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S.No.	Name of the Students	Page No
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2	Tejasvi Kumar Kashyap	7-11
3	Pritishchand Bareth	12-16
4	Rizwan Khan	17-21
5	Pranav Gupte	22-27
6	Shubhjeet Mukherjee	28-33
7	Ravishankar Mishra	34-38
8	Khileshwar Kumar Sahu	39-42
9	Saurabh Mishra	43-46
10	Pushpendra Pratap Singh	47-51
11	Mohammad Aarish Ameen	52-57
12	Hupesh Patel	58-62

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**CFD ANALYSIS OF EVACUATED TUBE SOLAR
COLLECTOR FOR AIR HEATING APPLICATIONS**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE
AWARD OF THE DEGREE OF
MASTER OF TECHNOLOGY

(Machine Design)

SUBMITTED BY

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TABLE OF CONTENTS

Candidate's Declaration		2
Certificate		3
Certificate from Examiners		4
Acknowledgement		5
Abstract		6
List of Figures		7
List of tables		8
Nomenclature		9
CHAPTER NUMBER	DESCRIPTION	PAGE NUMBER
Chapter 1	INTRODUCTION	12
	1.1 Solar Energy & Solar Collectors	12
	1.2 Evacuated Tube Solar Collectors	13
	1.3 Background & Motivation	16
Chapter 2	LITERATURE REVIEW	17
	2.1 Literature review	17
	2.2 Observations from the Literature review	20
	2.3 Objective of Thesis work	20
Chapter 3	METHODOLOGY	21
	3.1 Steps involved in research work	21
Chapter 4	SYNOPSIS OF WORK & DESCRIPTION OF MODEL	22
	4.1 Selected literature for reference & research validation	22
	4.2 Description of model	22
	4.3 Numerical Simulations	24
	4.4 Validation of Study & mesh structure	25
	4.5 Boundary Conditions	26
	4.6 Mathematical Model	27
Chapter 5	RESULTS & DISCUSSIONS	29
	5.1 Analysis results	29



LIST OF FIGURES

Fig: 1.1.1 – Types of Solar Collectors	13
Fig: 1.2.1 – Evacuated Tube Solar Collectors	14
Fig: 1.2.2 – Borosilicate Tube Cross Sectional view	14
Fig: 4.2.1 – 3D Model of ETSC	23
Fig: 4.2.2 - Heat Flow & Boundary Conditions	24
Fig: 4.4.1 – Mesh structure of the 12 tube model ETSC	26
Fig: 5.1.1 – Outlet Temperature vs mass flow rate	30
Fig: 5.1.2 – Outlet Temperature vs collector angle	31
Fig: 5.1.3 – Temperature Contours (Air)	31
Fig: 6.1.1 – Evacuated Tube Solar Collector – Experimental Model at GGU Bilaspur	32
Fig: 6.2.1 – Schematic diagram of the Manifold Channel (Left) and the Evacuated Tube Solar Collector (Right)	33
Fig: 6.3.1 – Variation of inlet, outlet temperature and solar intensity at a mass flow rate of 0.0026 Kg/s (Average data values of March 2022)	34
Fig: 6.3.2 – Variation of inlet, outlet temperature and solar intensity at a mass flow rate of 0.0044 Kg/s (Average data values of March 2022)	35
Fig: 6.3.3 – Variation of inlet, outlet temperature and solar intensity at a mass flow rate of 0.0051 Kg/s (Average data values of March 2022)	35
Fig: 6.3.4 – Variation of inlet, outlet temperature and solar intensity at a mass flow rate of 0.0062 Kg/s (Average data values of March 2022)	35
Fig: 6.3.5 – Variation of inlet, outlet temperature and solar intensity at a mass flow rate of 0.0073 Kg/s (Average data values of March 2022)	36



LIST OF TABLES

Table – 4.2.1: Technical Data of ETSC (for validation)	22
Table – 4.2.2: Technical Data of ETSC (This Work)	23
Table – 4.4.1: Validation of Study results comparison	25
Table – 4.6.1: Thermophysical properties of water & air	28
Table – 5.1.1: Manifold outlet temperatures (K) upon the collector angles and the mass flow rates	29
Table – 5.1.2: Flow regime vs mass flow rates	30



CERTIFICATE

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**COMPUTATIONAL INVESTIGATION OF FLOW IN 90°
PIPE BEND TRANSPORTING HIGH CONCENTRATION
FLY ASH SLURRY**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR
THE

AWARD OF THE DEGREE

OF

**MASTER OF TECHNOLOGY
(MACHINE DESIGN)**

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TABLE OF CONTENT

CANDIDATE'S DECLARATION	ii
CERTIFICATE	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
LIST OF FIGURES	viii
LIST OF TABLES	x
Nomenclature	xi
List of abbreviations	xii
CHAPTER-01	1
INTRODUCTION	1
1.1 Background	1
1.2 Ash handling in thermal power plants	1
1.3 Basic slurry transportation	2
1.4 High concentration slurry disposal	3
1.5 Problem with highly concentrated slurry	4
1.6 Problem with bend pipe	4
1.7 specific energy consumption	5
1.8 What is CFD ?	6
1.8.1 Why use CFD?	6
1.8.2 CFD as a tool	6
CHAPTER- 02	7
LITERATURE REVIEW	7
2.1 Literature review	7
2.2 Research gap	10
2.3 Objective	10
CHAPTER- 03	11
MATERIALS AND METHODS	11
3.1 Introduction	11
3.2 Collection of Fly ash Sample	11
3.2.2 Particle Size Distribution	12
3.2.3 Specific Gravity	15
3.2.4 Rheology	16
3.3 Multiphase model	20



LIST OF TABLES

Table 3.1 % Finer vs Particle size for all the samples.....	13
Table 3.2 PSD and Specific Gravity of all The Samples.....	15
Table 3.3 Rheology Data for all the samples.....	19
Table 3.4 Details of Pipe meshing.....	30
Table 3.5 The boundary conditions for Sample 01.....	32
Table 3.6 The boundary conditions for Sample 02.....	33
Table 3.7 The boundary conditions for Sample 03.....	34
Table 3.8 The boundary conditions for Sample 04.....	35
Table 3.9 Simulations Parameters.....	36
Table 3.10 Solution Methods.....	37




