



ROLE PROFILE Thermal Insulator

Occupational Area:	Asset/Site – Thermal Insulation Engineer
Job Role Examples:	Thermal Insulation Engineer, Thermal Insulation Technician, Industrial Thermal Insulation Technician
Role Overview:	
<p>Thermal insulation engineers within the engineering construction industry apply various specialist insulation systems to pipe work, ductwork, tanks, critical equipment and structures. Depending on required specification, this can comprise of high performance insulation material, cold conservation and cryogenic vapour barrier systems, with protective cladding and sealant. For inspection and maintenance purposes, they may also be required to remove cladding and insulation for a third party to assess the condition of the coating on the substrate. Prior to the installation process of the insulation system, the use of technical drawing equipment and specialist tools to develop and form templates will be used to fabricate and produce various fittings, including elbow bends, radius bends, T-Pieces, flange and valve boxes and a variety of other components. These items are then applied on top of the insulation system for weatherproofing and prevention of mechanical damage to the insulation. In conjunction with thermal insulation, thermal insulation engineers may be competent in other types of insulation systems that can be found to be additional or substitute thermal insulation systems. Examples of this are acoustic, personnel protection and passive fire protection systems.</p>	
Knowledge & Skills:	
<p>The thermal insulation engineer will:</p> <ul style="list-style-type: none">• Have the required competencies for the fabrication and application of specialist insulation systems, cladding and sealant to pipework, to the required standard, while adhering to health, safety and environmental regulations and safe working practices, and taking into account environmental and sustainability considerations.• Understand the relevant legislative, regulatory and local requirements or procedures and safe working practices, including their responsibilities with regards to reporting lines and procedures.• Understand the preparation and reinstatement requirements in respect of the work area, materials and equipment, and the possible consequences of incorrect actions in these areas.• Be able to read and interpret relevant engineering drawings, related specifications, quality standards and equipment manuals, and to follow work instructions and relevant plans and schedules.• Understand which tools and equipment to use, and when, and will follow relevant training, methods and techniques and quality control and safety procedures for their use.• Understand their responsibilities for ensuring the care and security of tools and equipment used.• Be able to handle a range of digital information, technology and equipment to support work related tasks and to communicate information.	
Technical Competencies:	
<ul style="list-style-type: none">• TTI01 - Application of insulation and cladding to pipework - Apply insulation and cladding to pipework using the correct materials and techniques to the specified tolerances and in compliance with current regulations and recognised industry practices. The use of sheet metal fabrication techniques should be applied to develop templates for the production of bends, t-pieces, and boxes. This can be applied with the use of metallic and non-metallic cladding systems. The templates produced demonstrate the thermal insulation engineers grasp of knowledge on how to measure and produce the relevant pattern required to fabricate the material to the specification required.	
Behaviours:	
<ul style="list-style-type: none">• Establish and maintain effective working relationships, communicate effectively, and work inclusively to deliver work within given specifications.• Demonstrate team working skills and interact with team members in a positive and professional manner.• Work within an overall risk control strategy which has been developed by safety specialists and includes detailed criteria for identifying risks, together with clearly defined procedures for action which must be followed.	



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- Take personal ownership of, and responsibility for, completing tasks and procedures.
- Follow procedures and relevant codes of standard with integrity and vigour and complete actions and documents accurately and honestly.
- Take responsibility for identifying and reporting instances where procedures or work instructions cannot be met or where a variation in them is required.
- Deal promptly and effectively with problems within their control and report those that have been, and those that cannot be, solved.
- Take responsibility for supervising and mentoring others where appropriate.
- Demonstrate the ability to coordinate work scopes and simops effectively within a wider team, as required.
- Demonstrate effective handover of responsibility and equipment at the end of a task.
- Take responsibility and ownership of personal development, set targets to plan on how these will be achieved.
- Support operational requirements, achieve targets and maintain records as required, thereby minimising backlog and downtime.
- Maintain compliance with legislative requirements and company policies, procedures and standards.
- Maintain and demonstrate ongoing technical competence and skill set to current standards and updates.
- Support innovation and development for improvements.



The Connected Competence standard role profile for a Thermal Insulation Engineer sets out the knowledge and skills, technical competencies and behaviours that are expected from a fully competent Thermal Insulation Engineer in any sector of the engineering construction industry. Attainment of these is achieved through training and on-site experience/exposure and is measured through standardised assessment. Once competence is achieved, regular testing ensures that ongoing competence is maintained.

This supporting document highlights additional requirements that are specific to any engineering construction sector.

Sector Specific Competency Requirements

OFFSHORE - OIL & GAS

Prerequisite/Premobilisation Qualification Requirements

Prior to embarking on the formal assessment cycle, an individual would be expected to have core trade qualifications as a minimum requirement:

- TICA (Thermal Insulation Contractors Association) apprenticeship
- Valid Connected Competence Knowledge Only Test or certificate of Thermal Insulation Technical Test

Given the hazardous nature of the working environment, the overall risk control strategy for organisations within the offshore industry will usually require Thermal Insulation Engineers to be familiar with, and work within, a formal Permit to Work system. Compliance with a specific company or site safety management system (SMS) will also usually be required. Specialist safety training may also be required as a prerequisite in addition to role specific training.

Depending on the specific work scope and associated level of risk, an awareness of, or competence in, safe working at heights requirements appropriate to that work scope may also be necessary.