

Apprenticeship Standard for Industrial Thermal Insulation Technician

Occupational Profile

Thermal Insulation Technicians apply multi-layer applications of specialist insulation systems, comprising of layers of high performance insulation, vapour barriers and weatherproof cladding. Thermal Insulation Technicians create bespoke patterns using technical drawing equipment to fabricate specialist cladding materials, which are applied on top of specialist insulation systems to complex pipework, ductwork and vessels. The cladding material is required to protect the equipment from environmental damage and for personnel protection from very hot or very cold surface temperatures, whilst maintaining the equipment within the plant.

Thermal Insulation Technicians can expect to work in a supervisory capacity, mentoring and advising other operatives and assisting with the management of projects. They will ensure the appropriate standard and quality of work is maintained and that it conforms to the design specifications, taking any corrective actions they consider necessary.

Thermal Insulation Technicians may work on a diverse range of sites including:

- Power Generation, Nuclear, Oil and Gas sites
- Petrochemical and Process Plants including Food, Brewing and Dairy
- Shipyards

Working wherever pipework and services are located i.e. inside the plant or outside on the wider site.

The role of a Thermal Insulation Technician includes the procurement of appropriate resources, the scheduling of work activities and quality assurance, in addition to the installation and application of appropriate insulation and cladding materials. They will identify the working area, variations in temperature and changing site conditions through a process of consultation with the client and appraisal of project drawings and information.

Knowledge

Thermal Insulation Technicians will require a comprehensive understanding of:

- the accurate interpretation of relevant product information and design specifications in line with changing external environmental weather conditions
- how to use technical drawing equipment to calculate the quantity, length and area of materials to be used in order to minimise wastage of resources
- the process used to design and develop patterns from which to fabricate sheet cladding materials, to fit complex shapes and surfaces in line with specifications and project drawings
- understand the specific project procurement processes
- jointing, sealing, weatherproofing and fitting specialist insulation systems
- how to comply with organisational health and safety policies and procedures
- hazard recognition and how to mitigate any potential risks
- identification of any asbestos risks in a refurbishment environment
- how to supervise, coach and mentor a team of thermal insulation operatives
- scheduling and managing work activities in line with project plans
- the relevant industry quality standards and ensure that they are adhered to

- how to communicate instructions accurately and effectively

Skills

Thermal Insulation Technicians are able to:

- design and develop patterns from which to fabricate cladding from a range of specialist base materials in line with the design specification
- fabricate specialist cladding from patterns, including bespoke elbows, bends and T sections
- install fabricated cladding to pipework, ductwork and vessels, for insulation and personnel protection
- install insulation systems using staggered and grooved joints that fit together precisely
- resize and re-configure cladding components on site when required
- use specialist hand tools and equipment including: swagers, lockformers, dividers, metal shears, mole grips, metal folders, metal rollers, drills and safe blades
- work reliably and safely, without close supervision, to approved industry standards and safe working practices
- work effectively and efficiently, both individually and as part of a team, maintaining effective relationships with colleagues, clients, suppliers and the public
- use the appropriate communication style to suit the circumstance and the audience
- supervise and mentor other thermal insulators, providing technical advice as required
- assist with the management of projects, in line with all design specifications and project schedules
- procure resources in line with site specific procedures
- ensure resources are moved, handled and stored safely and securely
- implement all organizational security arrangements and procedures
- competently erect and dismantle portable scaffold towers, ensuring safe working at heights
- identify risks by checking information and being aware of changing external circumstances e.g. weather conditions

Behaviours

Thermal Insulation Technicians are expected to demonstrate the following behaviours:

- act professionally, demonstrating a positive, dependable, ethical, responsible and reliable attitude, showing leadership
- be mindful of using the appropriate communication style to suit circumstances and the audience
- display a self-disciplined, self-motivated, proactive approach to work, understanding individual personal limitations
- be receptive to feedback, be able to provide feedback and be willing to learn new skills
- commitment to the objectives of the employer, the client and to the wider professional standards of the industry.

Qualifications: Apprentices without Level 2 English and maths will need to achieve this level prior to taking the end point assessment

Level: This is a Level 3 Apprenticeship.

Duration: The Apprenticeship will typically be completed in 24 months.

Review: The Apprenticeship Standard will be reviewed after 3 years.