LIST OF FIGURES

Figure 1.1 Basic slurry transportation.....	2
Figure 1.2 High Concentrated Slurry discharge pump.....	3
Figure 1.3 The burst pipe near the bend due to slurry transportation.....	5
Figure 3.1 (a) Sieve, (b) Mechanical Sieve Shaker.....	12
Figure 3.2 PSD of all the Sample.....	14
Figure 3.3 Standard pycnometer.....	16
Figure 3.4 Rheometer.....	17
Figure 3.5 Rheology Model.....	18
Figure 3.6 Flow chart of Methodology.....	26
Figure 3.7 Isometric view of Pipe.....	28
Figure 3.8 Geometry details of 90-degree horizontal bend.....	28
Figure 3.9 (a, b, c) Meshing of Pipe.....	29
Figure 3.10 Boundary conditions for pipe bend.....	31
Figure 4.1 Variation of head loss with No. of elements.....	39
Figure 4.2 Validation of numerical results with experimental results for bend pipe.....	40
Figure 4.3 Validation of numerical results with experimental results for straight pipe.....	41
Figure 4.4 Effect of Sample on yield stress.....	42
Figure 4.5 variation of yield stress with concentration.....	43
Figure 4.6 Variation of head loss with concentrations for sample 01.....	44
Figure 4.7 Variation of head loss with concentrations for sample 02.....	44
Figure 4.8 Variation of head loss with concentrations for sample 03.....	45



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**DESIGN OF PANEL TYPE SOLAR COOKER FOR
OPTIMAL THERMAL PERFORMANCE**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE
DEGREE OF

**MASTER OF TECHNOLOGY
(Machine Design)**

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TABLE OF CONTENTS

CANDIDATE DECLARATION.....	ii
CERTIFICATE.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT.....	v
TABLE OF CONTENTS	vi
LIST OF FIGURES.....	vi
LIST OF TABLES.....	xi
NOMENCLATURE.....	xii
CHAPTER 1	
INTRODUCTION.....	1
1.1 Basic introduction.....	1
1.2 Classification of solar cooker.....	1
1.3 Advantage and limitation of solar cooker.....	3
CHAPTER 2	
LITERATURE REVIEW.....	5
2.1 Literature survey.....	5
2.2 Observations from literature review.....	7
2.3 Objective of thesis work.....	8
CHAPTER 3	
METHODOLOGY.....	9
3.1 Materials.....	9
3.2 Design and development.....	10
3.2.1 Configuration of designs.....	10
3.2.2 Physical development of designs.....	13
3.3 Thermal performance testing.....	15
3.3.1 Equipment used.....	15



LIST OF TABLES

Table 3.1. Cooking vessel Specification.....	16
Table 3.2. Glass box specifications.....	17
Table 3.3. Thermocouples arrangements.....	21
Table 3.4 Summary of solar ray tracing on 27 th march 2022.....	24
Table 4.1(a) Experimental Data of all the thermal performance testing on Design C....	46
Table 4.1(b) Experimental Data of all the thermal performance testing on Design C....	47
Table 4.1(c) Experimental Data of all the thermal performance testing on Design C....	47
Table 4.2 summarised data of thermal performance of Design C for interval 2.....	50
Table 4.3. summarised data of thermal performance of Design C for interval 1.....	51
Table 4.4. Standard cooking power at 50°C ($P_{s(50)}$) of all solar cookers.....	52
Table 4.5. The performance analysis of Design C solar cooker in terms of total cost....	53



LIST OF FIGURES

Figure 1.1 A schematic diagram of box type solar cooker.....	2
Figure 1.2 (a, b) Panel solar cookers.....	3
Figure 1.3 Fun panel funnel solar cooker.....	3
Figure 3.1(a, b) Silver Vinyl Wrap and Polypropylene sheet.....	9
Figure 3.2 (a, b) Design Configuration of Design A solar cooker.....	11
Figure 3.3 Design configuration of Design B.....	12
Figure 3.4 Design configuration of Design C solar cooker.....	13
Figure 3.5 (a, b) development of Design A solar cooker.....	14
Figure 3.6 (a, b) Development of Design B and Design C solar cooker.....	14
Figure 3.7(a, b) Temperature data logger.....	15
Figure 3.8- Anemometer and Solar Insolation meter.....	16
Figure 3.9 (a, b) position of Design A solar cooker.....	18
Figure 3.10 (a, b) position of Design B solar cooker.....	18
Figure 3.11 (a, b) orientation of Design C solar cooker.....	19
Figure 3.12 All season solar cooker.....	19
Figure 3.13 Solar box cooker.....	19
Figure 3.14 Cookit solar cooker.....	20
Figure 3.15 Experimental setup of Design A with ASSC, SBC, COOKIT solar cooker..	21
Figure 3.16 side view of panel of Design A and Design B.....	23
Figure 3.17 Ray tracing- 27 th March at 8:00 AM.....	23
Figure 3.18 Ray tracing- 27 th March at 8:30 AM.....	24
Figure 4.1 Comparative thermal performance testing of Design A (morning sun position).....	27



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**WIND POTENTIAL FOR ENERGY PRODUCTION
IN THE SELECTED AREA OF CHHATTISGARH**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE AWARD OF THE DEGREE OF

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TABLE OF CONTENTS

Title	Page no.
CANDIDATE'S DECLARATION	ii
CERTIFICATE	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	ix
LIST OF TABLES	x
NOMENCLATURE	xi
CHAPTER-1	
INTRODUCTION	1
1.1 History of wind energy	1
1.2 Introduction of wind energy	2
1.2.1 Importance of wind energy	3
1.3 Wind asset evaluation in India, History and improvement	4
1.3.1 Historical background	4
1.3.2 Audit of wind expected appraisal in India	6
1.4 Region of interest	6
1.5 Location of the city's	8
1.6 Sites and data description	8
CHAPTER-2	
LITERATURE SURVEY	12
2.1 Literature review	12
2.2 Literature gap	18



LIST OF TABLES

Table 1 Region of interest in India	7
Table 2 Summary of site related information of Raipur	9
Table 3 Summary of site related information of Ambikapur	9
Table 4 Summary of site related information of Dhamtari	9
Table 5 Summary of site related information of Kawardha	10
Table 6 Summary of site related information of Kondagaon	10
Table 7 Summary of site related information of Korba	10
Table 8 Summary of site related information of Mahasamund	11
Table 9 Summary of site related information of Pathalgaon	11
Table 10 Summary of site related information of Rajhara	11
Table 11 Location co-ordinate of nine cities of Chhattisgarh	20
Table 12 Average wind speed throughout the year for nine cities at 10 m height	21
Table 13 Data shared by NIWE at different height	23
Table 14 Comparison NIWE and Weibull distribution at different height	24
Table 15 Recent data shared by NIWE at 10 m height of 25 years	25
Table 16 Predict the three parameters at 10m height given by NIWE	26
Table 17 Predict all the three parameters to Weibull distribution at 10m given by NIWE	27
Table 18 Comparison Weibull distribution of three parameters with NIWE results	30
Table 19 Outcome of Weibull statistical analysis of nine cities at 10 m height	35
Table 20 Monthly and annual average wind speed at different heights	37
Table 21 Outcome of Weibull statistical analysis of nine cities at 25 m height	38
Table 22 Outcome of Weibull statistical analysis of nine cities at 50m height	39
Table 23 Outcome of Weibull statistical analysis of nine cities at 75m height	39
Table 24 Outcome of Weibull statistical analysis of nine cities at 100 m height	40
Table 25 Features of roof top wind turbine with different model no.	44



