasket coating by copper and nickel 20 $\mu$ m and 30 $\mu$ m respectively (3) adhesion test between SUS304 material with copper and nickel. The success of the coating is obtained by coating the material copper and nickel, the outer surface must be softer than SUS304, and between the base material and the coating material a strong bond occurs. The results showed that the coating process used was electroplating. The activation and nickel strike must first be done, the next process is electroplating nickel or copper shine. Nickel or copper coating result in a coating where copper or nickel sticks and did not break. The attachment of nickel and copper did not change both before and after use.

Kata Kunci: *Corrugated metal gasket, coating, SUS304, copper, and nickel*