

## Thermal Insulation Engineer

A thermal insulation engineer covers pipes, boilers and ductwork with insulating material and metal cladding. The purpose of this is to keep heat in – in the case of heating systems – or to keep heat out – in the case of refrigeration or air conditioning systems. They are otherwise known as pipework ladders.

### The Work

You could be:

- using building plans to decide where to put the insulation
- choosing the right insulating material – foam, wool or silicate – for a particular job
- measuring, cutting and shaping the insulating material to fit round the pipework
- cleaning the surfaces to be insulated – perhaps stripping out old insulation, which could include asbestos
- fixing the sections in place using clips, cement or adhesive
- covering the insulated equipment with sheet metal cladding to protect it from damage or bad weather
- using machines to blow insulating materials into cavities in wall and floors
- sealing the area after installing the insulation.

### Pay

The figures below are only a guide. Actual pay rates may vary, depending on:

- where you work
- the size of the company or organisation you work for
- the demand for the job.

Pay for apprentices may start on the National Minimum Wage (NMW). The apprentice rate, for those aged under 19 or aged 19 or over and in the first year of their apprenticeship, is £7.55 an hour (1 April 2025).

Starting pay after training starts at around £20,000 a year, rising to £25,000 a year. With more experience this can rise to around £40,000 a year. You can get extra payments in overtime, bonuses, travel and living away from home allowances.

### Conditions

- You work either indoors or outdoors.
- You travel to different sites: homes, offices, factories, power stations, refineries or even ships.
- It will be dusty and there is a risk of exposure to harmful substances such as asbestos.
- There is a lot of lifting and bending, sometimes while working at heights on scaffolding or using rope access, or in cramped, confined spaces.
- You wear protective clothing and masks.
- You often work overtime, particularly at weekends.
- You might have to spend some time working away from home.

## Getting In

- You would usually enter through a Modern Apprenticeship, managed by the [Thermal Insulation Contractors Association](#) (TICA).
- Entry requirements are normally around 4 subjects at National 4 or 5 including English and Maths.
- You could study the Foundation Apprenticeship in Construction (SCQF Level 4 or 5) in S3-S6, which can help to get into a relevant Modern Apprenticeship.
- You could enter via previous industry related experience, for example air conditioning, and apply directly to employers.
- You may have to sit an aptitude test as part of the application process.
- A driving licence is useful and sometimes essential.
- You must be physically fit enough to climb ladders and carry loads.
- You must hold a Construction Skills Certification Scheme (CSCS) card or equivalent to work on a site. You must pass a health and safety test to qualify for this scheme.

Look for jobs with specialist lagging firms, with building contractors, building service engineers, or heating equipment manufacturers.

## What Does It Take

You need to have:

- good practical skills
- maths skills for measuring and calculating quantities
- an awareness of safety issues.

You need to be able to:

- work accurately
- work as part of a team
- travel and stay away from home
- work at heights as well as in confined spaces.

## Training

- The apprenticeship lasts for two years with on the job and off the job training, followed by a further two years on the job training.
- You would attend The National Training Centre in Darlington on a block release basis while studying for SVQ in Thermal Insulation (Construction) at SCQF Level 6.
- You would also complete training in Employer Rights and Responsibilities, PASMA and Asbestos Awareness as part of your apprenticeship.
- If you work with asbestos, you must take a short yearly update course, run by the Asbestos Control and Abatement Division (ACAD).
- If you will be working at heights using rope access, you will complete training through the [International Rope Access Trade Association](#) (IRATA).

## Getting On

- With experience, in a large company you can apply for a supervisory post.
- You might move into management.
- You could become self-employed.
- You might move into a related area of work, such as heating and ventilating or air conditioning and refrigeration.

## More Information

The increased emphasis on energy conservation, both in industry and in the domestic situation, should lead to a need for more effective thermal insulation in most buildings.

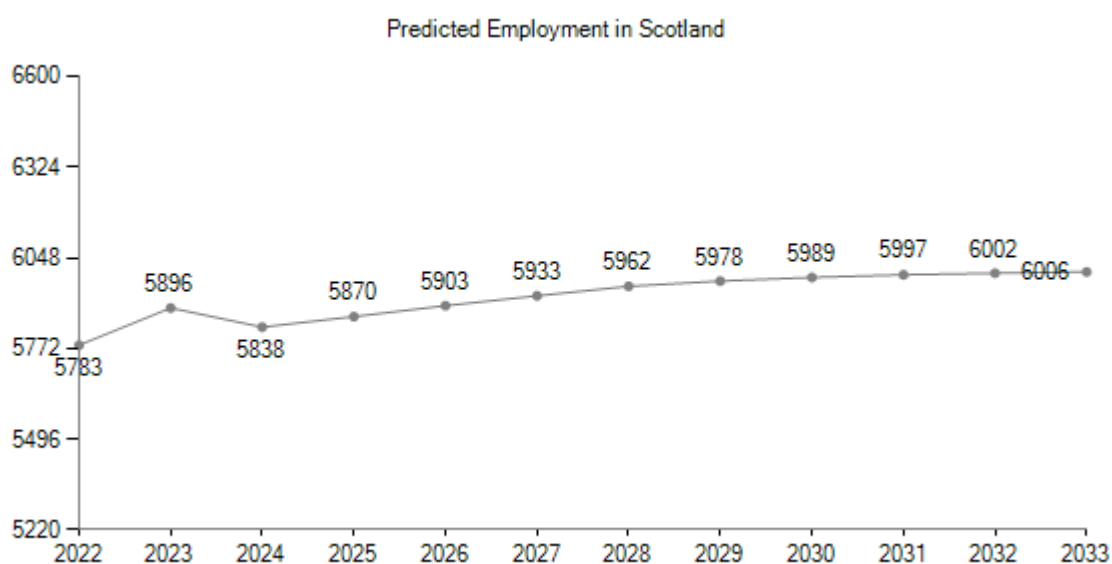
## Contacts

## Statistics

Employment Status : Not available this career.

### Past Unemployment - Scotland

No Claimant statistics available for Scotland.



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