ADOR TRAINING DIVISION

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AWTD8001/I5/R0

ADOR TRAINING DIVISION

TRAINING COURSE
PROSPECTUS

AWTD8001/I5/R0

www.adorwelding.com

SHARING KNOWLEDGE, RAISING STANDARD, BUILDING CAREERS.






Miniature version of Certificate awarded by Ador Training on completion of each course

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INTRODUCTION

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LEGACY

Welcome to Ador Training Division! The reason for our existence has always been 'creating the best welding experience' for aspirants since 1960. Since our inception, we have touched the life's of more than 60,000 welding professionals. Skill Training at Ador Welding has been an integral part of the business activities and evolved through its various platforms such as the Welding School (1960 - 1990), the Ador Institute of Welding Technology- AIWT (1991 - 2011), Ador Welding Academy Pvt. Ltd. (2012 – 2020). From India to the Middle East and indeed to many other parts of the world, these welders and engineers are a testimony to the quality of theory and practical training they have acquired at our centers. Our close involvement with the industry shop floors, inspection and approving agencies and design consultants have helped us acquire and accumulate valuable insights into the needs and aspirations of the industry. We are privileged Ador Welding – Training Division to be the custodians of this legacy and will continue to share the fruits of our work with our stakeholders

TRAINING CURRICULUM

Borrowing from over 60 years of experience in the welding industry, experts at Ador Training Division have designed skill training programs that accurately address the needs of the industry.

Successful trainees are fully prepared for employment. All programs are developed to conform to the occupational standards in the industry and trainees emerge equipped with the skills required for specific roles. Assessment standards are designed to precisely ascertain and certify the level of learning acquired by trainees.

SKILL TRAINING

Skill training courses are available for newcomers who want to make successful careers in welding - beginning with base welding skills; offered immediately after Class 10. Candidates who have received some voctional training in Class 8 or 9 can enrol for an amended base welder curriculum after an entrance test. Skill Training Courses are also available for in-service welders, to expand and augment their skills, to improve their employability at superior occupational standards.

Employers can also enquire for customised training modules for their in-service employees to meet the specific requirements of their fabrication/ manufacturing practice and quality compliance certification.

Some of the Skill Training courses are Certificate courses, duly certified by competent professional bodies.

TECHNICAL TRAINING

Technical training courses are designed for supervisors, engineers and managers to prepare them to lead innovation in manufacturing and to implement cutting edge technologies that boost operational efficiencies. While the prospectus lists the standard programs offered, Ador Training Division also designs customised programs for clients, based on their specific needs. This is generally supported by a thorough audit of current status and a discussion to identify the key needs of the program. Specific period contracts to manage the learning effectiveness of such programs and implementation to achieve tangible benchmarks are also within the scope of Ador Training Division resources.

EMPLOYABILITY SKILLS

Employability skills training lessons are an integral part of all programs. Trainees can choose between standard modules or employer-specified lessonsthat Ador Training Division will be happy to include.

PEDAGOGY & LEARNING ENVIRONMENT

Pedagogy & learning environment at Ador Training Division is a primary focus. The objective is to maximise learning and emphasise practical skills that are critical to job roles. The classrooms and practice labs are equipped with best-in-class facilities. Hygiene and safety practices are given due importance in all functions, including meal catering for trainees. Currently, Ador Training Division does not offer boarding/lodging arrangements. Trainees are required to make their own arrangements when enrolling for our programs. The Ador Training Division faculty comprises of academically qualified personnel who have hands-on experience in assisting fabrication shop managers implement good manufacturing practices. This helps them relate theoretical concepts to real shop applications and to motivate engineers to develop the confidence to explore opportunities for improvements at the work place.

ENROLLMENT

Trainees of all ages can avail of the counselling service available at the Ador Training Division (Kindly email cmo@adorians.com with your query and contact details. The counsellor from Ador Training Division will call you back). Employers / organisations who require employee training can place a request for a Need Analysis Questionnaire at cmo@adorians.com and submit the completed questionnaire. Ador Training Division will respond with a program proposal customised for your needs. Students interested in any of our Standard Programs, are requested to complete the Enrollment Form and mail it to cmo@adorians.com

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LIST OF WELDING COURSES / PROGRAMS

