

PRESSURE PIPE WELDING- PROGRAM OUTLINE

Practical Skills development: In Class

180 hours

Students will develop knowledge and skills in Shielded Metal Arc Welding and Gas Tungsten Arc Welding processes as they relate to pipe welding. Fundamental procedures and principles are introduced, practiced and refined including proper fit-up for plate and pipe, joint preparation, whip/drag root passes, tacking and electrode selection.

SMAW 6010 open root / 7018 fill and cap training on plate and pipe will be concentrated on.

All position/ 1G, 2G, 5G, 6G are practiced on 4" pipe and 2" pipe.

Test procedures and the preparation of coupons to TSSA standards will be discussed. Inspection standards and expectations are reviewed and AWS, ASME and API codes are explained.

In-house testing will be performed to TSSA / ASME codes and specifications.

On completion of the course, students will test for TSSA certification in

- 2" Sch 80 SMAW 6010 Root, 7018 Fill & Cap
- 2" Sch 80 GTAW Root, 7018 Fill & Cap

Shop practices

Students are introduced to pipe tools and equipment and safe operation procedures are discussed. If necessary, students will also undergo a review of general shop equipment such as Oxy-Fuel Cutting Torches (both manual and semi-automatic), Plasma Cutters, Band saws and Electric Grinders. Safe material handling practices are also reviewed.

Trade math: One-on-one tutorial as required

In this component, students are tutored in a one-on-one and as-needed basis. An initial assessment will be conducted and individual learning needs identified. Students are coached to perform common number operations, conversion imperial/ metric and accurate measuring, as well as being able to solve trade-related problems using basic algebra and trigonometry. On completion of the course, students will be able to perform the basic mathematical skills and applications typically used within the welding trade.

Theory Development: Private study/ one-on-one tutorial as required

Welding Process Theory

This theoretical course compliments your practical skill development and will introduce the principles, applications and fundamentals of pipe welding in SMAW and GTAW.

Health and Safety

Health and Safety issues, as they relate to welders and the welding industry, are reviewed.

Students are able to identify potential hazards, avoid workplace accidents and ensure the health and safety of themselves and work colleagues. Safety certifications in WHMIS, Fall Protection, Confined Space, H2S Safety, Ladder and Scaffold Safety, Lock out /Tag out and Forklift are available through our affiliation with Employers First in Peterborough.

Welding Symbols and Blueprint Reading

In a module-based program, students are introduced to welding symbols and develop skills in interpreting blueprints. The course is designed for students to work through at their own pace. Students are given small segments of information and, building on each step, are immediately asked to apply the knowledge. At the end of the program, students will be able to take this knowledge to perform basic layout and fitting.