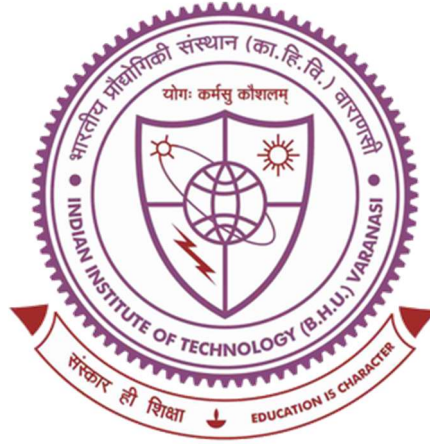


# Ductile Regime Machining of 45S5 Bioglass



THESIS SUBMITTED IN PARTIAL FULFILLMENT

FOR THE AWARD OF DEGREE

*Doctor of Philosophy*

by

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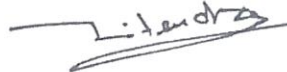
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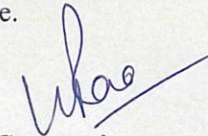
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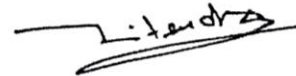
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## **ACKNOWLEDGEMENTS**

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I take this opportunity to express my sincere thanks and gratitude beyond words to my supervisor, Dr. U. S. Rao for his consistent help, encouragement, and valuable discussions during the entire duration of my Ph.D. work. I would like to express my deepest sense of gratitude to Prof. Ram Pyare, under whose able guidance the present research work was conceived. I would not have been able to complete this thesis work without their blessings, invaluable efforts, and constant encouragement.

Besides my supervisor, I would like to thank my RPEC members: Dr. Meghanshu Vashista, Department of Mechanical Engineering, and Dr. M. R. Majhi, Department of Ceramic Engineering, for their support and insightful comments. I would like to convey my sincere thanks to Prof. Santosh Kumar (Head, Department of Mechanical Engineering, IIT (BHU), Varanasi), Prof. A. P. Harsha, and Prof. A. K. Jha (Former Heads, Department of Mechanical Engineering, IIT (BHU)), for providing all necessary facilities to conduct my research work. My sincere thanks to Prof. Rajneesh Tyagi, Prof. R. K. Gautam, Dr. J. V. Tirkey, Dr. Tarun Verma, Dr. C. K. Behra and other faculty members of the department for their cooperation and inspiration.

I also acknowledge Prof. Rajiv Prakash (Prof.-in-charge, CIFC, IIT (BHU)) for extending necessary characterization facilities. I am thankful to Mr. Basudeb Rajak (Workshop Superintendent, IIT(BHU)), for providing the facility to fabricate the experimental setup. I am also thankful to Dr. Amitesh for providing the facility and guidance to perform the required thermal imaging analysis. My sincere thanks are due to Mr. Girish Sahu (CIFC, IIT (BHU)) for his constant help in conducting SEM studies.

I am thankful to all the laboratory, library and workshop staffs specially Shri Harishankar Ji, Shri Shivastava Ji and Shri Abhishek for helping in the research related

work. I am also thankful to all office staff of the Department particularly Shri Akash Ji, Anil Ji, and Jay Ji for providing necessary help as and when desired.

I am thankful to my wife Shashi for being my biggest support system during the Ph.D. duration. I am also thankful to my friends Yavnika, Asgar, Ashutosh, Akash, Sanjay, Mithilesh, Ashwini, Adarsh, Asmitha, Vamshi, Veerendra, Sayan, Smriti and seniors Dr. Rohit, Dr. Hemant, Dr. Ashish, Dr. Manish, for their needful help and making memorable and full of learning moments at IIT (BHU), Varanasi.

I especially express my gratitude to IIT(BHU) badminton club for continuously motivating me for being physically and mentally fit as well as making joyful and memorable moments at IIT (BHU), Varanasi.

Last, but not the least, I would like to express my deepest gratitude to my family, my parents, for educating me, and for their unconditional support and encouragement to pursue my interest. I would also like to thank my elder brother Mr. Shambhu Das Singh for his constant encouragement and support.

I also wish to thank all my friends and the persons whose names have not been mentioned on this piece of paper for extending their cooperation directly or indirectly.



**Jitendra Kumar Singh**

*Dedicated to*  
*My Beloved Parents*

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## **List of Abbreviations**

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HA	Hydroxyapatite
DRM	Ductile Regime Machining
LAM	Laser Assisted Machining
AE	Acoustic Emission
CMP	Chemical Mechanical Planarization
PVD	Physical Vapor Deposition
DOC	Critical Depth of Cut
VMC	Vertical Milling Center
IR	Infrared
AC	Alternating Current
DAQ	Data Acquisition System
SD	Standard Deviation
SP	Spot
ASTM	American Society for Testing and Materials
MRR	Material Removal Rate



## Symbols used

---

Hz	Hertz
°C	Degree Centigrade
mm	Millimeter
HV	Viker's Hardness
μm	Micrometer
A	Ampere
V	Volt
θ	Theta
Sec	Second
Min	Minute
T	Temperature
$K_{ICt}$	Fracture Toughness at Temperature t
$E_t$	Elastic Modulus at Temperature t
$H_t$	Hardness at Temperature t
$C_t$	Crack Length at Temperature t
$D_{ct}$	Critical DOC at Temperature t