Sr. No.	Course Code	SKILL CERTIFICATE COURSES FOR BEGINNERS	Duration	Page No.
1	WD-1	SHIELDED METAL ARC WELDING(1F,2F,3F,4F) & OFW /CUTTING FOR BEGINNERS	4 W	4
2	BW-1	BASE WELD TRAINING PROGRAM IN SMAW/MMAW & GAS WELDING/ BRAZING/CUTTING PROCESSES	12 W	5
3	WD-1 (M)	TRAINING PROGRAM IN SMAW (1F, 2F, 3F, 4F) GMAW, OXFW/OXFC WITH SIMULATOR PRACTICE	5 W	6
4	BW 2	BASE WELD TRAINING PROGRAM IN SMAW, GMAW, OXFW/OXFB WITH SIMULATOR PRACTICE	12 W	7
		SKILL COURSES FOR WELDERS		
5	AWC-1	GAS-SHIELDED TUNGSTEN ARC WELDING (GTAW) (For Arc & Gas Welders)	1 W	9
6	AWC-1Q	TUBE & PIPE WELDER CERTIFICATION (ASME SEC.IX) GTAW+SMAW PROCESSES (For GTAW Welders)	1 W	10
7	AWC-2Q	MAXIMIZING PRODUCTION WITH THIN WIRE CONTINUOUS WELDING PROCESSES (GMAW,FCAW,SAW)	2 D	11
8	AWC-3	CO_2 GAS-SHIELDED METAL ARC WELDING (GMAW) (For Structural Welders)	1 W	12
9	AWC-4Q	SAW WELDING OPERATORS QUALIFICATION	3 D	13
10	AWC-7	PIPE WELDING BY CONVENTIONAL TECHNIQUE (For All Position Structural Welders by SMAW)	4 W	14
11	AWC-7Q	6G PIPE WELDER CERTIFICATION-SMAW (ASME SEC.IX) (For 5G Position Pipe Welders)	2 W	15
12	SW-1	SMARTWELD STRUCTURAL WELDING PROGRAM BY SMAW WELDING PROCESS IN ALL POSITION	12 W	16
13	SW-2	SMARTWELD STRUCTURAL WELDING PROGRAM BY SEMI AUTOMATIC GMAW & FCAW WELDING PROCESS IN ALL POSITION	6 W	17
14	SW-3	SMARTWELD HIGH PRESSURE TUBE & PIPE WELDING TRAINING IN ALL POSITION BY GTAW+SMAW PROCESSES	8 W	18
		With optional - 6GR welding Qualification.	2 W	
		SPECIAL SKILL CERTIFICATE COURSES IN Collaboration with IIW		
15	IW-2	INTERNATIONAL WELDER (AS PER ASME SEC.IX) – Tube & Pipe	8 W	19
		TECHNICAL COURSES FOR ENGINEERS		
16	SC-I	REFRESHER COURSE IN WELDING TECHNOLOGY (For Design, Production and Planning Engineers)	1 W	20
17	QC-I	CERTIFICATION COURSE FOR WELDING INSPECTORS (For QC Engineers & Inspectors)	1 W	21
18	QA-I	QUALITY ASSURANCE & CONTROL OF WELDING (For Engineers & Managers)	4 D	22
19	QA-II	WELDING PROCEDURES & QUALIFICATIONS (For Engineers & Managers)	3 D	23
		PROGRAMS FOR WELDING BUSINESS PROFESSIONAL		
20	RWE-I	REFRESHER COURSE IN WELDING FOR ENTERPRENEURS (For Owners and Production Heads of small & medium fabrication shops)	3 D	24
21	RWD-I	REFRESHER COURSE IN WELDING FOR DESIGNERS (For Design Engineers & Draftsmen)	3 D	25
22	SWP-I	PROGRAM ON SELECTION OF WELDING POWER SOURCES (For buyers, Production Heads)	1 D	26

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SHIELDED METAL ARC WELDING (1F, 2F, 3F, 4F) & OFW / CUTTING FOR BEGINNERS

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Course Code: WD-1

No. of Seats: 15 per batch

Duration: 4 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

This course will enable the young entrants to welding trade to acquire the basic skills/practice of Shielding metal arc welding. The course is carefully designed to offer the necessary theoretical and practical exposure to the shielded Metal arc welding processes. The lessons are planned in a methodical, step-by-step approach to enable the participant to easily graduate from beginner level to confident arc welder.

COURSE CONTENT:

THEORY: 86 hrs

- Introduction and principle of SMAW
- Welding power sources
- Safety Precautions
- Welding electrode and their selection
- Types of joints and their preparation
- Defects in welding - causes and remedies
- Welding techniques
- Inspection and testing weldments
- Economics of welding
- Introduction to gas welding process
- Fuel gases and supporting gas
- Gas welding equipment & accessories
- Welding flames and their applications
- Welding consumables
- Comparison of fusion and non-fusion techniques
- Principle of oxy-fuel cutting
- Feature of gas cutting torches
- Application of gas cutting process
- Module on employability skill

PRACTICAL: 74 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

For the youngster willing to take up welding as career, preferably 8th grade pass.

COURSE EVALUATION:

Practical & Written/Oral tests

OUTCOMES:

The course curriculum will enable students to become good subordinate welder.

Note:

The above course can be delivered in English, Hindi or Marathi.

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BASE WELD TRAINING PROGRAM IN SMAW/MMAW & GAS WELDING/ BRAZING/CUTTING PROCESSES

Course Code: BW-1

No. of Seats: 12 per batch

Duration: 12 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Basic welding course will facilitate youths to become supportive associates of industry & the nation. Hands on training, in vernacular dialects, will enable them to imbibe the Art & Science of welding with ease, to become skillful certified structural welders.

COURSE CONTENT:

THEORY: 120 hrs

- Role of welders in industry
- Introduction & applications of commonly used metal-in Cutting/Gouging/Welding/Brazing processes
- Safety precaution in manual metal arc & gas-welding/brazing/cutting
- Choice of welding power source, polarity & accessories for SMAW welding
- Types of SMAW welding electrodes- Type, Size & Other Selection Criteria
- SMAW welding electrodes coding, classification & applications
- Identification, construction and care in handling & storage of gas cylinders
- Identification, construction and selection of welding blow pipes/cutting nozzles & accessories
- Care in selection of pressure gas regulators, hose pipes & flash back arresters
- Selection and care in storage & handling of filler-rods/fluxes for Oxy-Acetylene welding
- Oxy-Acetylene welding/cutting flames & uses in industry
- Rebuilding & hard surfacing by welding
- Weld joint preparation, type, size & profile for plate/sheet-steels
- Different welding position & techniques
- Commonly used metals & their welding attributes
- Distortion and discontinuities in welding – causes & remedies
- Right welding procedures for improved quality & productivity
- Visual examination standards of weld
- Module on Employability Skills

PRACTICAL: 240 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

ITI Welder, Welder's Helper with 1-2 years work experience, or the non-SSC fresh candidates with an aptitude for welding as career.

COURSE EVALUATION:

Progress of BASEWELD welders will regularly be reviewed at the week-end for theory & practice both by Ador Training Division-faculty. They will also have to pass the Theory & Skill tests by Visual, Fillet-Weld Break Tests for all position welding, brazing, cutting and gouging at the end of their course curriculum.

OUTCOMES:

Student - welders upon successful completion of this course will be eligible to perform general entry level production & maintenance welding at fabrication-shop/site by using general purpose and basic-coated steel welding electrodes.

