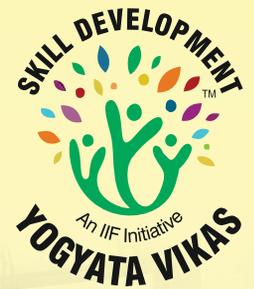


An unique Multilingual training program for foundrymen



Improve the skill level to enhance the competency edge



**THE INSTITUTE
OF INDIAN
FOUNDRYMEN**

**NATIONAL CENTRE FOR
SKILL DEVELOPMENT**

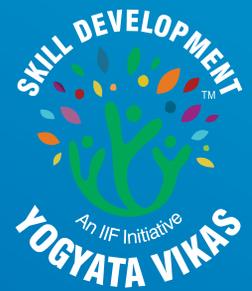
NATIONAL CENTRE FOR SKILL DEVELOPMENT

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Mob. + 91 90424 59899

Email: ncsdchairman@indianfoundry.org / ncsdsecretariat@indianfoundry.org

Website: www.indianfoundry.org



Introduction

- ☞ Yogayata Vikas is an exclusive program for the foundrymen focussing on skill development. It is a program completely designed to impart technical knowledge with practical orientation to foundrymen.
- ☞ This pan-India training will be carried out by proficient trainers with foundry background, selected from different locations of India.
- ☞ Predominant topics from the foundries were selected and developed into 18 modules which give better understanding of technical information, system and process.
- ☞ The training program will be carried out in the vernacular to reach the workmen effectively.
- ☞ This is an on-site program conducted at foundries, in which case the trainer will visit the foundry, prior to the day of training to acquaint himself with the process and machineries in the foundry.
- ☞ IIF is committed to train more number of workmen in a year and to conduct the training on a continual basis.
- ☞ IIF invites Indian foundries to utilize these program to enhance the skill level of their employees to be competitive in global market.

Abstract of Training Program Modules:



YV01: Casting Defects in Grey and SG Iron and their Remedies

Discuss on various types of defects like surface, subsurface, shrinkages, dimensional variations, differences in chemical composition and non desirable microstructure. Precautions and remedies are addressed using computer software to control the rejection. A case study has been talk through providing solution to control casting rejection.



YV02: Melting Grey Iron, SG Iron & Steel in Induction Furnace

Melting techniques and Induction furnace lining practice has been illustrated. Technical points in basic metallurgy and practical aspect of post-melting, inoculation, ladle maintenance and pouring technique aspects are well covered.



YV03: Sand Quality and Testing

The mouldability of sand, gas escape by testing permeability, moisture control tester and importance of good silica sand are dealt with extensively. The quality of new incoming sand, grading, grain size and distribution by sieve test, loss on ignition and sand binders have been covered in this module.



YV04: Mould Making Processes

Moulding process like floor moulding, machine moulding, automatic moulding lines, sweep moulding and CO₂ core assembly techniques and their working with illustration. Also selections of right moulding machine and process have been explained.



YV05: Basic Metallurgy of Steel Castings

Impact of carbon on plain carbon steel, low alloy steel and high alloy steel is explained. The metal chemistry, charge makes up, furnace design, refractory lining, ladle maintenance, metal degassing and testing have been discussed.



YV06: No Bake Resin, CO₂ Sand System and Coatings

Types of sand and selection of resin binder to achieve dimensional accuracy, faster production, and better finish of casting are explained. Full chemistry of resins and working details with illustration and application in foundry is elaborated.



YV07: Defects in Steel Castings and their remedies

Steel castings have high metal contraction ability while pouring and causes of defects like cavities, shrinkages, rough surface, sand fusion, sand inclusion and hot tears are explained in detail. Also remedial measures to produce quality casting are dealt.



YV08: Metallurgy of Grey and SG Iron for Foundrymen

Effect of alloy addition, melting operation, metal contraction, shrinkage defects and risering of castings have been explained in detail. Enhancing mechanical properties of grey iron and S G iron by addition of various elements by various compositions are considered.



YV09: Pattern-making and Methoding of Castings

: Pattern - design, material & making, contraction allowance, venting, methoding & method card are discussed in detail with illustrations. It also explains pattern maintenance, storage and factors to be considered during the pattern design and methoding an integral part of pattern design.



YV10: Melting Practice of Grey Iron by Induction Furnace

Basic metallurgical details, effect of elements, metal fluidity, casting hardness and the advantage of induction melting over cupola melting have been explained in detail. It also emphasizes on power conservation, metal testing, ladle maintenance, inoculation and metal pouring in the mould.



YV11: Production of S G Iron by Induction Furnace

In this module detailed information about basic metallurgy of S G iron, melting check list, selection and making of metal charge, furnace lining and metal testing. Various magnesium treatment process and effect on nodularity, fading, etc. are covered extensively.



