

Apprenticeship Training Programme

Phase 1:

Induction Training with Employer
Introduction to Health & Safety Training
Introduction to Tools & Equipment
Introduction to Basic Skills

Phase 2:

Sheetmetal and Insulation Fundamentals
Geometry and Pattern Development
Substructures, Advanced Coldwork and Cladding
Insulation—Materials, Science & Applications
Insulation and Cladding of Ductwork and Vessels
Insulation and Cladding of Training Rig

Phase 3:

Workplace Assessments

Phase 4:

Review Pattern Development
Insulation Materials and Science & Application
Customised Insulation and Cladding
Large Scale Projects

Phase 5:

Workplace Assessments

The overall duration of this apprenticeship is a minimum of 4 years provided all phases are successfully completed.

For further information please contact your
local Education & Training Board Training Centre
or log onto www.SOLAS.ie

The Craft of Industrial Insulation



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 **Apprenticeship**
KNOWLEDGE. SKILL. COMPETENCE

Overview

The Industrial Insulator's job involves measuring, cutting and fitting a variety of insulation materials to pipe work, valves, pressure vessels, tanks, ducting, flues or on any hot or cold surfaces for the purpose of thermal insulation, fireproofing or soundproofing. It also involves the cladding of the insulation material with suitable coverings such as sheet metal, aluzinc, stainless steel or other specified coverings and finishes, such as, felt, cement, various rubbers, canvas and foils.

Metal cladding involves pattern layout and development of sheetmetal (mild steel, galvanised mild steel, stainless steel, aluminium and other alloys) up to 1.2 mm and the use of various machines. These patterns would include pipe work, vessels, domed ends, valve and flange boxes, tee pieces, reducers, transformers etc. The patterns are then fabricated by hand and with the aid of machines. They are then joined and assembled using self-securing joints, riveting, fasteners, flanging, swaging and banding suited to the appropriate finishing techniques. Non-metallic finishing may be joined by adhesives, banding or strapping as appropriate.

With the onset of new technology, modern cutting and cladding involves the use of CNC machinery. Planning, costing/estimating, quality control and environmental considerations (energy conservation) are areas in which the Industrial Insulating will operate to ensure cost effectiveness throughout the industry.

Work Activities

Guillotine, folding machines, hand & electric swaging machines, hand & electric rolling machines, electric hand shears, hand drills, rotary shears and lock forming machines.

Insulation Applications such as:

Selecting, measuring and cutting of appropriate insulation materials with regard to energy considerations using hand and power tools (incl. CNC).

Insulating pipe work, ductwork, valves, flanges and pressure vessels.

Aspects of Work

- Learning new practical skills
- Learning how machines work
- Good analytical and troubleshooting skills
- Learning and developing new craft-related skills
- Understanding and using physics
- Being responsible for controlling or adjusting equipment
- Understanding technical drawings and diagrams
- Being accurate with numbers in counting, measuring and arithmetic
- Practical skills and theoretical knowledge
- Good communication skills
- Being physically active and on your feet
- Keeping up-to-date with changing technologies
- Enthusiasm to solve problems
- Being well-organised and careful with practical tasks
- Taking responsibility for own learning, including the allocation of study time

Sheet Metal Operations including:

Cutting, folding, rolling, crimping, wiring, flanging, punching, drilling, swaging, banding, riveting and screwing.

Drawing Pattern Development:

Fabrication of all forms of cladding

Safety

Personal Qualities and Skills

You must have good practical skills and a high level of technical knowledge. You need to be physically fit to cope with bending, lifting and stretching. You will need nimble fingers to handle small parts and hand tools.

You should be logical, patient and have good organisational skills to prioritise your workload. It is important for industrial insulators to have good communication skills, because they need to deal effectively with customers.

Opportunities

Opportunities arise from time-to-time for promotion to supervisor level. Many persons use an apprenticeship as a first step in proceeding to such occupations as instructors, teachers, training advisers, managers and owners of businesses.

Where apprentices and crafts persons have the necessary ability, initiative and basic qualifications, opportunities are available for advancement. These include advanced technological and management courses which are available in Institutes of Technology, Schools of Management, Professional Institutes, etc.

People anxious to advance themselves in their careers are advised to discover for themselves what opportunities are available.