

Invitation - CEA Inauguration -reg

1 message

HOD Civil SVCE <hodce@svce.ac.in>
To: Principal SVCE <principal@svce.ac.in>
Cc: HODs Group <hod@svce.ac.in>, Faculty Group <svcefaculty@svce.ac.in>

Thu, Sep 17, 2020 at 12:35 PM

Dear Professors
Pl. find attached.

----- Forwarded message -----

From: **RK CVE** <kalaivannan@svce.ac.in>
Date: Thu, Sep 17, 2020 at 12:28 PM
Subject: Invitation - CEA Inauguration for the AY 2020-21-reg
To: HOD Civil SVCE <hodce@svce.ac.in>
Cc: HARISWARAN S <hariswarans@svce.ac.in>

Dear Madam,
I request you to forward this mail to SVCE Faculty.

Dear Sir/Madam,

On behalf of the Civil Engineering Association(CEA), Department of Civil Engineering , We pleased to invite you all for the Inauguration of CEA followed by an expert lecture by Dr. Mahendrakumar Madhavan Ph.D., P.E.Associate Professor ,Department of Civil Engineering,IIT Hyderabad to be held on 18/9/2020 from 2:30 PM to 3:30 pm .PFA

All are cordially invited!

Kindly join for the inaugural function and the expert lecture using the following link.

Google meet Link : meet.google.com/fbh-naer-jwe

Regards & Sincerely
Kalaivannan R AP/CE
Harishwaran S AP/CE
Co-ordinators,CEA

--
Thanks and Regards
Dr.R.Kumutha
Professor and Head
Department of Civil Engineering
Sri Venkateswara College of Engineering
Sriperumbudur - 602117
TN, India
Ph: 9894125626
[My Google Scholar Profile](#)
[My Scopus Author Profile](#)

 Invitation- CEA Inauguration.pdf
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SRI VENKATESWARA COLLEGE OF ENGINEERING
Sriperumbudur
(Autonomous - Affiliated to Anna University, Chennai)



DEPARTMENT OF CIVIL ENGINEERING



CIVIL ENGINEERING ASSOCIATION (CEA)

proudly presents

INAUGURATION FOR THE YEAR 2020-21

followed by an

Expert Lecture On

PARALLEL FLANGE BEAMS

by

Dr. MAHENDRAKUMAR MADHAVAN Ph.D., P.E.

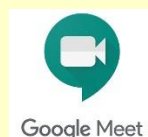
Associate Professor

Department of Civil Engineering

Indian Institute of Technology, Hyderabad (IITH)

ALL ARE WELCOME!

Join us through



Meeting Link: meet.google.com/fbh-naer-jwe

Date: 18th September 2020

Time: 2.30 to 3.30 P.M.



SRI VENKATESWARA COLLEGE OF ENGINEERING
Pennalur, Sriperumbudur – 602117
(An Autonomous Institution – Affiliated to Anna University, Chennai)



DEPARTMENT OF CIVIL ENGINEERING
CIVIL ENGINEERING ASSOCIATION(CEA)

REPORT ON THE CEA INAUGURATION (2020-21)

Date, Time & Meeting URL link

Date : Friday , 18th September 2020

Time : 02:30 pm - 03:30 pm

Mode : Online through Google Meet

Meeting Link: <https://meet.google.com/fbh-naer-jwe>

Speaker:

Dr. Mahendrakumar Madhavan Ph.D., P.E.

Associate Professor

Department of Civil Engineering

Indian Institute of Technology, Hyderabad (IITH)

Student Coordinator(s):

Faculty Coordinator(s)

1) Mr.KalaivannanR, AssistantProfessor, Dept of Civil Engg, SVCE

2) Mr.HariswaranS, AssistantProfessor, Dept of Civil Engg, SVCE

Convener:

Dr.R.Kumutha, Professor & Head/Civil Engg.

