

Maths Skill: “Calculation of areas, perimeters, volumes and angles”

Used in the workplace at Control Solutions and Pipework Services:
Installation, service and maintenance of pipes, for the food, drink & dairy industries



Andy Bonehill, Managing Director at Control Solutions & Pipework Services

“All of our engineers need to be able to accurately measure area, volumes and angles for our pipework services. Calculating area and volume ensures the flowrate is correct during cleaning and processing of pipework. If the flowrate is too low during cleaning, then the pipes won't clean properly, if it's too high during processing it can damage the pipework.

When we install new pipes, for example at a milk factory, getting the angles right is important for maintaining a fall from a tank down to a filling machine. We need to make sure that the product runs completely empty out of the tank and pipework. If we get the angles wrong, it can cause contamination issues between one product and another and might mean we have to do the installation again – this would be very costly for our business.”

About Control Solutions

Control Solutions & Pipework Services was founded in 2000 and initially provided service and support to dairy processing clients on filling and packaging machinery. After moving into the fields of process control wiring and pipework, they now offer a combined electrical and mechanical process installation service, as well as equipment service and maintenance. Control Solutions provide services to the food, dairy and brewing industries throughout the UK.

Who do Control Solutions Employ?

Currently 18 staff on site in Stonehouse, including:

- Mechanical Engineers (+ Apprentice Engineer)
- Office Manager
- Directors
- Stores Manager

Range of Salaries: c£20k for junior engineer up to c£40k for experienced engineers.

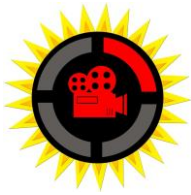
Skills Shortages: We find it hard to recruit skilled or semi-skilled pipe fitters and welders. We train people from within, where possible, but it takes considerable time to develop the skills and experience needed. We have to use subcontractors if we need the skill quickly for a project.

Useful Links

www.controlsolutionsuk.com

www.imeche.org

www.tomorrowengineers.org.uk



See the accompanying film production for more on the use of this skill

Video summary: it's essential that engineers at Control Solutions and Pipework Services can calculate area, volumes and angles so that ...

- Pipework can be installed at the correct angle, which enables liquid to fully run out of the tank and pipework
- The flowrate is correct during the cleaning and processing of pipework
- Getting these calculations wrong can cause contamination issues, damage to pipes and potentially re-installation of pipework.