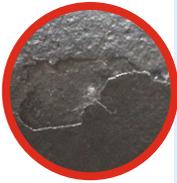
YV12: Basic Metallurgy of Aluminium Alloy

This module discusses properties of aluminium and various aluminium alloys. It also deals with furnaces for bulk melting and holding, liquid metal treatments and casting heat treatments.



YV 13: Sand Casting process for Aluminium Casting

Types of pattern, pattern making processes and mould making are illustrated. The importance of types of sand, sand testing and recycling are elaborated.



YV14 : Sand Casting Defects of Aluminium Alloy & Remedies

The various types of casting defects occur internal & external are elaborated. And the causes for defect with remedies are explained.



YV15: Aluminium Gravity Die Casting Process

The basic principles of metal filling & feeding, runner and riser designs are discussed in detail. The die coating for enhanced coating life, method for new die proving and statistical analysis for defect location & prevention were reviewed.



YV16: Defects & Remedies of Gravity Die Casting

The various causes of defect occur internally & externally are determined and remedies were discussed. Defect analysis using air and helium pressure testing and X ray testing is talked over. A live case study of casting defects and solutions, casting weight monitoring and die services are briefed.



YV17: Aluminium High pressure Die Casting Process

It explains the pressure die casting process, process parameters, machine operating, die operating, setting of machine and maintenance.



YV18: Defects and Remedies of Aluminium High Pressure Die Casting

It examines different types of defects happen internally & externally. The causes of defect with remedies and a case study are illustrated.

List of Trainers



Ajit Gadewar



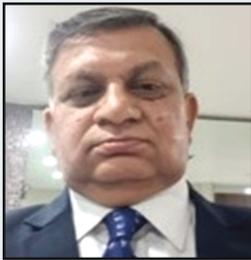
Anant Bam



Ashis K Chowdhury



B N Raghavendra



Bharat Davda



Dr.M.Arasu



Dr.V.S Saravanan



E Manoharan



Gautam Banerjee



K Balasubramanian



K P Surampalli



K Varatharajan



Kiran Sohoni



M K Shaikh



P Suresh Kumar



R Gopal



R S Kumar



Rajasekhar C Thomas



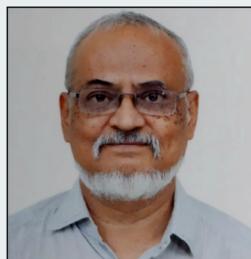
S.Sivakumar



Sandeep C Kulkarni



Dr.Shamim Haidar



Sharad Dhumane



Shreedhar S Bapat



Sumit Banerjee



Thirugnanam M

Training Details

We would like to provide training at your foundry. You can choose option I or option II, on terms mentioned below:

Option I	Basic Training - The trainer shall carry out classroom training based on the module selected by the foundry.
Option II	Customized Training - The trainer shall visit your foundry a day prior to the scheduled date of training, discuss and understand your requirements and customize the training module to suit your needs.

Responsibilities of your foundry:

- (i) Training program at your premises with a batch size of max. 25 no. of trainees.
- (ii) If option II is selected, a work visit for the trainer from IIF will be organized, to enable him to get acquainted with process/technology and equipment at site. Accordingly the training programme will be finalised.
- (iii) Audio - visual arrangements will be provided by the foundry.
- (iv) Attendance sheet, duly signed by the participants along with the feedback form also dully filled in will be handed over to the trainer.

Remuneration / Financial Obligation:

	IIF Members	Non Members
Option I	Training fee shall be Rs 10,000 per day of training + service tax	Training fee shall be Rs 15,000 per day of training + service tax.
Option II	Training fee shall be Rs 20,000 per 02 days of training + service tax.	Training fee shall be Rs 30,000 per 02 days of training + service tax.

The amount is payable in advance to the Institute through NEFT. Bank Details are as follows:

Name : The Institute of Indian Foundrymen - CET
SB A/C No : 098301001568
Bank : ICICI Bank Ltd,
Branch : Kasba, Kolkata.
IFS Code : ICIC0000983.

Note:

1. Other facilities and arrangements required for training, including trainer's local conveyance, boarding & lodging will be provided by the foundry.
2. For outstation trainers, 2nd class A/C train / air travel will be arranged by the foundry.



IN-PLANT TRAINING PROGRAM

REQUISITION FORM

Name of the foundry: _____

Administrative address _____

IIF membership no (if Applicable) : _____

Address of training location _____

Training option (Please tick whichever is applicable):

(i) Basic Training (01 Day)

(ii) Customized Training (02 Days)

Training module(s) requested:

(Please select from enclosed list) _____

Vernacular (Medium of Instruction):

(Please tick your selection)

Bengali

Gujarati

Hindi

Kanada

Marathi

Tamil

Telugu

For option (ii), Please give your requirements _____

Dates for Training: _____

Training fee payment details(NEFT): _____

Name of Foundry Official: _____

Designation: _____ Mobile No. _____

E-mail ID: _____

Signature of the foundry Head

Seal of the Foundry



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