13TH INTER-UNIVERSITY ENGINEERING SCIENCE & TECHNOLOGY

ACADEMIC MEET – 2023

INNOVATIVE MODEL COMPETITION FOR A SUSTAINABLE SOCIETY

23RD APRIL, 2023

Organised by

E & C

FOSET

MPM

Forum of Scientists, Engineers & Technologists (FOSET)

In Collaboration with

SISTER NIVEDITA UNIVERSITY

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY (MAKAUT)

INDIAN SOCIETY FOR TECHNICAL EDUCATION, WEST BENGAL SECTION

THE ASSOCIATION OF ENGINEERS, INDIA

Venue

SISTER NIVEDITA UNIVERSITY

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13TH INTER-UNIVERSITY ENGINEERING SCIENCE & TECHNOLOGY

CONTENT

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Behaviour Analysis of Hydrodynamic Bearing used in Wire Rod Block Mill

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Abstract –

Bearing plays an important role in effective output of any machinery as it supports the journal whichtransmits the power and done useful work . As the sliding contact bearing which doesn't have any rolling element it becomes very necessary to know about its behaviour and required running condition which may help the technicians to take care of the machinery .This paper primarily focus on the basic knowledge and requirements for the running condition which becomes very necessary when it comes a very thin layer of lubricant of the order of 1000 part of the journal diameter to rely upon.

Along with the basic knowledge of sliding contact bearing it becomes very necessary about the material and breakdown causes of these types of bearing . an experiment is also included in this paper where we find that a small hole in the journal face along the axis of the journal increases the life of the bearing due to the centrifuge action produced during starting and stopping time of the journal to prevent metal to metal contact and ultimately reduces the bearing running temperature .As per I can I tried my best to show importance of this bearing and its basics so that one can easily know about this machine element several other experiments can be done upon this so that we may know better and briefly about this bearing and can ultimately increase its effectiveness which is the ultimate goal of my thesis work .

Keywords-
Hydrodynamic bearing ;Vibration ; Resistance temperature; Lubrication ; Anti friction bearing

Introduction

For being a mechanism a machine it is very important to a mechanism to provide a useful work output in a constraint motion. For this to happen a relative motion between different link is very important. relative motion which of lower pair type that is surface contact bearing is used to carry heavy fluctuation and high speed. Antifriction type bearing is capable of taking load and RPM both but the load capacity and jerks are restricted to its radial clearance level that may be of the order of 150 – 200 μ that also with limited time interval and will create

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CERTIFICATE OF PARTICIPATION

This is to certify that AMIT KUMAR of Dr. B. C. Roy Engineering College presented a paper / model titled Behaviour Analysis of Hydrodynamic Bearing used in Wire Rod Block Mill in Mechanical , Production & Material Science in the 13TH INTER UNIVERSITY ENGINEERING, SCIENCE & TECHNOLOGY ACADEMIC MEET 2023 & INNOVATIVE MODEL COMPETITION FOR A SUSTAINABLE SOCIETY organised by *Forum of Scientists, Engineers & Technologists (FOSET)* at *SISTER NIVEDITA UNIVERSITY (SNU) Campus* on 23rd April, 2023.

Date : 23.04.2023
Kolkata

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This is to certify that Sri Amit Kumar of Dr. B.C. Roy Engg. College presented a paper / ~~model~~ titled Behaviour Analysis ....Wire Rod Block Mill in Mech., Production & Mat. Sc. in the 13TH INTER UNIVERSITY ENGINEERING, SCIENCE & TECHNOLOGY ACADEMIC MEET 2023 & INNOVATIVE MODEL COMPETITION FOR A SUSTAINABLE SOCIETY organised by *Forum of Scientists, Engineers & Technologists (FOSET)* at *SISTER NIVEDITA UNIVERSITY (SNU) Campus* on 23rd April, 2023. The Paper/Model is awarded the 1st Prize in the stream.

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