Target Audience:

Students and Faculty members

Host:

Ms.G. Monisha (III year, Civil Engineering)

Participation:

Number of Participants benefited	: 56
Faculty	: 10
Research Scholars	: 1
UG Students	: 45
Industry Persons	: Nil
Others	: Nil

BROCHURE:



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Date: 18th September 2020

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BRIEF REPORT ON CEA INAUGURATION (2020-21)

The objective of this webinar is to discuss about the concepts of Parallel flanged beams by Dr.Mahendrakumar Madhavan Ph.D., P.E., Associate Professor, Department of Civil Engineering, Indian Institute of Technology, Hyderabad (IITH). Monisha G, Senior executive member of CEA(III year) was the host for this webinar.

Dr.R.Kumutha, Professor & Head/Civil Engg., delivered the welcome address and gave best wishes to the members of the association. Mr.Hariswaran S, Assistant Professor, Dept of Civil Engg., introduced the Office Bearers of the association to the audience.

Mr.Kalaivannan R, Assistant Professor, Dept of Civil Engg, introduced the guest speaker, Dr. Mahendrakumar Madhavan, to the audience.Dr. Mahendrakumar Madhavan did his bachelor's degree in College of Engineering Guindy, Anna University in the department of Civil Engineering and masters in National University of Singapore. He did his Ph.D. in university of Alabama, Birmingham, U.S.A. He is a registered professional Engineer licensed by state of Alabama. He is a recipient of numerous prestigious awards and achievements. He started his career as a research scholar in National University of Singapore. He joined Alabama Power Company as a structural engineer and worked there for seven years. In 2012, he joined the Indian Institute of Technology, Hyderabad (IITH) as an Assistant Professor and currently he is working as an Associate professor in IITH. He is a part of international journal editorial board and has published 40+ research works in international conferences.

The Civil Engineering Association was inaugurated by the guest speaker. The guest welcomed the gathering and gave a brief overview on parallel flanged beams. He explained about the basic philosophy involved in the design of parallel flanged beams and he also enlightened the students by explaining the difference between Indian standard beams and parallel flanged beams.He also explained the defects and damages existing in Indian tapered beams and he also spoke about the dimensions for hot rolled steel beams, columns, channels and angle sections. He illustrated the history of structural steels and design steps. He provided a clear comparison of specifications between IS 808 and IS 12778.

He also gave a crystal clear explanation on the following topics:

- Performance of steel structures in high seismic areas
- Basic philosophy
- Defects in existing Indian tapered structural steel sections
- Advantages of parallel flange structural steel sections
- Design properties for a superior structure
- Squirt washers indentation filled with die.

He showed the similarities existing between tapered and parallel flange sections with Bending Moment Diagram graphs involving the design loads and length of the members. He concluded his lecture with an icebreaking questionnaire session with students.

The session ended with vote of thanks delivered by Ms. Neha.G, junior executive member, CEA (IInd Year, Civil Engg.). The participants appreciated the webinar and considered it very useful and informative.

SNAPSHOTS OF THE WEBINAR

Sri Venkateswara College of Engineering
Pennalur Village, Chennai - Bengaluru High Road,
Sriperumbudur, Tamil Nadu 602117

Department of Civil Engineering

Inauguration
of
Civil Engineering Association (CEA)
&
Expert Lecture on
"PARALLEL FLANGE BEAMS"

By
Dr. Mahendrakumar Madhavan Ph.D., P.E.
Associate Professor
Department of Civil Engineering
IIT, Hyderabad

Monisha G



Welcome Address

By

Dr.R.Kumutha
Professor & Head
Department of Civil Engineering
Sri Venkateswara College of Engineering



Dr.R. Kumutha

<p>VIKASH C.K PRESIDENT IV Year</p>	A portrait of Vikash C.K., a man with a beard and mustache, wearing a dark suit jacket over a white shirt.	<p>H</p>
<p>SHANMUGAM A TREASURER IV Year</p>	A portrait of Shanmugam A., a man with dark hair, wearing an orange and grey striped t-shirt.	<p>H</p>