LIST OF FIGURES

Fig.1 Panemone windmill & ancient windmill	1
Fig.2 Total installed power different types in India	5
Fig.3 Wind power installed in India in different states	6
Fig.4 Installed wind power capacity year 2022	7
Fig.5 Area map of the nine urban location under study in Chhattisgarh	8
Fig.6 Vertical wind shear profile NIWE tool	24
Fig.7 Vertical wind shear profile NIWE tool vs Weibull distribution	24
Fig.8 Mean wind speed vs monthly mean wind speed	28
Fig.9 Wind rose direction	28
Fig.10 Wind speed vs power output	29
Fig.11 Wind speed frequency distribution	29
Fig.12 Compare NIWE tool with predicted value of Shape factor	31
Fig.13 Compare NIWE tool with predicted value of Scale factor	31
Fig.14 Compare NIWE tool with predicted value of Wind power density	32
Fig.15 Comparison of wind data among nine cities	33
Fig.16 Variation of wind data in nine cities of Chhattisgarh	34
Fig.17 Annual average wind speed of nine cities of Chhattisgarh	34
Fig.18 Weibull characteristics (K and C) of nine cities of Chhattisgarh	36
Fig.19 The wind power density of nine cities at 75m height	41
Fig.20 Vertical axis wind turbine & horizontal axis wind turbine	42
Fig.21 Micro or roof top wind turbine	44




CERTIFICATE

This is certified that the thesis entitled “WIND POTENTIAL FOR ENERGY PRODUCTION IN THE SELECTED AREA OF CHHATTISGARH” submitted by “RIZWAN KHAN” (Roll no.-20701011) has been carried out under my supervision in partial fulfilment of the requirements for the degree of Master of Technology in Mechanical Engineering (Specialization: Machine design) during session 2021-2022 in the department of Mechanical Engineering, Guru Ghasidas Vishwavidyalaya (A Central University), Koni, Bilaspur, Chhattisgarh, India.

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**FATIGUE CRACK ANALYSIS OF BOLTED RAIL JOINTS
SUBJECTED TO VARIABLE LOADING CONDITIONS
FOR VARIOUS POSITIONS OF THE JOINT**

THESIS

*submitted in partial fulfillment of the requirement for the award of the
degree of*

**MASTER OF TECHNOLOGY
(Machine Design)**

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TABLE OF CONTENTS

Title Page	i
Candidate's Declaration	ii
Certificate	iii
Certificate by Examiners	iv
Acknowledgement	v
Abstract	vi
List of Figures	ix
List of Tables	xi
Nomenclature	xii
Chapter – 1 Introduction	01
1.1 Types of Failure	01
1.2 Fatigue Failure	01
1.3 Ductile & Brittle Fracture	02
1.4 Modes of Failure	03
1.5 Crack Growth	04
1.6 Energy Release Rate & Crack Resistance	05
1.7 Stable & Unstable Crack Growth	05
1.8 Stress Intensity Factor	07
1.9 Crack Initiation	07
1.10 Finite Element Methods & Analysis	08
1.11 CATIA & ANSYS	10
1.12 History of Railways	10



Chapter – 2 Literature Review	12
2.1 Finite Element Analysis	12
2.2 Observations from Literature Review	16
2.3 Objective of the Work	16
Chapter – 3 Methodologies	17
3.1 Modelling of Rail, Sleeper, E-Clips & Rail Joint	18
3.2 Specification & Dimensions	19
3.3 Supports & Loads	19
3.4 Transient Analysis	20
3.5 Mathematical Model	22
Chapter – 4 Problem Formulations	23
4.1 Rail Joint in between the two sleepers	23
4.2 Rail Joint near to one end of the sleeper	25
4.3 Rail Joint on the sleeper	28
Chapter – 5 Results & Discussions	31
5.1 Results for Joint in between two sleepers	31
5.2 Results for Joint near to one end of the sleeper	35
5.3 Results for Joint on the sleeper	40
Chapter – 6 Conclusions & Future Scope	45
6.1 Conclusions	45
6.2 Future Scope	46
References	47



LIST OF FIGURES

Figure 1.1 Types of Brittle Fracture (a) Intergranular (b) Transgranular	03
Figure 1.2 (a) Opening (b) In Plane Shear (c) Out of Plane Shear	04
Figure 1.3 (a) Centred – Cracked Plate (b) Stable Crack Growth	06
Figure 1.4 Characteristic Growth Curve of Fatigue Crack	08
Figure 1.5 Two dimensional body & Finite Element Discretization	09
Figure 1.6 Meshing of Mechanical Components	09
Figure 3.1 Three dimensional model of railway assembly (a) Joint in between the sleepers (b) Joint near to the sleeper (c) Joint on the sleeper	17
Figure 3.2 Mesh model of Railway Assembly in ANSYS Workbench	18
Figure 3.3 Boundary Conditions applied on the assembly	18
Figure 3.4 Pattern of load cycle acting on the railway track	21
Figure 4.1 Equivalent (von mises) stress for joint in between the Sleepers	24
Figure 4.2 Equivalent (von mises) stress on Fish Plate for joint in between the Sleepers	24
Figure 4.3 Region of Maximum Stress Concentration on Fish Plate for joint in between the Sleepers	25
Figure 4.4 Mesh Model of Crack on Fish Plate for joint in between the Sleepers	25
Figure 4.5 Equivalent (von mises) stress for joint near to the Sleeper	26
Figure 4.6 Equivalent (von mises) stress on Fish Plate for joint near to the Sleeper	26
Figure 4.7 Region of Maximum Stress Concentration on Fish Plate for joint near to the Sleeper	27
Figure 4.8 Mesh Model of Crack on Fish Plate for joint near to the Sleeper	27
Figure 4.9 Equivalent (von mises) stress for joint on the Sleeper	28
Figure 4.10 Equivalent (von mises) stress on Fish Plate for joint on the Sleeper	28



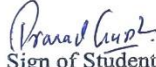
LIST OF TABLES


Table 3.1 Specifications & Dimensions of Rail	19
Table 3.2 Maximum Capacity of Vehicle	19
Table 3.3 Vehicle Weight	20
Table 3.4 Transient Loading Pattern over the Rail Track	20
Table 5.1 Data for Total Number of Load Cycles, Crack Extension and Equivalent SIFS	33
Table 5.2 Data for Total Number of Load Cycles, Crack Extension and Equivalent SIFS	37
Table 5.3 Data for Total Number of Load Cycles, Crack Extension and Equivalent SIFS	42