Note:

The above course can be delivered in English, Hindi or Marathi.

TRAINING PROGRAM IN SMAW (1F, 2F, 3F, 4F) GMAW, OXFW/OXFC WITH SIMULATOR PRACTICE

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Course Code: WD-1 (M)

No. of Seats: 20 per batch

Duration: 200 Hrs (5 weeks)

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

This course will enable This course will enable the young entrants to welding trade to acquire the basic skills/practice of Shielding metal arc welding, Gas Metal arc welding, Oxy-Fuel welding cutting. The course is carefully designed to offer the fundamental theoretical and extensive practical exposure to all three processes. The lessons are, planned in a methodical, step-by-step approach to enable the participant too easily to learn the skills of an entry arc welder.

COURSE CONTENT:

THEORY: 46 hrs

- Safety practices during welding
- Knowledge of GMAW welding Apparatus & Consumables
- GMAW Accessories, care in handling & routine maintenance
- Types of shielding-gases GMAW
- Safety Precaution in GMAW
- Basic understanding of GMAW process.
- Introduction and principle of SMAW.
- Welding power sources SMAW.
- Welding electrode and their selection.
- Types of joints and their preparation.
- Introduction to gas welding process
- Fuel gases and supporting gas.
- Gas welding equipment & accessories.
- Welding flames and their application.
- Welding consumable for all processes.
- Comparison of fusion and non-fusion techniques in gas welding.
- Principle of oxy-fuel cutting.
- Feature of gas cutting torches.
- Use and application of Various Welding techniques & patterns.
- Defects in welding - causes and remedies.
- Awareness of Inspection and testing.
- Employability skills

PRACTICAL: 154 Hrs

Including practice over several lessons on a welding Simulator.

- Developing hand skills related to Position, Speed, Stick-out/ Arc length and angle.
- Learning to observe the impact on weld of Gaps, weld bead shape & size, spatters, weld penetration and porosity etc.
- Practicing over various Welding Positions: 1F, 2F, 3F, 4F for Mild Steel After successful practical in every lesson on the Simulator (GMAW), candidate goes for actual arc welding practice in the shop

ELIGIBILITY:

For a youngster willing to take up welding as career, preferably 8th grade pass.

COURSE EVALUATION:

Practical & written/ Oral tests.

OUTCOMES:

The course curriculum will enable students to become a good subordinate welder.

Note:

The above course can be delivered in English, Hindi and Marathi

BASE WELD TRAINING PROGRAM IN SMAW, GMAW, OXFW/OXFB WITH SIMULATOR PRACTICE

Course Code: BW-2

No. of Seats: 12 per batch

Duration: 480 Hrs (12 weeks)

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

This Basic welding course will provide opportunity to fresh employment aspirants for careers in welding. They will be provided information on welding practice fundamentals, receive guided and independent practice for the use of various techniques for developing basic skills for welding in GMAW, SMAW & Oxy Acetylene welding process. This program will enable them to become welders for employment in Auto shops and general fabrication shops- at Levels IV/ III.

COURSE CONTENT:

THEORY: 120 hrs

- Role of welders in Industry and career options
- Introduction & applications of commonly used metal-in cutting /welding/brazing processes
- Safety precaution in Welding & Cutting
- GMAW Process fundamentals overview
- GMAW set up, installation, maintenance & review
- GMAW process related defects, causes and remedies
- SMAW Process fundamentals overview
- SMAW set up, installation, maintenance & review
- SMAW process related defects, causes and remedies
- Oxy Acetylene welding process fundamentals overview
- Oxy Acetylene welding set up, installation, maintenance & review
- Oxy Acetylene welding related defects, causes & remedies.

PRACTICAL: 360 hrs

Including practice over several lessons on a welding Simulator.

- Developing hand skills related to Position, Speed, Stick-out/ Arc length and angle.
- Learning to observe the impact on weld of Gaps, weld bead shape & size, spatters, weld penetration and porosity etc.
- Practicing over various Welding Positions: 1G, 2G, 3G, 1F, 2F, and 3F for Mild Steel up to 3mm.

After successful practical in every lesson on the Simulator (GMAW), candidate goes for actual arc welding practice in the shop, where:

- He is required to prepare weld pieces for executing different types of weld joints as per the curriculum. The practice curriculum is adequate to provide opportunity for the trainee to be as below
  - Able to reach a level of competency for the specific weld joint. The standard module limits the practice on MS material.
  - Develop the know-how for creating a correct weld set up, including the welding equipment, gas manifold/ cylinder and other accessories; correct choice of welding electrodes and knowledge about their codes and types; understanding of power supply accessories for correct connectivity; etc.
  - How to choose appropriate welding parameters and also relate these to weld quality;

    1) How to self-analyse weld quality and decide on corrective action.

    2) How to measure productivity and prevent waste/ rework.

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ELIGIBILITY:

- ITI Welder,
- Welder's Helper with 1-2 years work experience
- Non - SSC fresh candidates with aptitude for welding as career

COURSE EVALUATION:

After every Theory lesson, there is an assessment of learning level on E module

During Simulator-based practice, the trainee has to go through a Multi-level graded learning Lesson plan (comprising of 125 lessons). For every lesson he has to achieve the minimum qualification criterion, before he gets to use the next (level) or final lesson. There is a separate LOG for each student to track individual's progress.

During actual arc-welding practice, every trainee has to successfully complete the assignments as per the WORK-BOOK. The Instructors closely monitor the level of competence each trainee develops and take corrective measure to help laggards also acquire minimum level competencies, through repetitive practice.

At the end of the curriculum, OBJECTIVE-type test on fundamentals and a PRACTICE TEST on the full scope of the skill curriculum is executed and assessed by a competent team of assessors.

Certificates will be issued to successful all trainees which are qualified with levels of attainment - Excellent/ Good/ Satisfactory.