<p>ABISHEK MURALI GENERAL SECRETARY III Year</p>	A portrait of Abishek Murali, a man with glasses and a beard, wearing a dark blue shirt.	<p>H</p>
<p>ARSHIYA A.S JOINT SECRETARY II Year</p>	A portrait of Arshiya A.S., a woman with dark hair, wearing a red and yellow patterned top.	<p>H</p>

MONISHA G
SENIOR EXECUTIVE MEMBER
III Year

" Monisha is a passionate classical dancer and recently started as a dubbing artist. She also writes short poems in Tamil and English. She loves to explore new things and new people."



H

HARSHAVARDHAN I

NAVEEN S
SENIOR EXECUTIVE MEMBER
III Year

" Naveen is an energetic and a very interactive person who likes to seek opportunities and compete in competitions. He is also good in problem solving."



H

HARSHAVARDHAN I

VIJAY P
SENIOR EXECUTIVE MEMBER
III Year

" Vijay loves to meet new people. Also he is interested in sketching scenes rather than clicking."



H

HARSHAVARDHAN I

SHARADHA LAKSHMI V S
SENIOR EXECUTIVE MEMBER
III Year

" Sharadha lakshmi is a multi-talented person filled in with optimistic thoughts. Versatile in chef tasting and smile making. Occasional dancer and well-versed singer."



H

HARSHAVARDHAN I

JENISHA A
JUNIOR EXECUTIVE MEMBER
II Year

" Jenisha is a positive thinking person and good problem solver. She doesn't worry about failure because she considers it as a stepping stone for success. She is a good speaker too."



H

HARSHAVARDHAN I

HARSHAVARDHANI G
JUNIOR EXECUTIVE MEMBER
II Year





" Harshavardhani is an honest, self motivated and hard working person with a positive attitude. She is also a good Tamil speaker, a talented artist and a girl who always aspires to dream big."




H

HARSHAVARDHAN I

Press Esc to exit full screen

<p>NEHA G JUNIOR EXECUTIVE MEMBER II Year</p>			<p>LALEETH KUMAR D JUNIOR EXECUTIVE MEMBER II Year</p>		
<p>“ Neha is a self motivated person and passionate about learning new skills, leading, managing and development.”</p>			<p>“ Laleeth Kumar is a good communicator and a good listener.”</p>		

A Brief overview of Parallel flange beams




వారికా శాస్త్రానికా సంకాశా కేంద్రాంకా
Indian Institute of Technology Hyderabad

Dr. Mahendrakumar Madhavan
Associate Professor
Department of Civil Engineering
IIT, Hyderabad

need google.com to sharing your screen. Stop sharing. Help

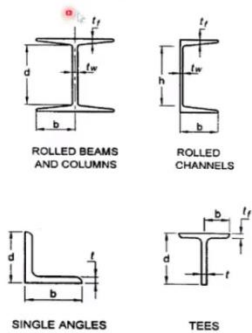
DrMahadvan@IITHYD



Mahendrakumar Madhavan

Disadvantages of Tapered flanges Improvement needed in Section Geometry

- Indian Hot-Rolled sections are tapered which prone to connections failures.
- Small flange sections (Max. 250 mm) requires longer connection length because it allows only single bolt on either side.
- Has lesser load capacity due to lesser I, compared to equal PFB sections
- It requires tapered washers
- Results in loss in efficiency
- Increases the risk of project due to improper seating of the project
- Difficulty In arriving a proper b/t ratio of flanges due to varying $\frac{b}{t}$ ratio



ROLLED BEAMS AND COLUMNS ROLLED CHANNELS SINGLE ANGLES TEES

IS 800 (2007)



Mahendrakumar Madhavan

f_{ec} = Euler buckling stress = $\frac{\pi^2 E}{(KL/r)^2}$

where

KL/r = effective slenderness ratio or ratio of effective length, KL to appropriate radius of gyration, r,