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**EXPERIMENTAL AND ANALYTICAL PERFORMANCE ANALYSIS ON
IMPINGING JET ARC SHAPE ROUGHENED TWISTED FIN SOLAR AIR
HEATER.**

A THESIS

Submitted in partial fulfilment of the requirement for the award of the degree of

MASTER OF TECHNOLOGY

(Machine Design)

SUBMITTED BY

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i



TABLE OF CONTENTS

TITLE	PAGE NO
CANDIDATE'S DECLARATION	ii
CERTIFICATE	iii
A C K N O W L E D G E M E N T	iv
ABSTRACT	v
LIST OF FIGURES	x
LIST OF TABLES	xiii
LIST OF SYMBOLS AND ABBREVIATIONS	xiv
INTRODUCTION	1
1.1 FORCASTING OF GLOBAL ENEGY CONSUMPTION	1
1.2 RENEWABLE ENERGY STATUS	1
1.3 SOLAR ENERGY	4
1.4 SOLAR ENERGY TECHNOLOGIES	5
1.5 SOLAR AIR HEATER	6
1.5.1 Constructional features of a conventional flat plate solar air heater	8
1.5.2 Classification of Solar Air Heater	9
1.5.2.1 Air flow parallel to the absorber plate	9
1.5.2.2 Air flow through the absorber plate	16
1.6 MOTIVATIONAL BACKGROUND	16
1.7 ORGANISATION OF THE THESIS	17
LITERATURE REVIEW	18
2.1 ARTIFICIAL ROUGHNED SAH	18
2.2 DOUBLE PASS SOLAR AIR HEATER	27
2.3 JET IMPINGEMENT SOLAR AIR HEATER	34



5.4.2 Thermo Hydraulic Efficiency	68
5.5 THERMAL PERFORMANCE CALCULATION FOR SAH	69
5.6 ANALYTICAL SOLUTION PROCEDURE	71
RESULTS AND DISCUSSIONS	74
6.1 INTRODUCTION	74
6.2 HEAT TRANSFER PERFORMANCE	74
6.2.1 Effect of pitch to width ratio	75
6.2.2 Effect of number of fins	77
6.3 FRICTION FACTOR CHARACTERISTICS	78
6.3.1 Effect of pitch to width ratio	78
6.3.2 Effect of number of fins	79
6.4 HEAT TRANSFER AND FRICTION FACTOR CORRELATION	80
6.4.1 Methods of correlations	80
6.5 DEVELOPMENT OF CORRELATION FOR NUSSELT NUMBER AND FRICTION FACTOR	80
6.5.1 Correlation for Nusselt number	81
6.5.2 Correlation for Friction Factor	83
6.6 THERMAL AND EFFECTIVE EFFICIENCY	85
6.6.1 Effect of Pitch to width ratio (P/W)	86
6.6.2 Effect of number of fins (n)	87
CONCLUSIONS	90
REFERENCES	93



LIST OF TABLES

Table Number	Page No.
Table 4. 1 Design parameters and operating conditions.....	59
Table 4. 2 Experimental observation for 10 numbers of fins	63
Table 4. 3 Experimental observation for 8 numbers of fins	64
Table 4. 4 Experimental observation for 6 numbers of fins	65
Table 5. 1 Typical values of operating and Design parameters used in analytical study.	73



LIST OF FIGURES

Figure Number	Page No.
Figure 1.1 Renewable electricity generation increases by technology, 2019-2020 and 2020-2021	2
Figure 1.2 Solar Energy from the Sun to Earth.....	4
Figure 1.3 Distribution of the total installed capacity in operation by collector type in 2020 – WORLD	7
Figure 1.4 Construction of Conventional solar air heater	9
Figure 1.5 Classification of SAH	11
Figure 1.6 Front view of the v-corrugated solar air heater	11
Figure 1.7 Schematic diagram of the studied model, solar air heater with fins and baffles attached over the absorber	12
Figure 1.8 Schematic diagram of 3D triangular duct with square roughness	13
Figure 1.9 Schematic of the double-pass solar collector with porous media	15
Figure 1.10 Solar air heater with internal fins attached.	15
Figure 2.1 Types of Artificial roughness used in SAH	19
Figure 2.2 Perforated V shaped baffle.....	26
Figure 2.3 Flow pattern of air in spherical and inclined rib protrusions..	27
Figure 2.4 Flat plate parallel double pass SAH	29
Figure 2.5 the double pass-finned plate solar air heater	30
Figure 2.6 Parallel flows packed bed solar air heater (PFPBSAH) (2011)	31
Figure 2.7 Finned double-pass SAH.....	31
Figure 2.8 Schematic drawing of finned plus baffled double – pass solar air heater.....	32
Figure 2.9 Schematic view of the absorber plate with attached fins and baffles.	33
Figure 2.10 Inline Jet impingement SAH by	34
Figure 2.11 Schematic diagram of Impingement plate geometry: Location of streamwise and spanwise pitch.	35
Figure 2.12 Schematic diagrams of a typical parallel flow solar collector and impinging jets solar collector.	36
Figure 2.13 Schematic cross section view of jet impinging SAH duct.	38



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As per University grant commission (promotion of academic integrity prevention of plagiarism in higher education institute) regulation 13th July 2018 thesis "EXPERIMENTAL AND ANALYTICAL PERFORMANCE ANALYSIS ON IMPINGING JET ARC SHAPE ROUGHENED TWISTED FIN SOLAR AIR HEATER." of. SUBHJEET MUKHERJEE a student of M.Tech (Machine Design) IV semester has been checked by URKUND software has available at central library, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur, Chhattisgarh, India. The amount of similarity in the thesis is 14%. Signed URKUND similarity report is attached with certificate.

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DESIGN FEATURE TO MAKE SHOWROOM (GLASS BUILDINGS) ENERGY EFFICIENT

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE
AWARD OF THE DEGREE OF

**MASTER OF TECHNOLOGY
(MACHINE DESIGN)**

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TABLE OF CONTENT

CANDIDATE'S DECLARATION	ii
CERTIFICATE	iii
ABSTRACT	v
LIST OF FIGURES	viii
LIST OF TABLES	ix
LIST OF SYMBOLS	x
CHAPTER-1 INTRODUCTION	1
1.1 Introduction	1
1.2 Voice of customers (VOC)	3
1.2.1 Inference from Voice of Customers:	3
1.2.2 Objective from Voice of Customers:	3
CHAPTER-2 LITERATURE REVIEW	4
2.1 Literature reviews	4
2.2 Observations from the literature reviews	6
2.3 Literature Gaps	7
2.4 Objective of this thesis work	7
CHAPTER-3 THEORY AND PRINCIPLE	8
3.1 Glass house effect	8
3.2 Solar Optical Properties	8
3.3 Mode of Heat Transfer	9
3.3.1 Heat conduction through Solid	9
3.3.2 Heat Transfer through Convection	10
3.3.3 Thermal Radiation	11
3.4 Thermal Resistance	11
3.5 The overall heat transfer coefficient (U)	12
3.6 Coefficient of Performance – Refrigerator, Air Conditioner	13
CHAPTER-4 PREPERATION OF EXPERIMENTAL SETUP	15
4.1 Experimental Setup_1	15
4.1.1 Materials used	15
4.1.2 Steps involved in model preparation	15
4.1.4 Channel details	17
4.2 Experimental Setup_2	17
4.2.1 material used	17