OUTCOMES:

Trainee will be good welder and able to perform GMAW, SMAW & Oxy Acetylene welding processes at entry level production in auto ancillaries and general fabrication shops.

Note:

The above course can be delivered in English, Hindi and Marathi

GAS-SHIELDED TUNGSTEN ARC WELDING (GTAW) (For Arc & Gas Welders)

Course Code: AWC-1

No. of Seats: 8 per batch

Duration: 1 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Advancements in Engineering Materials and Fabrication Technology have increased the demand for welds withexacting quality requirements. These requirements can be best met by adopting conventional / pulsed TIG welding.

Stringent quality requirements associated with this process necessitates that the welders must possess sufficient skills and imbibe systematic and disciplined work methods.

This course is carefully designed to offer the necessary theoretical and practical exposure to conventional and pulsed TIG welding. The lessons are planned in a methodical, step-by-step approach to enable a practicing arc and gas welder to easily acquire the skills and work methods essential for GTAW/TIG welding.

COURSE CONTENT:

THEORY: 18 hrs

- Familiarization with GTAW/TIG welding process, equipment and accessories
- Safety Precautions in TIG Welding
- Metals that can be welded with GTAW Process
- Selection of Tungsten Electrodes and Shielding Gases and Handling of Equipment
- GTAW Welding Techniques
- Selection of Filler Materials and Care in their Storage and Handling
- GTAW Process related defect causes and remedies
- Pulsed TIG welding & its advantages

PRACTICAL: 22 hrs

Practical session with various joint types, techniques, weld positions.

ELIGIBILITY:

Gas & Electric Arc Welder with practical experience of 1 year.

Course Evaluation: Practical & Written/Oral tests.

COURSE EVALUATION:

Practical & Written/Oral tests

OUTCOMES:

The course curriculum will enable to fabricate light & medium gauges butt, fillet-joints of ferrous, non-ferrous metals by GTAW/TIG process in Flat, Horizontal, Vertical and Overhead welding positions.

Note:

The above course can be delivered in English, Hindi or Marathi.

TUBE & PIPE WELDER CERTIFICATION (ASME SEC.IX) GTAW+SMAW PROCESSES (For GTAW Welders)

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Course Code: AWC-1Q

No. of Seats: 6 per batch

Duration: 2 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Tube and Pipe welder qualification and certification as per ASME code is essential before any welder can be permitted to weld pressure piping joints. Ador Training Division has designed this course to enable welders to acquire the necessary certification.

COURSE CONTENT:

THEORY: 40 hrs

- Video demonstration of Pipe Welding techniques
- Preparation of Weld Joints
- Practice in Pipe welding 5G & 6G positions
- Final Qualification Test in 6G position
- Certification (GTAW + SMAW)

PRACTICAL: 40 hrs

Practical session with various electrodes types, joint types, techniques, weld positions.

ELIGIBILITY:

SMAW/MMAW & GTAW/TIG all position structural welder. Candidates who have successfully undergone AWC-7 &t AWC-1 courses. Experienced all position welders who have ASME qualification in 2G, 3G, 4G, position for groove welds in plates, by SMAW & GTAW processes.

COURSE EVALUATION:

Practical & Written/Oral tests

OUTCOMES:

The course curriculum will enable structural welders to become all position qualified tube & pipe welder by GTAW/TIG & SMAW/MMAW processes, as per the code ASME section IX.

Note:

The above course can be delivered in English, Hindi or Marathi.

MAXIMIZING PRODUCTION WITH THIN WIRE CONTINUOUS WELDING PROCESSES (GMAW, FCAW, SAW)

Course Code: AWC-2Q

No. of Seats: 10 per batch

Duration: 2 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Semi automatic & mechanical welding delivers better levels of productivity & quality. This course takes a comprehensive look at various options and provides hands-on awareness about key factors for making correct choices.

COURSE CONTENT:

THEORY: 16 hrs

- Understanding of the Continuous Welding Process
- Improving Productivity, Quality, Delivery and Reducing Costs with Continuous Welding Process
- Principles of Thin Wire Continuous Welding Processes- GMAW/FCAW/SAW
- Advantages & limitations of GMAW/FCAW/ SAW Processes
- Understanding Process Variations in Continuous Welding Process
- Understanding Application Area of Continuous Welding
- Range of Welding Equipment for Continuous Welding
- Range of Welding Consumables for Continuous Welding
- Understanding Welding Variables & Welding Procedures in Continuous Welding
- Introduction to Mechanization / Automation
- Quality Concerns in Continuous / Mechanized Welding
- Trouble shooting in Continuous / Mechanized Welding
- Demonstrations of Continuous Welding Application Area
- Practical session with various electrodes types, joint types, techniques, weld processes

ELIGIBILITY:

Owners, Production Heads, Principal Production Supervisors

COURSE EVALUATION:

Objective test - written, to check understanding of the course content

OUTCOMES:

- Understanding of principles of Thin Wire Continuous Welding Processes GMAW/FCAW/SAW
- Exposure to welding productivity and welding cost relationship
- Selection of optimum mechanization & automation solutions
- Effective application of thin wire continuous welding processes

CO_2 GAS-SHIELDED METAL ARC WELDING (GMAW) (For Structural Welders)

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Course Code: AWC-3

No. of Seats: 8 per batch

Duration: 2 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Proper training of welders is a critical factor for successful switchover/application to GMAW welding process. This course will enable arc welder to acquire the basic skills / practice of GMAW welding process. This course is carefully designed to offer the necessary theoretical and practical exposure to CO_2 welding process. The lessons are planned in methodical, step-by-step approach to enable the participant to easily graduate to a confident CO_2 welder.