α = imperfection factor given in Table 7;

χ = stress reduction factor (see Table 8) for different buckling class, slenderness ratio and yield stress

$$= \frac{1}{\left[\phi + (\phi^2 - \lambda^2)^{0.5} \right]}$$

λ_{m0} = partial safety factor for material strength, - 1.1 for Buckling (Table 5)

X-stress reduction factor (Table 8 or the given Formula)
 In z-z = 0.873
 In y-y = 0.395

$$F_{cd} = \chi \frac{F_y}{\gamma_{m0}}$$

Design compression stress Fed =
 In z-z = 198.55 Mpa
 In y-y = 89.77 Mpa

For conservative approach Take Y-Y axis value

Design load

$$P_d = A_c F_{cd} = 485.70 \text{ KN}$$

Direct Comparison

Design	Tapered section	Parallel flange section
Section	ISMB 300-46 kg/m	NPB 200-42.47 kg/m
Effective length (mm)	5000	5000
Sectional properties	C/S area - 5860 mm ² D = 300 mm, br = 140 mm tw = 7.7 mm, ty = 13.1 mm Iyy = 4860000 mm ⁴	C/S area - 5410 mm ² D = 205 mm, br = 166 mm tw = 7.2 mm, ty = 12 mm Iyy = 9160000 mm ⁴
Fy (Mpa)	250	250
Buckling class	h/b = 2.143 > 1.2 so Buckling Class - a about z-z axis ty = 13.1 mm ≤ 40 mm so Buckling Class - b about y-y axis	h/b = 1.325 > 1.2 so Buckling Class - a about z-z axis ty = 12 mm ≤ 40 mm so Buckling Class - b about y-y axis
Imperfection factor as per Table 7 (IS 800)	$\alpha = 0.21$ for z-z $\alpha = 0.34$ for y-y	$\alpha = 0.21$ for z-z $\alpha = 0.34$ for y-y

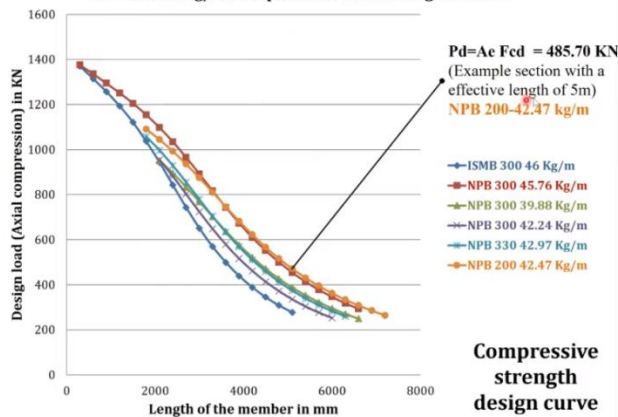


Mahendrakumar Madhavan



Mahendrakumar Madhavan

ISMB 300 46 Kg/m Vs. Equivalent Parallel flange sections



Mahendrakumar Madhavan

Connection length L

Parallel Flange Sections (Wide flange)

Connection length $2L$

Tapered Sections (Narrow flange)

➤ Tapered and narrow flange Indian sections result in two times more splice connection length compared to Parallel flange sections.