LIST OF TABLES

Table 1 Channel details for experimental setup_1	17
Table 2 channel details for setup_2	18
Table 3 South facing front testing readings	19
Table 4 North facing front test readings	20
Table 5 West facing test readings	21
Table 6 Inside curtain and Outside curtain test readings	22
Table 7 . observation table for Day_1 configuration	24
Table 8 Observation table for Day_2 configuration	25
Table 9 Observation table for Day_3 configuration	27
Table 10 Amount of heat conducted through glass	34
Table 11 Heat transfer through walls, Case1 Setup_2	36
Table 12 Net Heat Gain, Case1, setup2	36
Table 13 Heat added (after maintaining 25°C inside temperature), Case1, setup_2	37
Table 14 Work done by Air conditioner, Case1, setup_2	38
Table 15 Heat transfer through walls, Case2, Setup_2	39
Table 16 Net Heat Gain, Case2, setup2	40
Table 17 Heat added (after maintaining 25°C inside temperature), Case2, setup_2	40
Table 18 Work done by Air conditioner, Case2, setup_2	41
Table 19 Heat transfer through walls, Case3, Setup_2	42
Table 20 Net Heat Gain, Case3, setup2	43
Table 21 Heat added (after maintaining 25°C inside temperature), Case3, setup_2	43
Table 22 Work done by Air conditioner, Case3, setup_2	44



LIST OF FIGURES

Figure1.1 Showroom and office having glass front	1
Figure 3.1 Glass House Effect	8
Figure 3.2 Thermal resistance	11
Figure 4.1 Wooden beat, Cardboard and Glass	15
Figure 4.2 Development of model for testing	16
Figure 4.3 Data logger and Insolation meter	16
Figure 4.4 Glass, paperboard, foam sheet	17
Figure 4.5 configuration of experimental setup_2	17
Figure5.1 Day 1, South facing front (Direct Radiation)	19
Figure 5.2 North facing front (Indirect radiation)	20
Figure 5.3 West facing front	21
Figure 5.4 Inside curtain, Outside curtain	22
Figure 5.5 , Case 1, Day_1, Open Box with data logger (Experimental setup_2)	23
Figure 5.6 Case 2, Day_2, Only front face exposed to the surrounding	25
Figure 5.7 Case 3, Day_3, Front face covered	26
Figure 6.1 Day 1, South facing front (Direct Radiation)	28
Figure 6.2 South facing front (Direct Radiation)	28
Figure 6.3 North facing front (Indirect radiation)	29
Figure 6.4 North facing front (Indirect radiation)	29
Figure 6.5 West facing front	30
Figure 6.6 West facing front	30
Figure 6.7 Inside curtain, Outside curtain	31
Figure 6.8 Inside curtain and Outside curtain, Test readings graph	31
Figure 6.9 Heat flow direction	32
Figure 6.10 Heat transfer through glass (front face) in Box II	32
Figure 6.11 Heat flow direction	33
Figure 6.12 Heat transfer through paperboard in Box II	33
Figure 6.13 Case 1, Open Box	35
Figure 6.14 Case 2, Day_2, front face open Box	39
Figure 6.15 Completely Covered Box	42
Figure 8.1 Front, Top and Isometric view of feature	47
Figure 8.2 Final Product	48



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As per the University Grant Commission (promotion of academic integrity and prevention of plagiarism in the higher institute) regulation 2018 dated 13th July 2018 the thesis “**DESIGN FEATURE TO MAKE SHOWROOM (GLASS BUILDINGS) ENERGY EFFICIENT**” of Mr. Ravishankar Mishra, student of M. Tech (Machine Design) 4th semester has been checked by URKUND software available at Central Library, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur, Chhattisgarh, INDIA. The amount of similarity in the thesis is 0 %. URKUND similarity report is attached with certificate.

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**MICROSTRUCTURAL AND MECHANICAL CHARACTERISTICS
OF FRICTION STIR WELDED ALUMINIUM ALLOY (AI5754)**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE AWARD OF THE DEGREE OF

MASTER OF TECHNOLOGY

(Machine design)

Submitted by

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TABLE OF CONTENTS

Contents	Page No.
Candidate's declaration	i
Certificate	ii
Certificate By Examiners	iii
Acknowledgement	iv
Abstract	v
Table of Contents	vi
List Of Figures	viii
List Of Tables	x
Nomenclature	xi
CHAPTER 1 INTRODUCTION	1
1.1 Background and Motivation	1
1.2 Research Background and Motivation	7
1.3 Aims and Objective of Research Work	10
1.4 Outline of The Thesis	11
CHAPTER2 LITERATURE SURVEY	12
2 literature Review	17
CHAPTER 3 THEORY AND PRINCIPLE	20
3.0 Fundamentals of Friction Stir Spot Welding	20
3.1 Tool Rotation Rate	20
3.2 Tool Transverse Speed	21
3.3 Tool Travel Speed	24
3.4 Tilt Angle	24
3.5 Tool Design	24
3.5.1 Tool Geometry	25
3.6 Heat Generation During (FSSW) Process	30
3.6.1 Heat Generation from Surface	31
3.6.2 Heat Generation from Plastic Deformation	32
3.6.3 Total Heat Generation	33
3.6.4 Temperature Measurements	33



LIST OF FIGURES

Figure	Page No.
1) Fig. 1 Schematic Diagram of FSW Process	3
2) Fig. 2 FSW different types of phases (plunging phase)	4
3) Fig. 3 FSW different types of phases refilling phase	5
4) Fig. 3.1 Tool travel displacement	22
5) Fig.3.2 Tool travel speed	24
6) Fig. 3.3 FSSW tool geometries: (a) cylindrical pin tools having convex shoulder	26
7) Fig. 3.4 FSSW tool geometries: (b) cylindrical pin tools having concave shoulder	27
8) Fig. 3.5 FSSW tool geometries: (c) cylindrical pin tools having flat shoulder	29
9) Fig. 3.6 FSSW tool geometries FSW process	29
10) Fig. 3.7 Tool geometry used in this study (all units are in mm)	35
11) Fig. 3.8 Tool geometry	39
12) Fig. 3.9 Weld specimen aluminum alloy5754	39
13) Fig.4.1.1 SEM Analysis	40
14) Fig.4.1.2 SEM Analysis	41
15) Fig.4.1.3 SEM Analysis	42
16) Fig.4.1.4 SEM Analysis	43
17) Fig.4.1.5 SEM Analysis	44
18) Fig.4.1.6 SEM Analysis	45
19) Fig.4.1.7 SEM Analysis	46
20) Fig.4.1.8 SEM Analysis	47
21) Fig.4.1.9 SEM Analysis	48
22) Fig.4.1.10 SEM Analysis	49
23) Fig.4.1.11 SEM Analysis	50
24) Fig.4.1.12 SEM Analysis	51
25) Fig.4.1.13 SEM Analysis	52
26) Fig.4.2.1 Microstructure Analysis	54



