

Registration Form:

VIDYAVARDHINI'S NATIONAL CONFERENCE ON TECHNICAL ADVANCEMENTS FOR SOCIAL UPLIFTMENT VNC - 2020 TASU

Name:
Email ID:
Title of paper:
Registration Category:
Mailing Address:
Contact No:
Payment Details: Net Banking
Amount in Rs.:

Signature of Participant

HEAD Dept. of Mechanical Engg. Vidyavardhini's College of Engineering & Technology K.T. Marg, Vasai - 401202.

Account Name: Vidyavardhini's College of Engineering and Technology
Bank Name: Union Bank of India
Branch: Vidyavardhini College Branch, Vasai Rd (W)
Account Number: 320602011001031
IFSC: UBIN0562556
MICR: 400026153

Chief Patron
Shree Vikas Vartak, President, Vidyavardhini.

Patrons
Shree Arun Vartak, Chairman, Vidyavardhini.
Shree Shantaram Jadhav, Vice President, Vidyavardhini.
Shree Pandurang Naik, Vice President, Vidyavardhini.
Shree P. D. Kodollikar, Vice President, Vidyavardhini.
Shree Hasmukhlal Shah, Treasurer, Vidyavardhini.
Shree Udhav Gharat, Secretary, Vidyavardhini.
Shree Bhausaheb Mohol, Secretary, Vidyavardhini.

Honorary Conference Chair
Dr. Harish Vankudre, Principal.

Conference Chair
Dr. Vikas Gupta, Dean Academics,
HOD, Electronics and Telecommunication Engg.

TPC Co-Chair
Dr. Uday Aswalekar - HOD, Mechanical Engg.
Dr. Deepak Gawali - HOD, Instrumentation Engg.
Dr. Megha Trivedi - HOD, Computer Engg.
Dr. Ashish Vanmali - HOD, Information Technology.
Dr. Sunil Kirfoskar - HOD, Civil Engg.

Publication Chair: Dr. Ashish Chaudhari.
Finance Chair: Dr. Amrita Ruperee.
Publicity Chair: Mrs. Kanchan Sarmalkar.
Web Administration Chair: Mr. Yogesh Pingle.

National Advisory Committee
Dr. M. N. Hoda, Director, BVICAM, New Delhi
Dr. Vishal Jain, BVICAM, New Delhi
Dr. Suresh K. Ukarande, Associate Dean,
Faculty of Science and Technology, University of Mumbai
Dr. J.W.Bakal, President, IETE, New Delhi.

Prof. Kiran Talele, IEEE, Mumbai Section.
Mr. Pramod Laxman Fegade, Manager L&T Ltd, Mumbai.
Dr. Ketan Kolecha, Director Symbiosis Institute of Technology, Pune
Dr. Mukesh Patil, Principal, RAIT, Mumbai
Dr. Arvind Nema, IIT Delhi
Dr. G.N. Jadhav, Earth Sci. Dept. IIT Bombay
Prof. Dr. P.P. Date, IIT Bombay
Dr. V. R. Kalamkar, VNIT Nagpur
Dr. Tansen Chaudhari, CEO, M/s Fluid Controls Pvt. Ltd., Mumbai
Prof. P. Padmanathan, VIT, Vellore
Dr. D.G. Thakur, Defence Institute of Advance Technology, Pune
Dr. V.B. Tungikar, SGGs IE&T Nanded
Dr. Bindu Garg, Bharti Vidyapeeth University College of Engg., Pune
Mr. Vikram Murthy, Director, Univac Environment Systems Pvt Ltd,
National President, ISHRAE