Dr.Madhavan IIT HYD

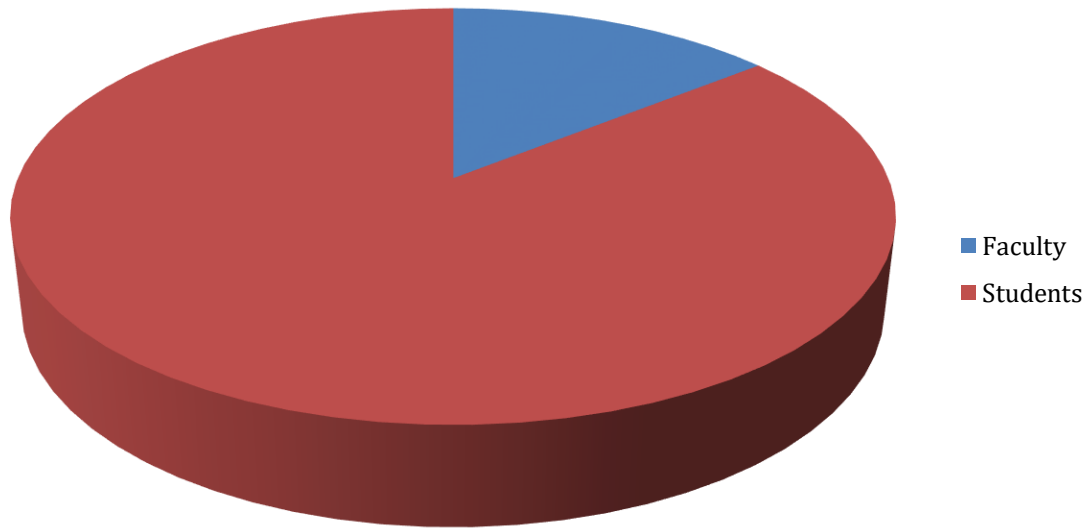
Mahendrakumar Madhavan

You are presenting

You're presenting to everyone

Meeting details

Participation



LIST OF PARTICIPANTS

S.No	Name of the Participants	Name of the Institution	Category
1.	HARISWARAN S	Sri Venkateswara College Of Engineering	Faculty.
2.	ABISHEK MURALI CVE	Sri Venkateswara College Of Engineering	Student
3.	AJAY KRISHNAMURTHY CVE	Sri Venkateswara College Of Engineering	Student
4.	AKRIITHA K CE	Sri Venkateswara College Of Engineering	Student
5.	ANANDARAJAN CVE	Sri Venkateswara College Of Engineering	Student
6.	Arshiya Arvind	Sri Venkateswara College Of Engineering	Student
7.	Arun Gunasekaran	Sri Venkateswara College Of Engineering	Faculty.
8.	BALAMURUGAN SP CE	Sri Venkateswara College Of Engineering	Student

9.	BHARATH M	Sri Venkateswara College Of Engineering	Student
10.	CHAYAN SARDAR CVE	Sri Venkateswara College Of Engineering	Student
11.	DHARSHINI CVE	Sri Venkateswara College Of Engineering	Student
12.	DIRAVIA BALAN S CVE	Sri Venkateswara College Of Engineering	Faculty.
13.	RAKESH CVE	Sri Venkateswara College Of Engineering	Student
14.	RANJANA PIRIYADHARSHINI CE	Sri Venkateswara College Of Engineering	Student
15.	SHANMUGAM CVE	Sri Venkateswara College Of Engineering	Student
16.	SHARADHA LAKSHMI CVE	Sri Venkateswara College Of Engineering	Student
17.	Siva	Sri Venkateswara College Of Engineering	Student
18.	SRIKIRUTHIGA S CE	Sri Venkateswara College Of Engineering	Student
19.	SRIRAM.L CVE	Sri Venkateswara College Of Engineering	Student
20.	SUGANDHAN CVE	Sri Venkateswara College Of Engineering	Student
21.	VASANTHA KUMAR V CVE	Sri Venkateswara College Of Engineering	Student
22.	VIJAY P CE	Sri Venkateswara College Of Engineering	Student
23.	VIKASH CVE	Sri Venkateswara College Of Engineering	Student
24.	Prabhakar Pbr	Sri Venkateswara College Of Engineering	Student

