

REGISTRATION FORM

QIP SHORT TERM COURSE

on

**Welding and fabrication of
high strength steels for
modern power plants**

Dt: 21st-25th June 2021

Name: _____

Gender: _____

Designation and Department: _____

Address for Correspondence:

Phone: _____

Mobile: _____

Email: _____

Educational Qualification: _____

Area of Research: _____

Participant Category (QIP/Sponsored participant): _____

Payment Details: Transaction ID.....

Transaction Date..... Amount.....

Date.....

Signature of the Applicant:

Endorsement of Head of the Institution/Department:

Mr/Ms/Dr.....of

Department.....

Organization/Institute.....

is Permitted to attend

at IIT Bhubaneswar.

Date:

Signature of the Head (Seal):

Please mail your registration forms at weldhsteel2021@iitbbs.ac.in

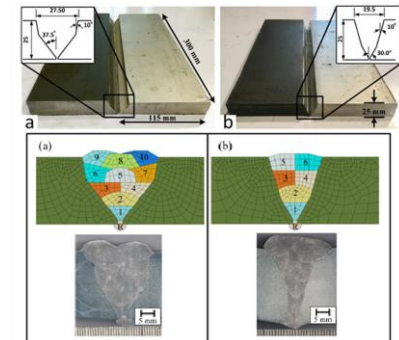


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Organized by
SCHOOL OF MECHANICAL SCIENCES
INDIAN INSTITUTE OF
TECHNOLOGY BHUBANESWAR
Jatni, Khordha, Odisha-752050,
India

Website: www.iitbbs.ac.in

Course Coordinators: Dr. M. M. Mahapatra
&

Dr. V. Pandu. Ranga
School of Mechanical Sciences

Bank Details for Payment

A/c Name: CEP, IIT Bhubaneswar
A/c No.: 24282010001960
IFSC Code: CNRB0017282
Bank Name: Canara Bank, IIT Bhubaneswar

Important Dates

Last date of registration: 17.06.2021

Registration Fee

- There is no course fee for the first 30 participants (holding faculty position) from AICTE approved engineering colleges. The selection is on first-come-first-serve basis. Participants must send the endorsement certificate duly signed by the Head of the Department/Institution along with their application form at weldhsteel2021@iitbbs.ac.in. After the first 30 participants, a participation fee of Rs. 1000/- is applicable for the participants (faculty / research scholars / students). Participants are requested to send online payment proof along with their application form at weldhsteel2021@iitbbs.ac.in.

COURSE CO-ORDINATORS

Name: Dr. M. M. Mahapatra
&
Dr. V. Pandu. Ranga

Mail Id: weldhsteel2021@iitbbs.ac.in

School of Mechanical Sciences
Indian Institute of Technology Bhubaneswar

About Indian Institute of Technology Bhubaneswar

Indian Institute of Technology Bhubaneswar came into existence in July 22, 2008, inheriting the brand name IIT. This fact itself charges the Institute not only to be worthy of its inheritance but also to be distinctive and distinguished on its own by scripting a path towards novelties. Presently the academic program of Institute include B. Tech. (Hons.) in Computer Science, Civil, Electrical, ECE, Mechanical Engineering, Metallurgical and Materials Engineering. The institute also offers Dual degree courses from academic year 2016-17. The institute offers 2 years M.Sc. and M. Tech courses. The Institute started the Doctoral program from the academic session 2009-2010 and offer admission to the joint M. Tech-Ph.D. Program from July 2012.

IIT BHUBANESWAR CAMPUS

The permanent campus of IIT Bhubaneswar is spreading over 936 Acres of land. It is situated at the foot of Barunei Hill, which is famous for its rich history. The campus provides a unique serene and pollution free academic environment. The campus is well connected with Jatni Railway Station (Khorda Road) of East Coast Railways. It is also well connected to Bhubaneswar Airport.

WELDING RESEARCH, SMS, IIT BHUBANESWAR

Welding research facility is available at School of Mechanical Sciences (SMS), IIT Bhubaneswar. The School is involved with application oriented welding projects and research works such as solid state joining, weld design, thick section welding, arc based surface properties enhancement, weld testing, wire arc additive manufacturing, welding distortion minimisation, residual stress evaluation etc..

About the Course

Modern power plants are required to operate at high temperature and pressure exceeding 650 °C and 300 bar. Operating at such high temperature and pressure leads to high thermal efficiency, low coal consumption and helps in controlling the environmental pollution. The commonly used carbon steels are not suitable to operate at such high temperature and pressure. Creep strength enhance ferritic (CSEF) steels are material of choice for such high efficiency thermal power plants. Joining and welding of such high strength steel is problematic as the weld joints are susceptible to unscheduled crack unless proper welding method is used. The present workshop is intended to discuss the importance of modern welding techniques and procedures to successfully weld modern power plant CSEF steels.

In the workshop, the properties and characteristics of such modern steels will be discussed. Welding defects such as delayed cracks, inclusion, hydrogen diffusion and residual stress will be discussed with industry relevant problems. Often, from operation point of view dissimilar welding are necessary in industry applications. Problems encountered during dissimilar welding of steels will also be discussed in details by experts from IITs.

At the beginning of the course, a discussion will be also made to understand welding metallurgy of steels. Automation implemented in industries and use of artificial intelligence (AI) to improve the welding quality will also be discussed. The pertinent problem of welding residual stress in high strength steel welds and method to control will also be discussed in detail.

Resource faculties of the course:

- Prof. G. D. Janaki Ram (IIT Hyderabad)
- Dr. M. M. Mahapatra (IIT Bhubaneswar)
- Dr. V. Pandu Ranga (IIT Bhubaneswar)
- Dr. Chandan Pandey (IIT Jodhpur)