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This is certified that the thesis entitled "MICROSTRUCTURAL AND MECHANICAL CHARACTERISTICS OF FRICTION STIR WELDED ALUMINIUM ALLOY(A15757)" submitted by Khileshwar Kumar Sahu (Roll no.:20701005) has been carried out under my supervision in partial fulfilment of the requirements for the degree of Master of Technology in Mechanical Engineering (Specialization: Machine Design) during session 2021-2022 of 4th semester has been checked by URKUND software available at Central Library, Guru Ghasidas Vishwavidyalaya(A Central University), Bilaspur, Chhattisgarh, India. The amount of similarity in the thesis is 2%. Signed URKUND similarity report is attached with certificate.


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**HEATING PATH GENERATION FOR THE
DEVELOPMENT OF COMPOUND CURVED
SURFACE BY LASER FORMING**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE
DEGREE OF

MASTER OF TECHNOLOGY

(Machine Design)

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TABLE OF CONTENTS

CANDIDATE DECLARATION	ii
CERTIFICATE	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
NOMENCLATURE	ix
LIST OF TABLES	x
CHAPTER 1 INTRODUCTION	1
1.1 Introduction	1
1.2 laser forming processes	3
1.3 Laser Forming Mechanism	4
1.3.1 The Temperature Gradient Mechanism (TGM):	4
1.3.2 The Buckling Shortening Mechanisms (BM):	5
1.3.3 The Shortening Mechanisms:	6
1.4 Types of surfaces	6
1.4.1 Developable Surface:	6
1.4.2 Non-Developable Surface:	7
1.5 Advantages of laser forming process	7
1.6 Disadvantages	7
1.7 Recent Applications	7
CHAPTER 2 LITERATURE SURVEY	8
2.1 Introduction	8
2.2 laser beam heating	8
2.3 temperature field analysis	8
2.4 Thermomechanical analysis	9
2.5 Heating line generation	10
2.6 Generation of compound surfaces	10
2.7 soft computing approach	11
2.8 Summary	12
2.9 Gaps found in literature review	13
2.10 Aims and objectives of the research	13



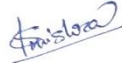
LIST OF FIGURES

Figure 1.1 Temperature Gradient Along Thickness	2
Figure 1.2 Compressive Stress Along Thickness	2
Figure 1.3 Example of Laser Formed Parts [1]	3
Figure 1.4 Laser Forming 800x400x5mm Mild Steel Sheet [1]	3
Figure 1.5 Laser Scanning Scheme[2]	4
Figure 1.6 Schematic of the Three Main Laser Forming Mechanisms	5
Figure 3.1 Outline of process planning for the generation of compound curve surface	15
Figure 3.2 Definition of normal curvature	17
Figure 4.1 Theoretically generated pillow patch	21
Figure 4.2 Theoretically generated twisted patch	22
Figure 4.3 Minimum principal curvature direction for pillow surface	24
Figure 4.4 Maximum principal curvature direction for pillow surface	25
Figure 4.5 Minimum and Maximum principal curvature direction for pillow surface	25
Figure 4.6 Minimum principal curvature direction for twisted surface	26
Figure 4.7 Maximum principal curvature direction for twisted surface	26
Figure 4.8 Minimum and Maximum principal curvature direction for twisted surface	27
Figure 4.9 Pillow shape generated for FE analysis	27
Figure 4.10 Twisted shape generated for FE analysis	28
Figure 4.11 Planar developed shape for pillow surface	31
Figure 4.12 Planar developed shape for twisted surface	31
Figure 4.13 Maximum principal stress distribution for pillow surface	32
Figure 4.14 Minimum principal stress distribution for pillow surface	32
Figure 4.15 Maximum principal strain distribution for pillow surface	33
Figure 4.16 Minimum principal strain distribution for pillow surface	33
Figure 4.17 Maximum principal stress distribution for twisted surface	34
Figure 4.18 Minimum principal stress distribution for twisted surface	34
Figure 4.19 Maximum principal strain distribution for twisted surface	35
Figure 4.20 Minimum principal strain distribution for twisted surface	35
Figure 4.21 Vector principal strain direction for pillow surface	36
Figure 4.22 Vector principal strain direction for twisted surface	36
Figure 4.23 Heating line path for given pillow surface	37
Figure 4.24 Heating line path for given twisted surface	38



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**ANALYSIS & APPLICATION OF ENERGY HARVESTING
SYSTEMS USING PIEZOELECTRIC MATERIALS**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE
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TABLE OF CONTENTS

CANDIDATE'S DECLARATION	ii
CERTIFICATE	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
LIST OF TABLES	xii
NOMENCLATURE	xiii
1 INTRODUCTION	1
<i>1.1 Background and Motivation</i>	1
1.1.1 Energy Harvesting	1
1.1.2 Piezoelectricity	3
<i>1.2 Aims and objectives of the research</i>	5
<i>1.3 Outline of the thesis</i>	6
2 LITERATURE SURVEY	7
<i>2.1 Energy Harvesting Systems</i>	7
2.1.1 Energy Harvesting Systems using SPICE	7
2.1.2 Energy Harvesting System using MATLAB	7
2.1.3 Energy Harvesting System using CASPOC	8
2.1.4 Energy Harvesting System using Switched Capacitors	8
2.1.5 Miscellaneous	9
<i>2.2 Piezoelectric Polymer</i>	10
2.2.1 Multilayer Piezoelectret	10
2.2.2 Piezoelectret as Energy Harvester	11
2.2.3 Piezoelectrets as Wearables	12
2.2.4 Piezoelectric Foam of Cyclic Olefin Copolymer (COC)	12
2.2.5 Piezoelectrets as Transducers	13
<i>2.3 Literature Gaps</i>	14
3 PRINCIPLES AND THEORIES	15
<i>3.1 Energy Harvesting System (EHS)</i>	15
3.1.1 Operations of EHS	15
3.1.1.1 Accumulation of Energy	16
3.1.1.2 Power Management and Conversion of Energy	16
3.1.1.3 Storage of Power	17
3.1.2 Energy Harvesting System model using MATLAB	17
3.1.3 Modeling of Low-Dropout Regulator (LDO)	19
<i>3.2 Piezoelectricity</i>	20
3.2.1 Basic Characteristics of Piezoelectric Materials	22
3.2.2 Origin of Piezoelectricity	23
3.2.3 Linear Piezoelectricity and its Model	24
3.2.4 Piezoelectric Materials	26
3.2.4.1 Piezoelectric Crystals	26
3.2.4.2 Piezoelectric Ceramics	26
3.2.4.3 Piezoelectric Composites	27
3.2.4.4 Miscellaneous piezoelectric materials	28