COURSE CONTENT:

THEORY: 20 hrs

- Knowledge of GMAW Welding Apparatus, Accessories, Care in handling & routine maintenance
- Basic principle of semi-automatic GMAW & FCAW welding processes
- Safety Precautions in GMAW Welding
- Welding Variables in GMAW Welding
- Characteristics & Preferences of elective metal transfer modes in GMAW welding
- Type & attributes of shielding-gases in GMAW welding
- Welding consumable's specification, class, size & type (Solid/Tubular)
- GMAW Process related defects, causes and remedies
- GMAW Applications and Limitations

PRACTICAL: 20 hrs

Practical session with various electrodes types, joint types, techniques, weld processes

ELIGIBILITY:

Structural Arc Welder

COURSE EVALUATION:

Practical & Written/Oral tests

OUTCOMES:

The course curriculum will enable to fabricate light, medium & heavy thickness butt, fillet-joints of structural steels by GMAW/CO_2MIG process in Flat, Horizontal, Vertical and Overhead welding positions.

Note:

The above course can be delivered in English, Hindi or Marathi.

SAW WELDING OPERATORS QUALIFICATION

Course Code: AWC-4Q

No. of Seats: 4 per batch

Duration: 3 days

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Training and qualification of welding operators are the most critical factors in achieving the set objective of mechanized SAW welding process. These courses will enable welders to acquire the basic expertise and knowledge of SAW welding process to meet the ever rising expectations of the industry. This course is designed carefully to offer the necessary theoretical and practical exposure to the SAW welding operators. The lessons are planned in a methodical way, step-by-step approach, to enable them to imbibe easily and become confident SAW welding operators.

COURSE CONTENT:

THEORY: 12 hrs

- Familiarization with the mechanized SAW welding equipment and accessories
- Safety precautions in handling SAW welding equipment and systems
- Consequences of welding variables on weld quality and productivity in SAW welding
- Techniques of SAW welding in root and subsequent passes
- Selection and care in handling SAW welding flux-wire consumables
- SAW Process related weld-defects causes and remedies
- Applications and limitations of SAW welding

PRACTICAL: 12 hrs

Practical session with various electrodes types, joint types, techniques, weld processes

ELIGIBILITY:

Structural Arc Welder

COURSE EVALUATION:

Practical & Written/Oral tests

OUTCOMES:

The course curriculum will enable to become a qualified SAW welding operator, as per ANSI/AWS structural welding code D1.1-XX or equivalent.

Note:

The above course can be delivered in English, Hindi or Marathi.

PIPE WELDING BY CONVENTIONAL TECHNIQUE (For All Position Structural Welders by SMAW)

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Course Code: AWC-7

No. of Seats: 8 per batch

Duration: 4 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

For welding circumferential joints in line pipe, piping and tubular structures, highly skilled welders are required. The welders must possess adequate skills for all position radiographic quality welding. Proper training of practicing structural all position SMAW welders is essential before they can be allowed to weld pipe joints. This course is fully designed to offer the necessary theoretical and practical exposure to conventional pipe welding. The lessons are planned in a methodical, step-by-step approach to enable the participant to easily graduate into a confident pipe welder.

COURSE CONTENT:

THEORY: 56 hrs

- Features & Scope of Radiographic quality weld
- Safety Precaution for Radiographic weld
- Welding power sources and their selection for Pipe Welding
- Pipe Welding Electrode, their selection and care in Handling
- Pipe Joint preparation and welding positions
- Pipe Welding Techniques
- Pipe Weld defects, causes and remedies
- Evaluation of Pipe Weld joint

PRACTICAL: 104 hrs

Practical session with various electrodes types, joint types, techniques, weld positions & processes.

ELIGIBILITY:

All position structural welder

COURSE EVALUATION:

Practical & Written/Oral tests

OUTCOMES:

The course curriculum will enable to become all position X-ray quality plate and 5G pipe welder by SMAW/ MMAW processes.

Note:

The above course can be delivered in English, Hindi or Marathi.

6G PIPE WELDER CERTIFICATION-SMAW (ASME SEC.IX)
(For 5G Position Pipe Welders)

Course Code: AWC-7Q

No. of Seats: 4 per batch

Duration: 2 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Pipe welder qualification and certification as per ASME is essential before any welder can be permitted to weld Pressure piping joints. Ador Training Division has designed this course to enable welders to acquire the necessary certification. The certificate will be awarded to the welder after witnessing and evaluation of Qualification Test coupon prepared as per the requirements of ASME's Se¬ction IX code.

COURSE CONTENT:

THEORY: 20 hrs

- Video demonstration of Pipe Welding Techniques
- Preparation of Pipe Weld Joints
- Practice in 5G and 6G positions in Pipe Welding
- Final Qualification Test in 6G position
- Certification (SMAW)

PRACTICAL: 60 hrs

Practical session with various electrodes types, joint types, techniques, weld positions.

ELIGIBILITY:

All position plate & 5G Pipe welder.

COURSE EVALUATION:

Practical & Written/Oral tests.

OUTCOMES:

The course curriculum will enable to become all positions qualified pipe welder by SMAW/MMAW processes, as per the code ASME section IX.

Note:

The above course can be delivered in English, Hindi or Marathi.

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SMARTWELD STRUCTURAL WELDING PROGRAM BY SMAW WELDING PROCESS IN ALL POSITION

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Course Code: SW-1

No. of Seats: 12 per batch

Duration: 12 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Smart, as conversant & skilled, structural welder means learning to communicate effectively, retrieve information, visualize issues from multiple perspectives and resolve difficulty of re-work or rejection. This course will enable manual welders to step up the ladder in welding hierarchy i.e. supervisor & first line inspector by qualifying themselves, as required by the ANSI/AWS D1.1 Structural Welding Code or equivalent, for wider acceptance by the structural-fabricators.