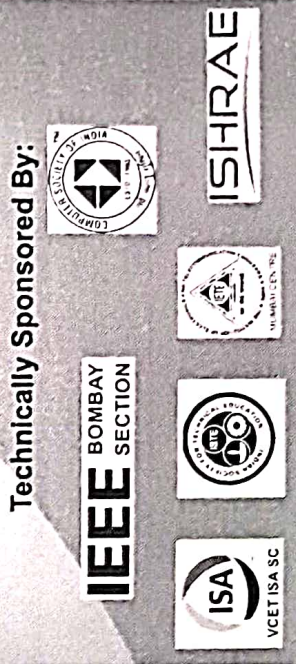
VNC - 2020 TASU

VIDYAVARDHINI'S NATIONAL CONFERENCE ON TECHNICAL ADVANCEMENTS FOR SOCIAL UPLIFTMENT VNC - 2020 TASU 4TH APRIL, 2020



Organized by: Vidyavardhini's College of Engineering & Technology K.T. Marg, Vasai (W) - 401202 Affiliated to University of Mumbai Approved by AICTE Accredited by NAAC

In Association With: BJIT - BVICAM's International Journal of Information Technology. BJIT is now indexed at DBLP, INSPEC & UGC - CARE List. ISSN: 2511-2104 (Print Version), ISSN: 2511-2112 (Electronic Version) IJERT - International Journal of Engineering Research & Technology ISSN: 2278-0181 Conference Website: www.vv.vcet.edu.in/vnc2020/





### About us:

Vidyavardhini means a Body committed to enhancement of Knowledge. Vidyavardhini was established as a registered society in 1970 by late Padmashri H. G. alias Bhausaheb Vartak for the noble cause of education in rural areas.

Vidyavardhini's College of Engineering and Technology, Vasai is located on the sprawling campus of Vidyavardhini, spread over an area of 12.27 acres. It is a short, two minutes walk from Vasai Road (W) Railway Station. The college is also accessible by road from Mumbai.

Vidyavardhini Society received approval from AICTE to start the new college of Engineering & Technology with effect from July, 1994. The college is affiliated to the University of Mumbai for the four year degree program leading to the degree of Bachelor of Engineering in six branches.

### Objective of VNC 2020 TASU

Technology has always been potential tool for simplifying the way we do things. Present time demands directing the technological advancements towards addressing societal challenges such as improving health care, education environment, sanitation, agriculture, smart city, etc., VNC 2020 TASU aims to provide an opportunity to researchers, academicians, Industrialist and students to interact and share their ideologies and contributions made for social upliftment with the aid of technological advancements.

### Call for paper

We welcome submission in following area

1. Sustainable Computing
  2. High Performance Computing
  3. High Speed Networking and Information Security
  4. Software Engineering and Emerging Technologies
  5. Mathematical, Experimental, Computational and AI, IoT Techniques in Mechanical Engg.
  6. Industrial Engg., ERP, MRP, SCM
  7. Renewable Energy Technologies
  8. Pollution control and Waste Management
  9. Advances in Structural engineering
  10. Present geotechnical practices
  11. Present practices in construction management
  12. Recent developments in Instrumentation, control and automation
  13. Embedded Systems, IoT and VLSI Design
  14. Optical and Wireless Communication for NGN
  15. Antenna and Microwave Devices
- Any other relevant topics

### Publication Information

Proceedings of VNC - 2020 TASU will be published with ISBN number

1. Selected Papers will be published in International Journal of Information Technology, Published by Springer Nature, ISSN: 2511-2104 (Print Version), ISSN: 2511-2112 (Electronic Version)

2. All papers will be published in IJERT, ISSN: 2278-0181

### Important Dates:

- Submission of full length paper  
15<sup>th</sup> Feb 2020
- Paper Acceptance Notification  
22<sup>nd</sup> Feb 2020
- Submission of Final Version of Paper  
29<sup>th</sup> Feb 2020
- Registration Deadline  
5<sup>th</sup> March 2020
- PPT Submission  
20<sup>th</sup> March 2020
- Conference  
4<sup>th</sup> April 2020

### Registration Fee Details:

Category of Delegates / Authors	Indian Authors & Delegates (in INR)
Full Time Students (UG)	1,500.00
Teachers/ Research Scholars/ PG students	2,500.00
Industry	3,500.00

### Paper Submission:

Paper submission should be made strictly via Easy Chair the submission link for VNC 2020 "TASU":

[www.easychair.org/conferences/?conf=vnc2020](http://www.easychair.org/conferences/?conf=vnc2020)