LIST OF TABLES

Table 1. 1: The power densities for various energy sources [1]	2
Table 3. 1: The detail description of the symbols in Fig. 3.2	18
Table 3. 2: Origin of electric dipoles and typical d_{33} range for different kinds of piezoelectric materials	28
Table 3. 3: Comparison of advantages and disadvantages of different kinds of piezoelectric materials	29
Table 4. 1: Comparison of different topologies based on its output impedance	46



LIST OF FIGURES

Fig. 1. 1: Energy Scavenging System Block Diagram	1
Fig. 1. 2 : Hierarchy of main energy harvesting technologies	3
Fig. 3. 1: Tool flow of the complete energy harvesting model	18
Fig. 3. 2: The block diagram of the energy flow in the system	18
Fig. 3. 3: Simulink block diagram of the capacitor model.....	19
Fig. 3. 4: The schematic diagram of a LDO [17].....	20
Fig. 3. 5: LDO block diagram	20
Fig. 3. 6: Piezoelectric effect of Quartz.....	23
Fig. 3. 7: Dipole inside the Piezoelectric Material.....	24
Fig. 3. 8: Different Connectivity patterns of Dipoles.....	27
Fig. 3. 9: Overlapping of Dipoles in PVDF	28
Fig. 3. 10: Dielectric Displacement change of Material [47]	31
Fig. 3. 11: Dielectric Discharge of Polymer [47].....	32
Fig. 3. 12: Basic Structures of COC foam [47].....	32
Fig. 4. 1: Graphical representation of the DC DC converter system partitioning: the conversion block executes the DC DC conversion and the control block controls the behavior of the conversion block [18].....	33
Fig. 4. 2: Simplified model for switch capacitor converter loss calculations.....	33
Fig. 4. 3: Block diagram of the switch cap model	37
Fig. 4. 4: Three stage Dickson charge pump [2].....	38
Fig. 4. 5: The charge flow analysis of the Dickson converter [18].....	38
Fig. 4. 6: The conventional cascaded voltage doubler structure [14]	39
Fig. 4. 7: Charge flow analysis of two stage voltage doubler (conventional cascaded structure). (a) Phase 1 (b) Phase 2	39
Fig. 4. 8: Two stage charge pump circuit with cross connected cells [20].....	41
Fig. 4. 9: Charge flow analysis of two stage charge pump circuit with cross connected NMOS cells. (a) Phase 1 (b) Phase 2	41
Fig. 4. 10: One stage step down series-parallel converter [25].....	42
Fig. 4. 11: Charge flow analysis of the one stage step down series-parallel converter. (a) Phase 1 (b) Phase 2.....	43
Fig. 4. 12: Schematic diagram of a 3-stage Fibonacci Charge pump [26]	44
Fig. 4. 13: Charge flow analysis of the three stage Fibonacci charge pump.	45
Fig. 4. 14: PWM boost converter and its ideal equivalent circuits for CCM. (a) Circuit (b) Equivalent circuit when the switch is ON and the diode is OFF. (c) Equivalent circuit when the switch is OFF and the diode is ON [30]	47
Fig. 4. 15: Idealized current and voltage waveforms in the PWM boost converter for CCM [30].....	48
Fig. 4. 16: PWM boost converter and its ideal equivalent circuits for DCM. (a) Circuit (b) Equivalent circuit when the switch is ON and the diode is OFF (c) Equivalent circuit when the MOSFET is OFF and the diode is ON. (d) Equivalent circuit when both the	



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As per University Grant Commission (promotion of academic integrity and prevention of plagiarism in higher institute) regulation 2018 dated 13th July 2018 the thesis "ANALYSIS & APPLICATION OF ENERGY HARVESTING SYSTEMS USING PIEZOELECTRIC MATERIALS" of PUSHPENDRA PRATAP SINGH, student of M. Tech (Machine Design) 4th semester has been checked by URKUND software available at Central Library, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur, Chhattisgarh, INDIA. The amount of similarity in the thesis is 11 %. Signed URKUND similarity report is attached with certificate.

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**STUDY THE EFFECTS OF BAGASSE POWDER
AND WALNUT SHELL POWDER ON FLAX
FIBER-REINFORCED COMPOSITE**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT

FOR THE

AWARD OF THE DEGREE OF

**MASTER OF TECHNOLOGY
(MACHINE DESIGN)**

Submitted by
MOHAMMED AARISH AMEEN

Under the supervision of
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September 2022



TABLE OF CONTENTS

CANDIDATE'S DECLARATION.....	ii
CERTIFICATE.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT.....	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
LIST OF TABLES	xi
CHAPTER 1	
INTRODUCTION.....	1
1.1 Background and research motivation.....	1
1.2 Definition of composite	1
1.3 Need of a composite.....	2
1.4 Constituent materials of composite.....	2
1.4.1 Reinforcement Fibers.....	2
1.4.2 Matrix material.....	3
1.4.3 Filler and Other Additives	4
1.5 Classification of composite.....	5
1.6 Natural fiber reinforced composites.....	6
1.7 Advantages and disadvantages of Natural Fiber Reinforced Composites	6
1.8 Applications of Natural Fiber Reinforced Composites	7
1.9 Flax Fiber	7
1.10 Bagasse Fiber	8
1.11 Walnut Shell Powder	8
1.12 Mechanical Properties of Fibers	9
1.13 Chemical Properties of Fibers.....	9
CHAPTER 2	
LITERATURE REVIEW	10
2.1 Literature Survey	10
2.2 Research gaps.....	20
2.3 Objective of the research work	20
CHAPTER 3	
METHODOLOGY	21
3.1 Materials used	21



LIST OF TABLES

Table 1.1 Mechanical properties of fibers.....	9
Table 1.2 Chemical properties of fibers.....	9
Table 3.1 Composite samples fabricated.....	27
Table 4.1 Tensile properties of composite samples.....	38