COURSE CONTENT:

THEORY: 120 hrs

- Role played by the SMAW welders in industry
- Introduction & applications of commonly used metals- in Cutting/Gouging/Welding/Brazing
- Safety precaution in welding
- Choice of welding power source, polarity & accessories for SMAW welding
- Types of SMAW welding electrodes- Type, Size & Other Selection Criteria
- SMAW welding electrodes coding, classification & applications
- Weld joint preparation, type, size & profile for plates/sheet-steels
- Basics of reading blueprint drawings & symbols
- Different types of welding position & parameters
- Identification of commonly used metals & their welding attributes
- WPS & Welder's Performance Qualification
- Distortion and discontinuities in welding – causes & remedies
- Introduction to Destructive & Non-Destructive test techniques
- Module on employability skills

PRACTICAL: 240 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

SSC+, ITI, or Ador Training Division Baseweld qualified welder with 2-3 years of work experience.

COURSE EVALUATION:

Progress of SMARTWELD welders will be regularly reviewed at EVERY weekend for theory & practice by Ador WAC-faculty. Based on grades & skill level they will be directed for further training or repeat tests. They will also have to pass the Theory & Skill tests by Visual, Fillet-weld Break, UT or RT & Bend Tests for all positions at the end of their training curriculum as per ANSI/AWS Structural Welding Code D 1.1/XX/Steel.

OUTCOMES:

ITI (SSC-passed) SMARTWELD structural welders upon completion of this course, the students, will be eligible to perform as qualified structural welder for production & maintenance welding in fabrication-shop/site by using all type of flux covered steel welding electrodes.

Note:

The above course can be delivered in English, Hindi or Marathi.

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SMARTWELD STRUCTURAL WELDING PROGRAM BY SEMI AUTOMATIC GMAW & FCAW WELDING PROCESS IN ALL POSITION

Course Code: SW-2

No. of Seats: 8 per batch

Duration: 6 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Smart, as conversant & skilled, structural welder means learning to communicate effectively, retrieve information, visualize issues from multiple perspectives and resolve difficulty of production due to the re-work or rejection. This course will enable semi-automatic welders to step up the ladder in production welding hierarchy i.e. supervisor & first line inspector by qualifying themselves, as needed by the ANSI/AWS D1.3 & D1.1 Structural Welding Code or equivalent, for wider acceptance by the structural-fabricators.

COURSE CONTENT:

THEORY: 60 hrs

- Role played by semi-automatic fabrication welders in industry
- Introduction & applications of commonly used metals in Cutting/Gouging/Welding/Brazing processes
- Safety precaution in welding specific to GMAW/FCAW
- Basic principle of semi-automatic GMAW & FCAW welding processes
- Knowledge of GMAW Welding Apparatus, Accessories, Care in handling & routine maintenance
- Welding consumable's specification, class, size & type (Solid/Tubular)
- Type & attributes of shielding-gases in arc welding
- Characteristics & Preferences of elective metal transfer modes in GMAW welding
- Different types of welding position & parameters
- Weld joint preparation, type, size, & profile for sheet-steel and plates
- Basics of reading blueprint drawings & symbols
- WPS & Welder's Performance Qualification
- Distortion and discontinuities in GMAW welding – causes & remedies
- Introduction to Destructive & Non-Destructive test techniques
- Module on Employability Skills

PRACTICAL: 120 hrs

Practical session with various electrodes types, joint types, techniques, weld positions.

ELIGIBILITY:

SSC+, ITI/Ador Training Division Baseweld Qualified welder by Ador Training Division with 2/3 years of work experience

COURSE EVALUATION:

Progress of SMARTWELD welders will regularly be reviewed at EVERY weekend for theory & practice by Ador WAC-faculty. Based on grades & skill level they will be directed for further training or repeat tests. They will also have to pass the Theory & Skill tests by Visual, Fillet-weld Break, UT or RT & Bend Tests for all positions at the end of their training curriculum as per ANSI/AWS Structural Welding Code D 1.1/XX/Steel.

OUTCOMES:

SSC & ITI passed student welder upon completion of this course will be eligible to perform as qualified Semi-automatic structural welder for production & maintenance welding in fabrication shop/site by using all type of solid & flux cored wire electrodes in all positions.

Note:

The above course can be delivered in English, Hindi or Marathi.

SMARTWELD HIGH PRESSURE TUBE & PIPE WELDING TRAINING IN ALL POSITION BY GTAW + SMAW PROCESSES – WITH OPTIONAL 6GR WELDING QUALIFICATION

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Course Code: SW-3

No. of Seats: 6 per batch

Duration: 08 Weeks + 02 Weeks optional for 6GR

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Smart, as conversant & skilled, structural welder means learning to communicate effectively, retrieve information, visualize issues from multiple perspectives and resolve the difficulty of quality, rejection or re-work. This course will be enable manual GTAW/SMAW welders to step up the ladder in welding hierarchy by qualifying themselves, as needed by the ASME Boiler & Pressure Vessel Code Section IX or equivalent, for wider acceptance in high tech industry i.e. Boiler, Chemical, Fertilizer, Pressure Vessel, Petroleum, Gas & Energy sectors.

COURSE DURATION: (Theory: 80 hrs & Practice: 160 hrs) + (Theory: 10 hrs & Practice: 50 hrs) Optional.

COURSE CONTENT:

THEORY: 120 hrs

- Role of high pressure tube/pipe welders in industry;
- Introduction & applications of commonly used metals- in Cutting/Gouging/Welding/Brazing processes
- Safety precaution in SMAW/GTAW welding
- Choice of welding power source, polarity & accessories for SMAW welding; Familiarization with GTAW/TIG welding Equipment and Accessories
- Selection of Tungsten Electrodes and Shielding Gases and Handling of Equipment
- Usage of trailing & purging gases
- SMAW welding electrodes coding, classification & applications
- Selection of GTAW Filler Materials and Care in their Storage and Handling
- Preparation of Pipe Weld Joints
- Types of pipes & pipe schedule
- Basics of reading blueprint drawings & welding symbols
- Different types of welding positions, parameter & techniques
- Commonly used metals & their welding attributes
- Discontinuities in welding – causes & remedies
- WPS & Welder's Performance Qualification
- Introduction to Destructive & Non-Destructive test techniques
- Module on employability Skills

PRACTICAL: 160 + 50 hrs (Optional for 6G-R)

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

SSC+, ITI, Baseweld or Smartweld-structural welders trained & qualified by the Ador Training Division with 3-4 years of work xperience in all positions.

