بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية
التوثيق الالكتروني والميكروفيلم

ENHANCED WEAR RESISTANCE OF ALUMINUM 6061 SURFACE USING PLASMA SPRAYING PROCESS

By

Ahmed Said Ahmed Hussein

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
In
MECHANICAL DESIGN AND PRODUCTION ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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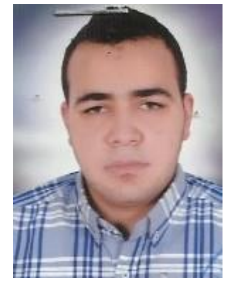

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Title of Thesis:

ENHANCED WEAR RESISTANCE OF ALUMINUM 6061 SURFACE USING PLASMA SPRAYING PROCESS

Key Words:
Thermal spraying; Wear resistance coating; Aluminum alloys; Mechanical Properties.

Summary:
The main objectives of this research is to study the wear properties of 6061 substrate before and after Plasma treatment.
Atmospheric plasma spray technique with two types of powder is used METCO 81 VS-NS (Cr-based) and METCO 447 NS (Ni-based)
The aim of this work towards to investigate the quality of coating by thermal spray powder, so the following tests were performed:

Microstructure and porosity.
Micro hardness.
Wear.
Surface roughness.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Ahmed Said Ahmed Hussein Date: / /2021

Signature:

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