### Download paper template from:

[https://www.vcet.edu.in/vnc2020/Template\\_Eor\\_Full\\_Paper%20VNC%202020.doc](https://www.vcet.edu.in/vnc2020/Template_Eor_Full_Paper%20VNC%202020.doc)

### Contact Us:

Mr. Yogesh P. Pingle  
Vidyavardhini's College of  
Engineering & Technology  
K.T. Marg, Vasai (W) - 401202  
Maharashtra, India  
Contact No.: 9665009742  
Email ID: [vnc20@vcet.edu.in](mailto:vnc20@vcet.edu.in)  
Website: [www.vcet.edu.in/vnc2020](http://www.vcet.edu.in/vnc2020)

**\*Best paper award  
for each track\***



# Numerical And Experimental Analysis Of Draw Die Parameters For A Tapered Shell

Pruthvi Geedh  
Department of Mechanical Engineering  
Vidyavardhini's College of Engineering and  
Technology Vasai, India  
geedhpruthvi@gmail.com

Tanmay Churi  
Department of Mechanical Engineering  
Vidyavardhini's College of Engineering and  
Technology Vasai, India  
tanmaychuri19@gmail.com

Mufaddal Kagalwala  
Department of Mechanical Engineering  
Vidyavardhini's College of Engineering  
Technology Vasai, India  
mkagalwala53@gmail.com

Darshan Palav  
Department of Mechanical Engineering  
Vidyavardhini's College of Engineering and  
Technology Vasai, India  
palavdarshan95@gmail.com

Prof. Sanjay Lohar  
Department of Mechanical Engineering  
Vidyavardhini's College of Engineering and  
Technology Vasai, India  
sanjay.lohar@vcet.edu.in

**Abstract**— The research paper introduces experimentation and analysis of deep drawing die parameters of a tapered shell. The quality of components in the sheet metal forming is ensured by the material flow into the die cavity hence the project included drawbead to restrain and control the free flow of material. Drawing operations has been one of the basic operations in the mechanical manufacturing and production field. It has evolved since years and holds a profound type of manufacturing process. The operation consists mainly of components like a punch, die, blank and blank holder. These major components including their parameters are altered, modified, innovated and changed to obtain a wide range of products. The draw die industry caters from production of small cups to large vessels or containers. These products manufactured by drawing operations have a wide range of applications in households, commercial, industrial and even some special purposes. However every coin has two sides; along with all these positive aspects of drawing operation, it has many defects too. These defects decrease the production, increase the rejection rate of products as well as increase the cost. In this project, FEA method is put to use to design a draw bead in such a way that it will produce the desired component, A rectangular bead was analyzed for strain and thickness variation in a tapered shell draw. The stimulation results in validating the actual components to some extent. Special software available for industrial use of simulation of sheet

metal forming "HYPERFORM" and "LS-DYNA" were used to model and analyze the forming process.

**Keywords**- Draw bead, Tapered shell, Die, Punch, Blank holder, FEA, Ls-DYNA, HYPERFROM, Blank diameter, Material thickness.

## I. INTRODUCTION

The deep drawing operations have vast applications and are produced in multiple ways. Each type has its own advantages and disadvantages. A commonly used sheet metal forming process is deep drawing. In this process, hollow products are produced in 1-step drawing. Multi-step drawing processes are usually applied to forming parts that have geometrical complexity or formability problems and cannot be formed by 1-step forming [1]. Odell and Clausen [2] applied incremental strain theory towards analyzing the rigid-plastic axisymmetric deep-drawing process. The effects of work hardening, friction and normal anisotropy were also discussed also.