COURSE EVALUATION:

Progress of SMARTWELD high pressure welders will be regularly reviewed at the weekend for theory & practice by Ador Training Division-faculty. They will also have to pass Theory & Skill tests by Visual, Radiographic or Bend-Tests in all positions at the end of their training curriculum. Certification will be done as per ASME Boiler & Pressure Vessel Code Section IX or equivalent. 6G-R welders will be certified as required by the ANSI/AWS D1.1-XX Structural Welding Code-Steel.

OUTCOMES:

The student / welder upon successful completion of this course will be eligible to perform as qualified high pressure Tube/Pipe welder, up to 6G positions, manually by GTAW & SMAW welding processes in production & maintenance welding shop/site by using all types of filler rods and flux covered steel electrodes.

Note:

The above course can be delivered in English, Hindi or Marathi.

INTERNATIONAL WELDER (AS PER ASME SEC.IX) – Tube & Pipe

Course Code: IW-2

No. of Seats: 8 per batch

Duration: 8 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

To prepare welders for qualification and certification as per ASME code and be permitted to engage in welding of pressure parts pipe joints. Successful certification jointly by Ador Training Division & IIW-ANB will provide candidates with improved prospects for employment in India and abroad. Tube & pipe Welder qualification & Certification as per ASME code is essential before any welder can be permitted to weld pressure piping joints. Ador Training Division has designed this course to enable welders to award to the welder after witnessing & evaluation of qualification test coupon prepared as per the requirement of ASME Sec IX. Inspection & Certification can be done by IIW-ANB.

COURSE CONTENT:

THEORY: 80 hrs

- Role played by the welders in the industry
- Introduction to GTAW & SMAW/MMAW Process, Principle & Application
- Safety Precaution in Welding
- Selection of Filler rod, Welding electrode, Current & Polarity
- Choice of Shielding, Trailing & Purging-Gases
- Type of Joint Preparation and Welding Positions
- Tube & Pipe Welding Techniques
- Preparation of Welding Procedure & Qualification
- Welding Position & Performance Qualification
- Weld discontinuities & defects – Causes & Remedies
- Type and purpose of test/examination
- Evaluation of weldments by Non Destructive Tests (VT, PT, MT, UT, & RT)
- Evaluation of weldments by Destructive Tests
- Overview of ASME Section IX: Welding Procedure Specification: General requirement
- Assessment as per Ador Training Division/IIW norms

PRACTICAL: 240 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

NCVT qualified Welder, Welders with 2-3 years work experience- with ASME qualification in 2G, 3G and 4G position by GTAW+SMAW

COURSE EVALUATION:

Progress of International Tube & Pipe welders will be reviewed at the week-end for theory & practice, both by the trainer. They will also have to pass the Theory & Skill tests in Visual & Radiography at the end of their course curriculum.

OUTCOMES:

SSC & ITI passed student welder upon completion of this course will be eligible to perform as qualified Semi-automatic structural welder for production & maintenance welding in fabrication shop/site by using all type of solid & flux cored wire electrodes in all positions.

Note:

The above course can be delivered in English, Hindi or Marathi.

REFRESHER COURSE IN WELDING TECHNOLOGY (For Design, Production and Planning Engineers)

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Course Code: SC-I

No. of Seats: 15 per batch

Duration: 1 Week

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Familiarization with various aspects of welding fabrication technology. Appreciation of Design, Planning, Development, Production, Inspection and Quality Assurance of welding. Understanding the key concepts and produce acceptable quality welds reliably and economically.

COURSE CONTENT:

THEORY: 34 hrs

- Introduction to Welding Processes (SMAW, GTAW, GMAW, FCAW, SAW)
- Evaluation and Selection of Welding Consumables
- Safety Precautions
- Weldability and Weldability Tests
- Symbology of Welding
- Quality Assurance in Welding
- Economics of Welding
- Evaluation and Selection of Welding Processes
- Designing of Weldment
- Inspection and Testing of Weldments
- Distortion and Defects in Weldments-Causes and Remedies

PRACTICAL: 6 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

Practicing engineers & Degree or Diploma in Mechanical Engineering

COURSE EVALUATION:

Set of objective type question paper

OUTCOMES:

This course will enable participants to understand the conventional welding processes to supervise & coordinate production welding activities effectively on shop or site.

CERTIFICATION COURSE FOR WELDING INSPECTORS
(For QC Engineers & Inspectors)

Course Code: QC-I

No. of Seats: 15 per batch

Duration: 1 weeks

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Inspectors today are no longer expected to only give 'ACCEPT/ REJECT' decisions. They are expected to play a pivotal role for corrective feedback and assist in devising Quality Assurance Systems so that the defects are brought down to an absolute minimum and new levels of Quality and Reliability are attained.

COURSE CONTENT:

THEORY:34 hrs

- Role of Welding Inspector
- Fundamentals of Welding Metallurgy
- Symbology of Welding
- Types ,Size and Condition of Welding Consumables, its care in handling
- Welding Procedure and Performance Qualification
- Destructive Testing Techniques
- Non-destructive Testing Techniques
- Basic Welding Concepts
- Joint Design and Fit-up
- Pre and Post Weld Treatment
- Planning for Welding Inspection
- Discontinuities and Defects - Identification and Evaluation

PRACTICAL: 6 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

QC Engineers and Inspectors

COURSE EVALUATION:

Set of objective type question Paper with Practical.

OUTCOMES:

This certification course will enable participants to understand various factors related to welding and the role played by the welding inspectors in the industry. This will enable them to offer appropriate corrective feedbacks for controlling & preventing rejection and rework.