Figure 3.16 Sample F2W2B.....	28
Figure 3.17 Universal testing machine (UTM) testing prepared composite sample for tensile test.....	29
Figure 3.18 Universal testing machine (UTM) testing prepared composite sample for 3-point bending test for flexural strength	30
Figure 3.19 Barcol hardness testing of prepared composite specimen.....	31
Figure 3.20 Barcol hardness testing of prepared composite specimen (top view).....	31
Figure 3.21 Izod impact tester testing a prepared composite sample for Izod impact test.....	31
Figure 3.22 Prepared composite specimens immersed in water for water absorption test.....	32
Figure 3.23 Thermo gravimetric Analysis.....	32
Figure 4.1 Tensile strength of composite samples.....	33
Figure 4.2 Percentage increase in tensile strength of composite samples with respect to F0W0B sample	34
Figure 4.3 Stress-strain curve of composite F0W0B.....	35
Figure 4.4 Stress-strain curve of composite F2W0B.....	35
Figure 4.5 Stress-strain curve of composite F0W2B.....	36
Figure 4.6 Stress-strain curve of composite F1W1B.....	36
Figure 4.7 Stress-strain curve of composite F4W0B.....	37
Figure 4.8 Stress-strain curve of composite F0W4B.....	37
Figure 4.9 Stress-strain curve of composite F2W2B.....	38
Figure 4.10 Flexural strength of the composite sample.....	39
Figure 4.11 Percentage increase in flexural strength of the composite samples with respect to F0W0B sample.....	40
Figure 4.12 Barcol hardness of the composite samples.....	41



LIST OF FIGURES


Figure 1.1 Composition of composite materials.....	1
Figure 1.2 Classification of fibers.....	3
Figure 1.3 Classification of composite based on matrix material.....	5
Figure 1.4 Classification of composite based on reinforcing material.....	5
Figure 1.5 (a) Flax plant, (b) Flax fiber.....	7
Figure 1.6 (a) Sugarcane plant, (b) Bagasse fiber.....	8
Figure 1.7 (a) Walnut shell, (b) Walnut shell powder.....	8
Figure 3.1 Flax fiber mat.....	21
Figure 3.2 Bagasse fiber powder.....	22
Figure 3.3 (a) Lapox L12 epoxy resin, (b) K-6 hardener.....	23
Figure 3.4 Walnut shell powder.....	23
Figure 3.5 Hand lay-up technique.....	25
Figure 3.6 Mold set up for composite fabrication.....	26
Figure 3.7 Mixing Lapox L12 epoxy resin and K6 hardener.....	26
Figure 3.8 Filler mixed with epoxy and hardener.....	26
Figure 3.9 Composite sample with all layers of flax and epoxy.....	27
Figure 3.10 Sample F0W0B.....	28
Figure 3.11 Sample F2W0B.....	28
Figure 3.12 Sample F0W2B.....	28
Figure 3.13 Sample F1W1B.....	28
Figure 3.14 Sample F4W0B.....	28
Figure 3.15 Sample F0W4B.....	28



CERTIFICATE

This is to certify that the thesis entitled “Study the effects of bagasse powder and walnut shell powder on flax fiber-reinforced composite” submitted by **Mohammed Aarish Ameen (Roll no.: 20701006)** has been carried out under my supervision in partial fulfillment of the requirements for the degree of Master of Technology in Machine Design during session 2020-2022 in the Department of Mechanical Engineering, School of Studies of Engineering and Technology, Guru Ghasidas Vishwavidyalaya (A Central University) Bilaspur, Chhattisgarh, India.

To the best of my knowledge, this work has not been submitted to any other University/Institute for the reward of any degree or diploma.


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**STUDY THE MECHANICAL PERFORMANCE OF BAGASSE AND
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COMPOSITE**

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR
THE

AWARD OF THE DEGREE OF

**MASTER OF TECHNOLOGY
(MACHINE DESIGN)**

Submitted by
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Under the supervision of
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TABLE OF CONTENT

CANDIDATE'S DECLARATION	ii
CERTIFICATE	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENT	vi
LIST OF FIGURES	viii
LIST OF TABLES	x
CHAPTER-1	1
INTRODUCTION	1
1.1 Introduction	1
1.2 Composite	2
1.3 History of composite	3
1.4 Type of composite	4
1.4.1 Metal matrix composite	4
1.4.2 Ceramic matrix composite	5
1.4.3 Polymer matrix composite	5
1.5 Matrix material	5
1.6 Type of polymer composite	6
1.6.1 Fiber reinforced polymer	6
1.6.2 Particulate reinforced polymer	7
1.7 Natural fiber	7
1.8 Advantage and disadvantage of natural fiber	7
1.8.1 Type of natural fiber	8
1.9 Filler and another additive	9
CHAPTER-2	10
LITERATURE REVIEW	10
2.1 Literature survey	10
CHAPTER-3	14
RESEARCH GAPS	14
3.1 Research Gaps	14
3.2 Objective of research work	14



LIST OF TABLES

Table 1.1: Fibers and countries of origin	3
Table 4.1: Chemical properties of coir and bagasse fiber	18
Table 4.2: Mechanical properties of coir and bagasse fiber	18
Table 4.3: Chemical composition of walnut shell	19
Table 5.1: Result analysis	35



LIST OF FIGURES


Figure 1.1: Basic composite structure	2
Figure 1.2: Classification of composite	4
Figure 1.3: Classification of natural fiber	9
Figure 4.1: Coir or coconut fiber	16
Figure 4.2: Extraction of bagasse	17
Figure 4.3: Bagasse powder	17
Figure 4.4: Walnut shell powder	19
Figure 4.5: Lapox L-12 Epoxy and hardener	20
Figure 4.6: Hand lay-up technique	22
Figure 4.7: Coir fiber composite preparation	23
Figure 4.8: Prepared sample of coir fiber	24
Figure 4.9: Universal testing machine (UTM) testing prepared composite sample for tensile test	25
Figure 4.10: 3 Point bending test for flexural strength of prepared composite specimen	26
Figure 4.11: Izod impact tester testing a prepared composite sample for Izod impact test	27
Figure 4.12: Barcol hardness testing machine for hardness test of prepared composite specimen	28
Figure 4.13: Thermogravimetric analyser	29
Figure 5.1: Tensile strength graph of composite materials	31
Figure 5.2: Stress-strain graph of C0W0B composite sample	32
Figure 5.3: Stress-strain graph of C1W1B composite sample	32
Figure 5.4: Stress-strain graph of C2W0B composite sample	33
Figure 5.5: Stress-strain graph of C0W2B composite sample	33

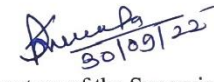


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This is to certify that the thesis entitled “Study the mechanical performance of bagasse and walnut shell powder on coir fiber-reinforced composite” submitted by **Hupesh Patel** (Roll no.: 20701004) has been carried out under my supervision in partial fulfillment of the requirements for the degree of Master of Technology in Machine Design during session 2020-2022 in the Department of Mechanical Engineering, School of Studies of Engineering and Technology, Guru Ghasidas Vishwavidyalaya (A Central University) Bilaspur, Chhattisgarh, India.

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