25.	PRAVOKHIRDESH CVE	Sri Venkateswara College Of Engineering	Student
26.	RAHUL RAJA CVE	Sri Venkateswara College Of Engineering	Student
27.	PON PRADEEP CVE	Sri Venkateswara College Of Engineering	Student
28.	NEHA GOVINDAMURALI CE	Sri Venkateswara College Of Engineering	Student
29.	PADMANABAN N CE	Sri Venkateswara College Of Engineering	Student
30.	NAVEEN CVE	Sri Venkateswara College Of Engineering	Student
31.	NEHA GOVINDAMURALI CE	Sri Venkateswara College Of Engineering	Student
32.	MATHIYAZHAGAN R Cve	Sri Venkateswara College Of Engineering	Faculty.
33.	Monisha G	Sri Venkateswara College Of Engineering	Student
34.	Mahendrakumar Madhavan	Indian Institute of Technology, Hyderabad (IITH)	Speaker
35.	Mahendrakumar Madhavan	Indian Institute of Technology, Hyderabad (IITH)	Speaker
36.	LOGESHWARI RAMESH CVE	Sri Venkateswara College Of Engineering	Student
37.	LALEETH KUMAR D CE	Sri Venkateswara College Of Engineering	Student
38.	LALITH KUMAR T CE	Sri Venkateswara College Of Engineering	Student
39.	KEERTHI CVE	Sri Venkateswara College Of Engineering	Student
40.	KIRUTHIGA SELVAN	Sri Venkateswara College Of Engineering	Student

41.	KAVIARASU S CE	Sri Venkateswara College Of Engineering	Student
42.	KAVINSELVA P CE	Sri Venkateswara College Of Engineering	Student
43.	KALAIVANNAN R CVE	Sri Venkateswara College Of Engineering	Student
44.	KARTHICK KUMAR P V CE	Sri Venkateswara College Of Engineering	Student
45.	Kaavya Rajasekar	Sri Venkateswara College Of Engineering	Student
46.	JENANI M CE	Sri Venkateswara College Of Engineering	Student
47.	JENISHA A CE	Sri Venkateswara College Of Engineering	Student
48.	HEMALATHA V CE	Sri Venkateswara College Of Engineering	Student
49.	HOD Civil SVCE	Sri Venkateswara College Of Engineering	Faculty.
50.	HARISWARAN S	Sri Venkateswara College Of Engineering	Faculty.
51.	Harshavarthani G	Sri Venkateswara College Of Engineering	Student
52.	GURUPRAKASH K CE	Sri Venkateswara College Of Engineering	Student
53.	GOGULA CHEZHIYAN N CE	Sri Venkateswara College Of Engineering	Student
54.	GOWTHAM RAJ CVE	Sri Venkateswara College Of Engineering	Student
55.	Dr.R. Kumutha	Sri Venkateswara College Of Engineering	Faculty.
56.	Dr.VENKATESWARA RAO P CVE	Sri Venkateswara College Of Engineering	Faculty.

SUMMARY OF FEEDBACK

Total Number of Participants = 56					
Feedback Statement		Strongly Agree	Agree	Neutral	Disagree
1	The session delivered the information I expected to receive.	47	9	0	0
2	The subject matter was presented effectively.	50	6	0	0
3	The pace and duration of the webinar was satisfactory.	36	19	1	0
4	The resource person is knowledgeable.	49	7	0	0
5	The resource person presented the information in a clear and logical manner.	44	12	0	0
6	Sufficient time was given for interaction.	44	12	0	0
7	The webinar was well organized.	50	6	0	0
8	As a result of this webinar, I gained new knowledge.	40	16	0	0

Additional Comments / Feedback from Participants

1. It was very informative and excellent.
2. Learnt basic idea about parallel flanged beam
3. I am hearing the title “Parallel Flanged Beam”, It’s a good interactive session
4. Very good presentation, Thank you.
5. Good comparison between parallel flanged beams with normal steel beam.

Prepared By



Mr.R.Kalaivannan

Mr.S.Hariswaran

(AP / Civil)

Coordinators

Approved By



Dr.R.Kumutha

(Prof. & Head / Civil)

Convenor