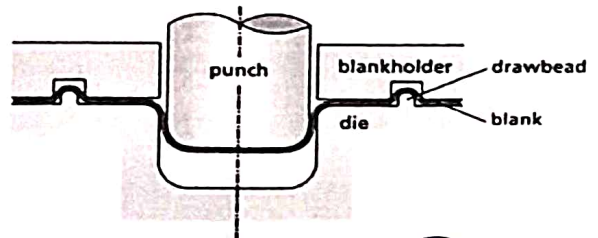
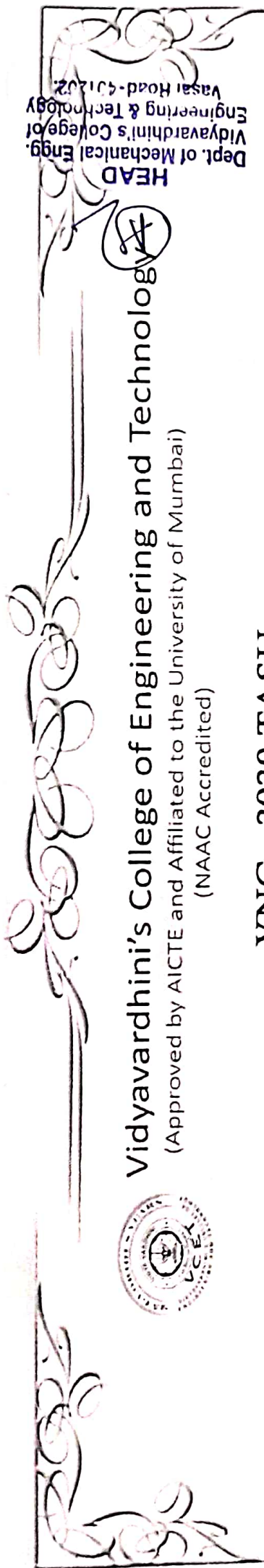


Fig. 1. Draw bead location

HEAD  
Dept. of Mechanical Engg.  
Vidyavardhini's College of  
Engineering & Technology  
Vasai Road-401202.

17A



**Vidyavardhini's College of Engineering and Technology**  
(Approved by AICTE and Affiliated to the University of Mumbai)  
(NAAC Accredited)

**HEAD**  
Dept. of Mechanical Engg.  
Vidyavardhini's College of  
Engineering & Technology  
Vasai Road-401202.

**VNC - 2020 TASU**  
**27th June, 2020**

**IEEE**  
BOMBAY  
SECTION



# *Certificate of Participation*

**ISHRAE**



This certificate is presented to  
**Sanjay R. Lohar**  
of  
**Vidyavardhini College of Engineering and Technology**

for presenting paper titled

**Numerical and Experimental Analysis of Draw die parameters for a tapered shell - (NTASU1019)**  
in the Vidyavardhini's National conference 2020 "Technical Advancements for  
Social upliftments" organised by Vidyavardhini's College of Engineering and  
Technology, Vasai held on 27th June, 2020.

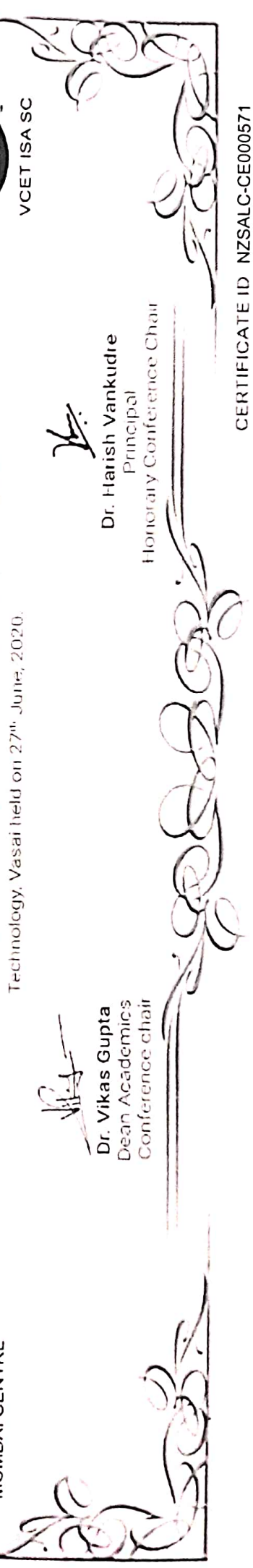
**MUMBAI CENTRE**



VCET ISA SC

**Dr. Vikas Gupta**  
Dean Academics  
Conference chair

**Dr. Harish Vankudre**  
Principal  
Honorary Conference Chair



CERTIFICATE ID NZSALC-CE000571