QUALITY ASSURANCE & CONTROL OF WELDING
(For Engineers & Managers)

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Course Code: QA-I

No. of Seats: 15 per batch

Duration: 4 days

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Product reliability and cost effectiveness have become key elements for facing the challenge of competition and increasing product saleability and customer satisfaction. Customers are now increasingly specifying that the fabricators manufacture the required product as per relevant fabrication codes. Manufacturing as per fabrication codes requires a systematic and disciplined approach in Design, Construction and Inspection.

COURSE CONTENT:

THEORY: 28 hrs

- Economics of Weld Quality
- Weld Quality Control Programme
- Purpose and Types of Welding Codes
- Application of Welding Codes
- Significance of Weld Imperfections and Procedure Qualification Record (PQR)
- Introduction to Destructive and Non-destructive testing
- Weld Quality Assurance Programme
- Responsibility of Welding Inspectors
- Symbology of Welding
- Purpose of Welding Procedure Specifications (WPS)

PRACTICAL: 6 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

Managers, Senior Engineers, Engineers

COURSE EVALUATION:

Set of objective type question paper

OUTCOMES:

This course curriculum will enable participants to imbibe the intricacy of welding pertaining to Quality Assurance & Quality Control programs. Participants will be enabled to analyze the critical needs of Pressure Vessels, Boilers and Structural welding fabrication conforming to the prevalent code requirements of end-use.

WELDING PROCEDURES & QUALIFICATIONS
(For Engineers & Managers)

Course Code: QA-II

No. of Seats: 15 per batch

Duration: 3 days

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Welded fabrication conforming to construction codes requires preparation of Welding Procedures and Qualification of Procedure and Welders/Welding Operators. Suitable welding procedures duly qualified enable welders / welding operators to re-produce sound weld consistently meeting the demands without the re-work or rejection.

COURSE CONTENT:

THEORY:28 hrs

- Purpose of Welding Procedure & Qualifications
- Welding Procedure Specification
- Welding Procedure Qualification Record
- Maintaining Qualification Record
- Welder Performance Qualification Records

PRACTICAL: 6 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

Managers, Senior Engineers, Engineers, who have undergone QA-I.

COURSE EVALUATION:

Set of objective type question Paper.

OUTCOMES:

This course will enable participants to acquaint themselves with the techniques of developing & qualifying WPS [Welding Procedure Specification], PQR [Procedure Qualification Record] and WPQR [Welders/Operators Performance Qualification Records] with reference to the ASME Code Section IX or ANSI/AWS D1.1-XX Structural Welding Codes-Steel.

REFRESHER COURSE IN WELDING FOR ENTERPRENEURS

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Course Code: RWE-I

No. of Seats: 15 per batch

Duration: 3 days

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

Entrepreneurs for fabrication shop need to take informed decisions for wise investments. This course is for technocrats engaged in ancillaries of automotive earth moving & construction industry fabricated part & sub assemblies, will give an overview of key elements that impact productivity, cost, quality & safety aspects of the business.

COURSE CONTENT:

THEORY: 14 hrs

- Choice of Welding Processes – Restrictions & Returns
- Selection of Gainful Welding Equipment & Aids
- Selection of Welding Consumable - care in storage & handling
- Primary concept of Weld-Joint Geometry & Estimation
- Practical Aspects of Welding-Metallurgy
- Welding Procedure & Performance Qualification
- Weld Discontinuities & Defects
- Basics of NDT Examinations
- Safety Precautions in Welding

PRACTICAL:5 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

Owners and Production Heads of small & medium fabrication shops.

COURSE EVALUATION:

Written objective Test

OUTCOMES:

This course curriculum will enable participant to make informed qualitative decisions that will help sustain the competitiveness of their business.

REFRESHER COURSE IN WELDING FOR DESIGNERS
(For Design Engineers & Draftsmen)

Course Code: RWD-I

No. of Seats: 15 per batch

Duration: 3 days

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

This course will enable primarily the draftsmen & designers of steel structures and component parts to link theory & practice of weld design, to develop new concepts & concerns about the current welding practices in industry indeed; which will enable them to find an acceptable solution for Quality, Productivity & also the Cost reduction.

COURSE CONTENT:

THEORY:15 hrs

- Primary Concepts of Designing the Weld-Joints, Type, Size, & Applications
- Symbology of Welding and its Applications
- Choice of Welding Process & Equipment – Restrictions & Returns
- Type & Relevance of Welding Consumables
- Acceptance conditions for weld discontinuities & defects
- Basics of NDT Examinations

PRACTICAL: 4 hrs

Practical session with various electrodes types, joint types, techniques, weld processes.

ELIGIBILITY:

Design Engineers & Draftsmen

COURSE EVALUATION:

Written objective test

OUTCOMES:

Draftsmen & Designers will be capable of understanding the intricacies of Weld structure & joint design and convey the true specification down the line.

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PROGRAM ON SELECTION OF WELDING POWER SOURCE

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Course Code: SWP-I

No. of Seats: 15 per batch

Duration: 1 day

Dates & Fees: See Course Schedule

COURSE OBJECTIVE:

The objective of course is to enhance the knowledge to interpret power sources specification and select the right power source for required application.

COURSE CONTENT:

THEORY: 8 hrs

- Introduction to welding process
- Application of welding processes
- Explanation of power source duty cycle
- Interpretation of technical specifications
- Relation between application requirement and power source specification

ELIGIBILITY:

Purchase engineers, Quality manager, Maintenance Managers, Welding Application Engineers.

COURSE EVALUATION:

Written objective Test

OUTCOMES:

This course will enable participants to understand key characteristics of welding processes. It will give knowledge to select right welding power source by understanding significance of technical specification. The participant will be able to compare technical specifications, applications and decide on cost effective equipments for own organization.

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